



CREDIT EDA CASE STUDY

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INTRODUCTION

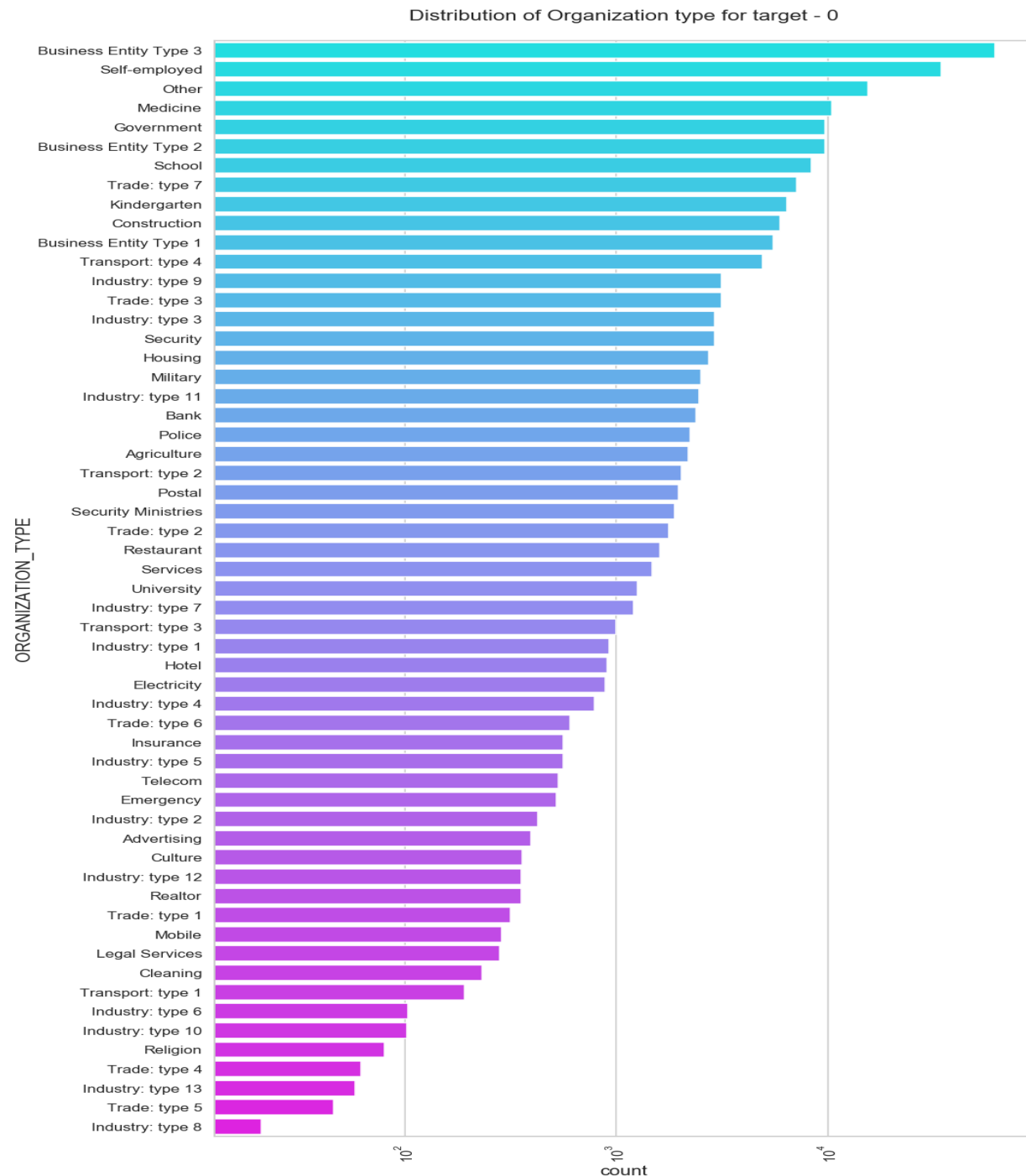
The analysis of jeopardy and the judgement for granting loans is a very vital operation for financial institutions. By bearing in mind past outcomes, we should determine if its safe or risky for a better future outcome.

The data provided has information regarding the current applications and previous applications. Based on this information we must support the bank in deciding whether to accept or reject the loan.

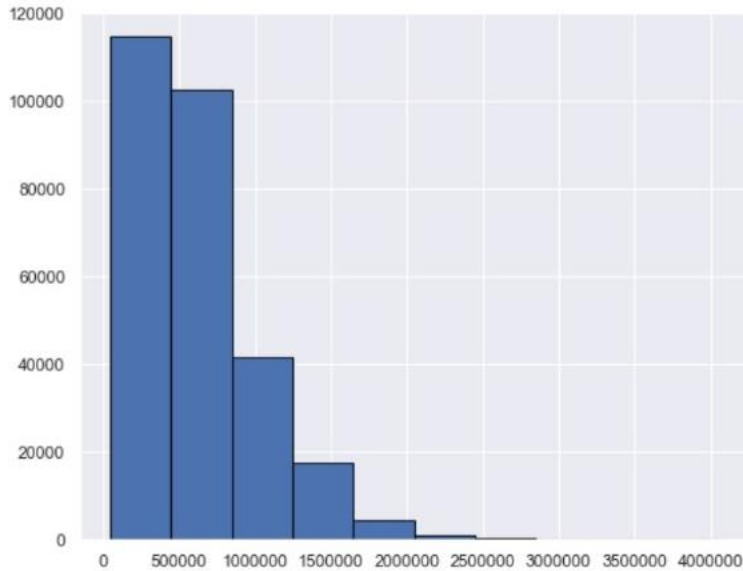
ORGANIZATION TYPE OF REPAYED CUSTOMERS

The adjacent graph is executed based on the type of organization, the customer who repaid works for.

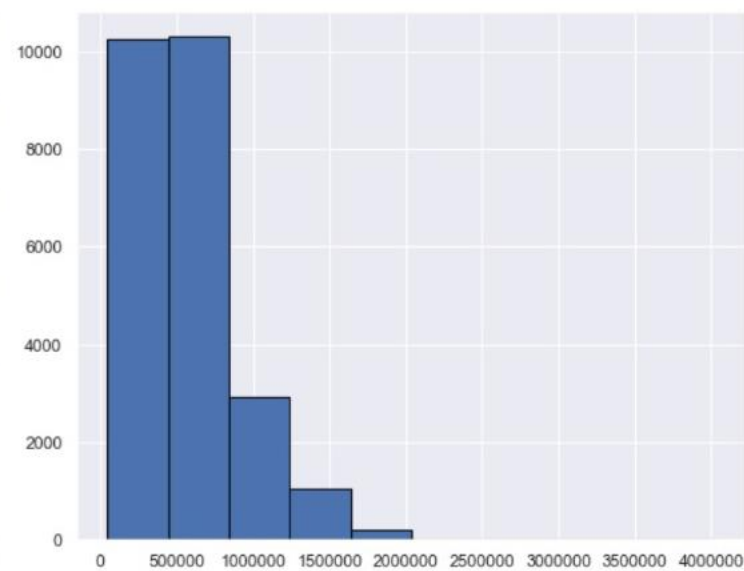
As we can see Business Entity Type, Self Employed are higher in count when compares to Trade type 5 and Industry Type 8



Target 0: Amount Credit Distribution



Target 1: Amount Credit Distribution



DISTRIBUTION OF CREDIT AMOUNT TYPE

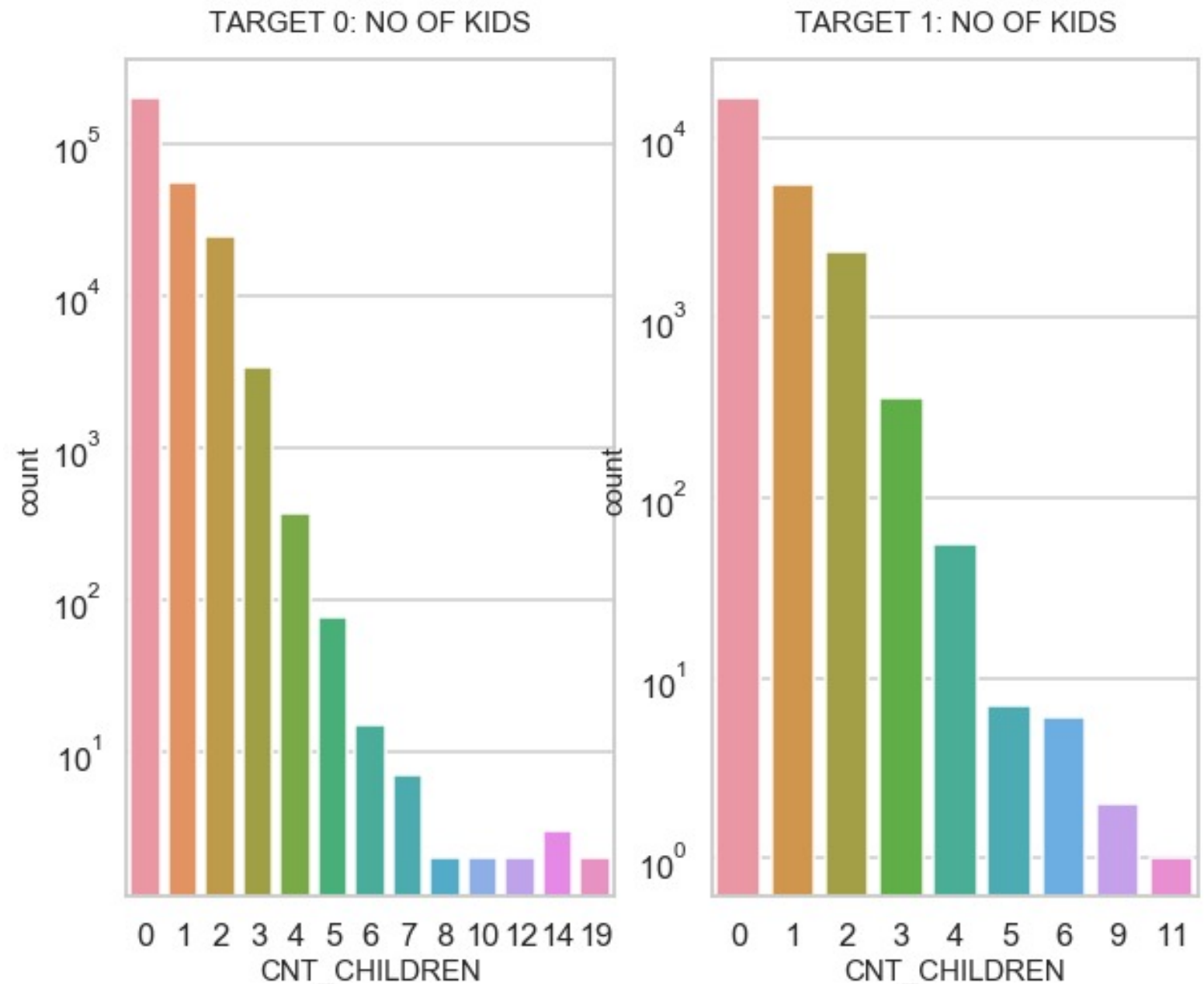
Points to be concluded from the graph on the right.

We can infer that lower the loan amount, chances of customers defaulting the loan are less. For example, the loans less than 50k, have approximately 10k defaulters whereas around 110k customers paid back, the risk percentage is less.

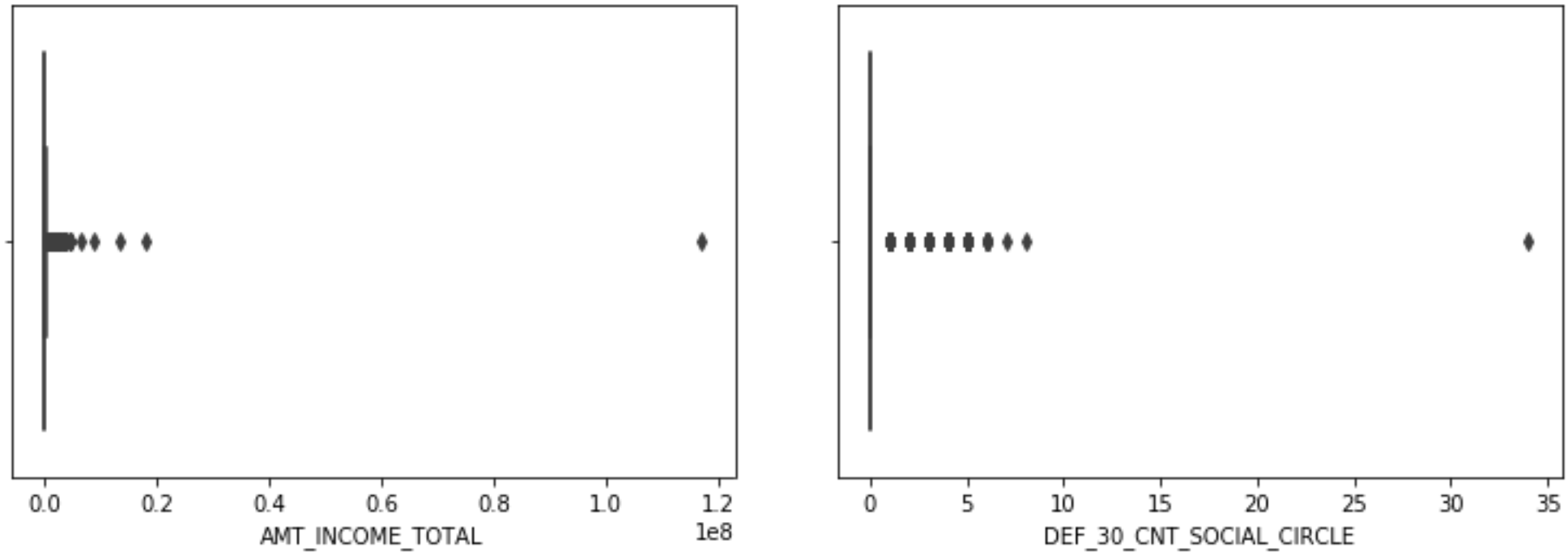
Similarly, the previous analysis can be carry forwarded to the dependency of number of children compared to the possibility of repaying the loans.

From the adjacent graphs we can infer that there is relation between the fact of number of children and the ability to repay the loans.

Customers with lesser number of children are more prone to repay the loans.



IDENTIFYING THE OUTLIERS

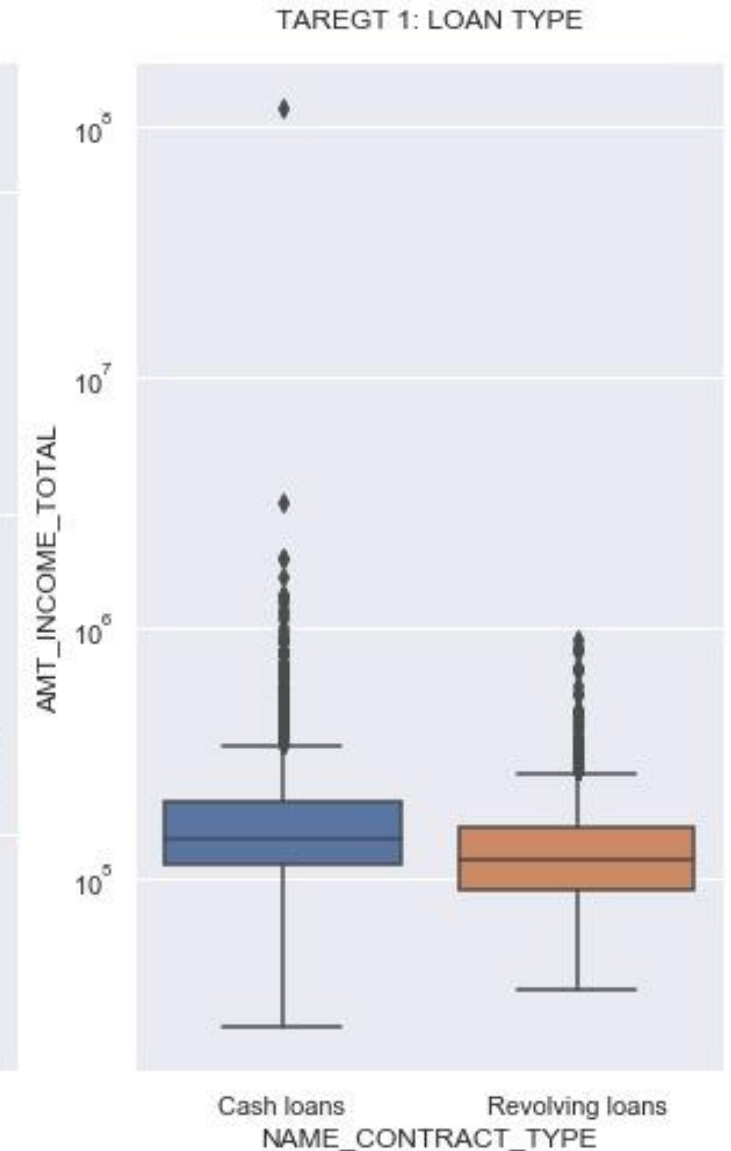
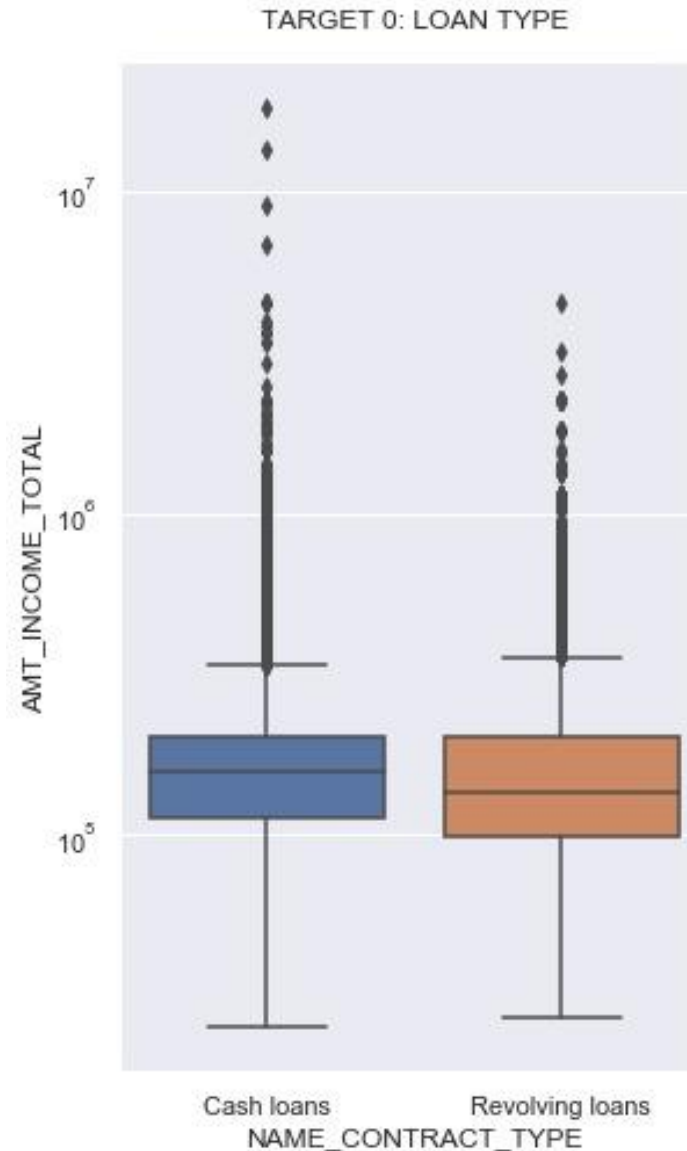


In the above 2 graphs, we can identify that the income of the clients and the customer living in same social circle has only one outlier value. Hence if we chose to impute these columns the outliers have to be ignored.

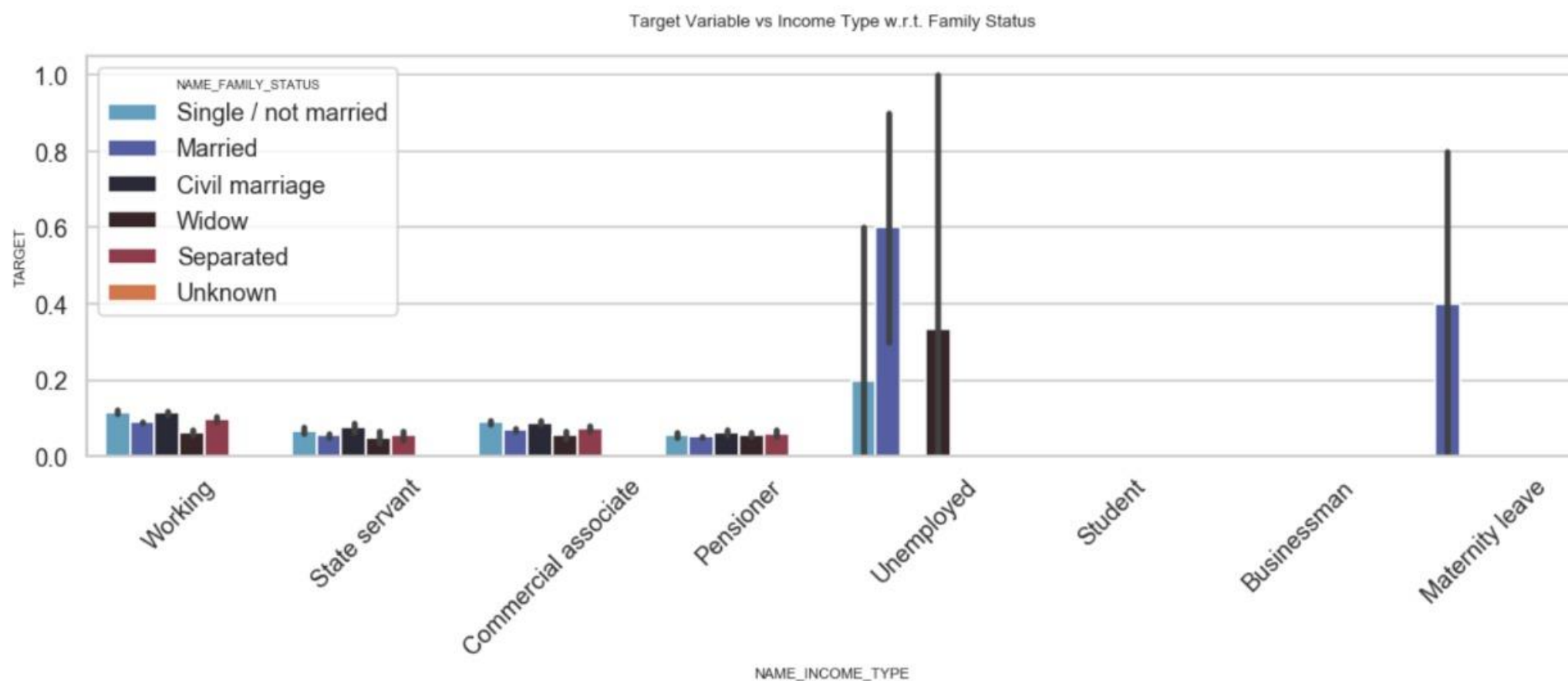
LOAN TYPE

In the adjacent graphs we can notice that the customers with higher income have a less chance of defaulting the loan.

The mean of the income of defaulters is low which indicates that clients with lesser income are more prone to back off from repaying.

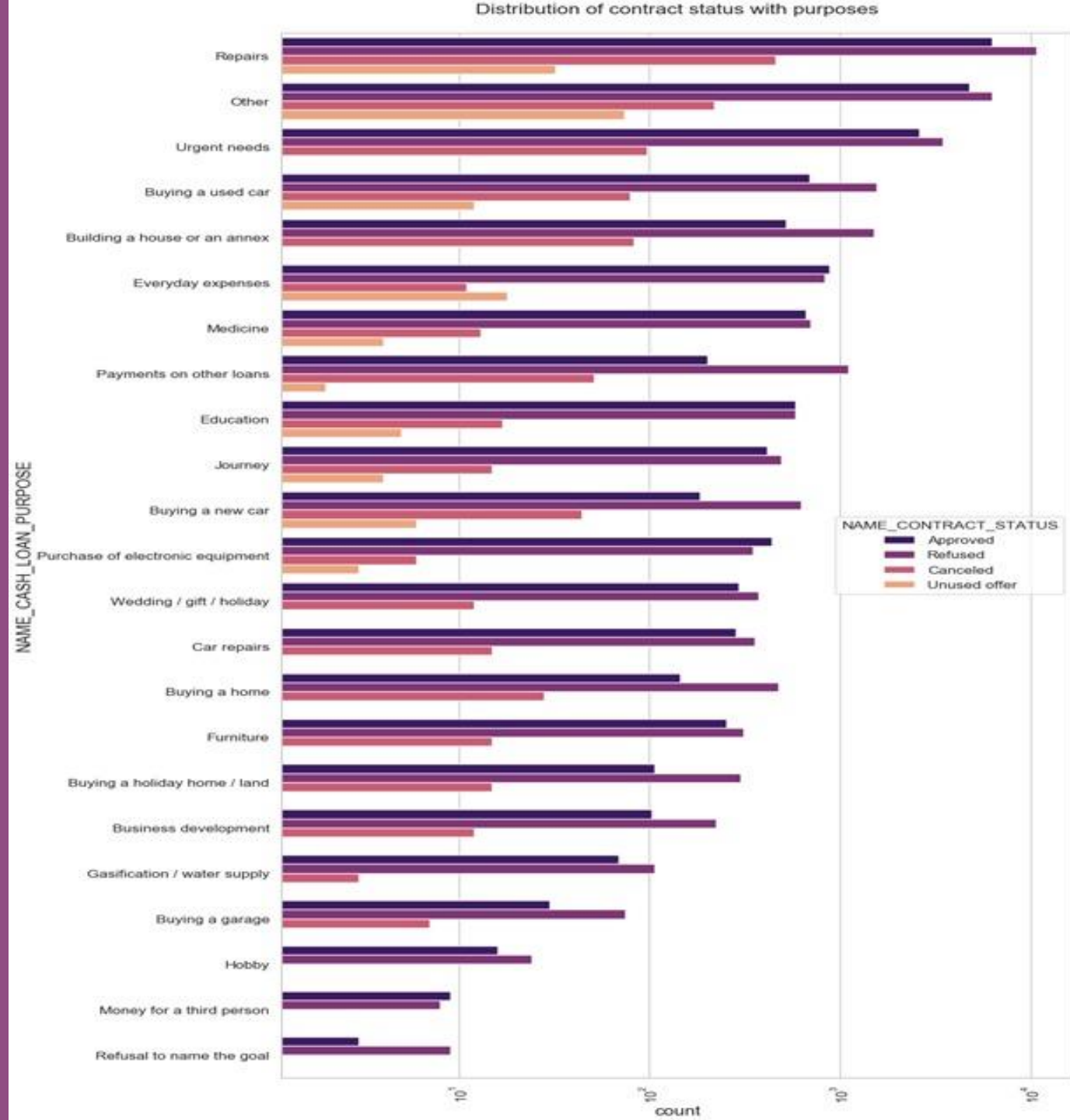


In the below graph we are trying to associate the Income type against the Family Status of the customers. Unambiguously it implies that the Unemployed and Customers on Maternity Leave have a higher tendency of not repaying.

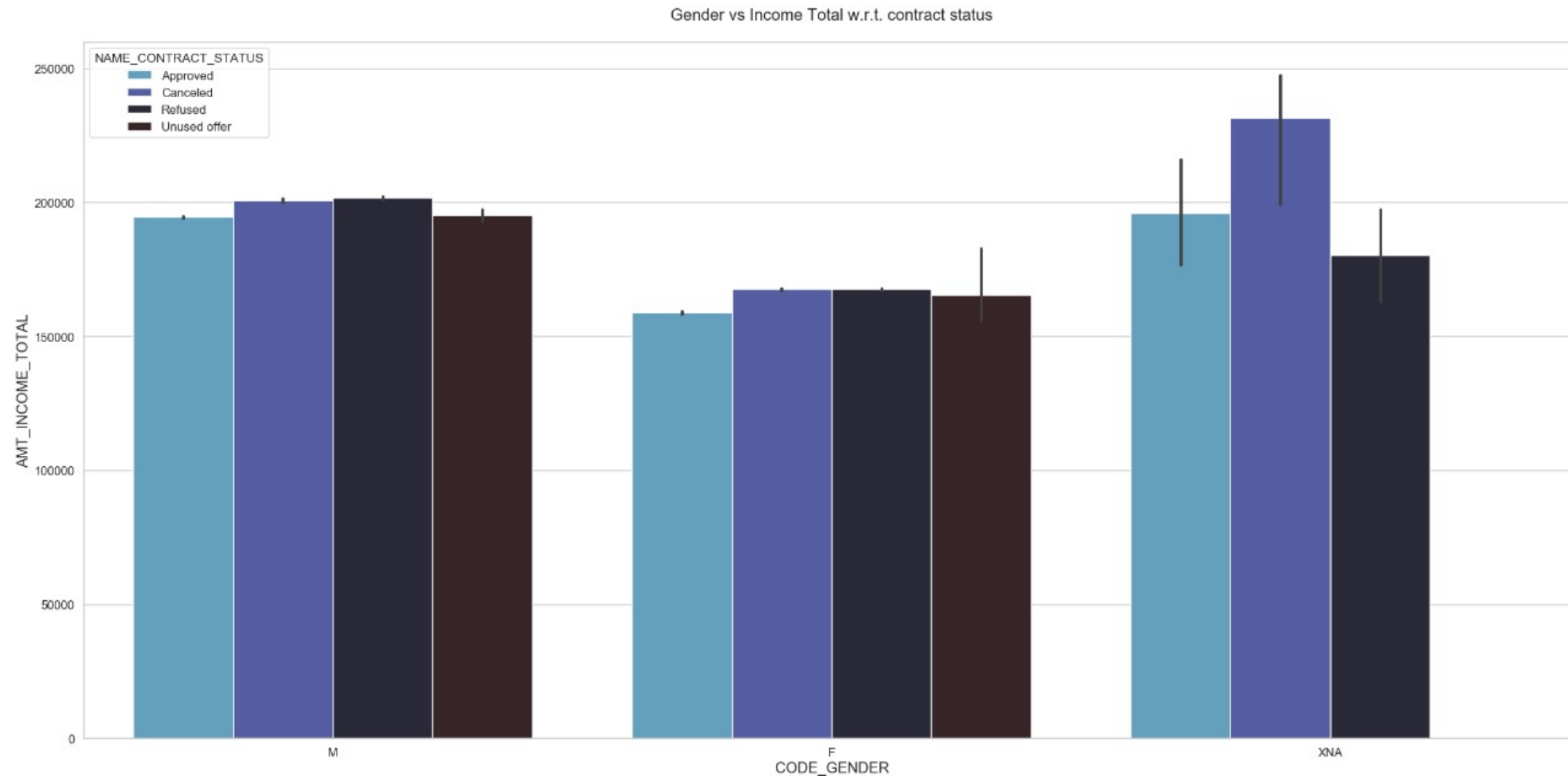


CONTRACT STATUS VS CONTRACT TYPE

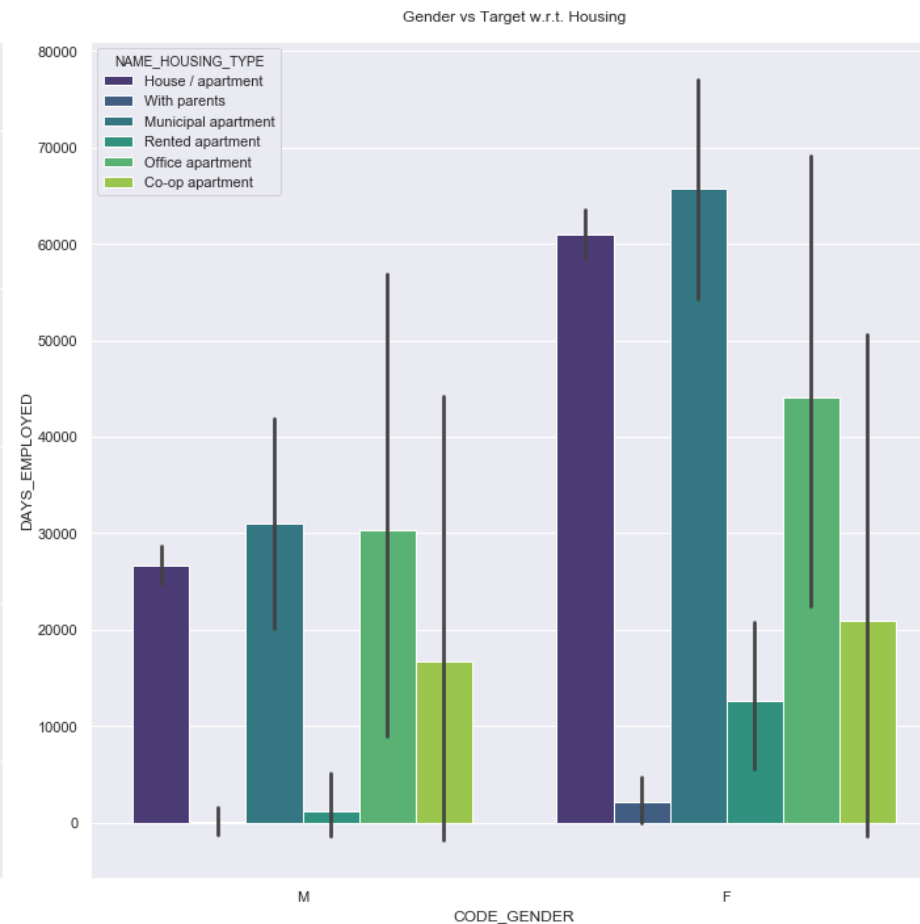
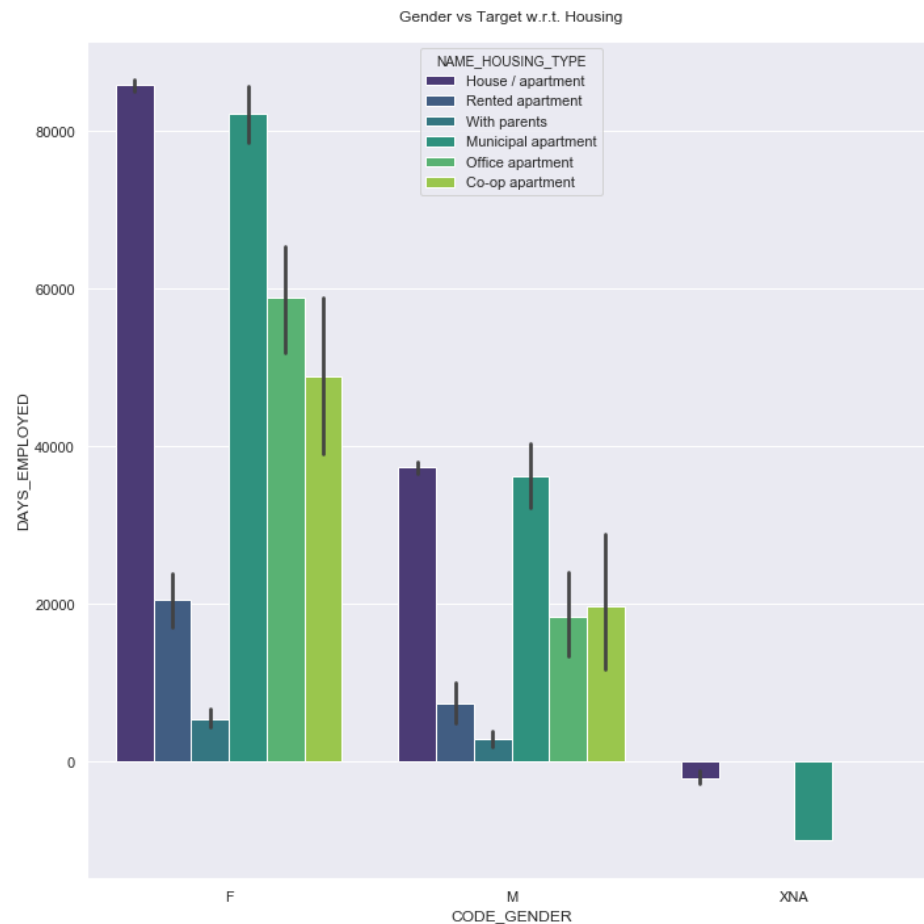
- The refused applicants are more for customers of contract status type Repairs, Others and Urgent Needs.
- Contract status with a smaller number of approved applicants have nil unused offers, we can infer that these people will always opt when loan is approved.
- Customers with Everyday expenses type are the only group who have more unused offers than the canceled.

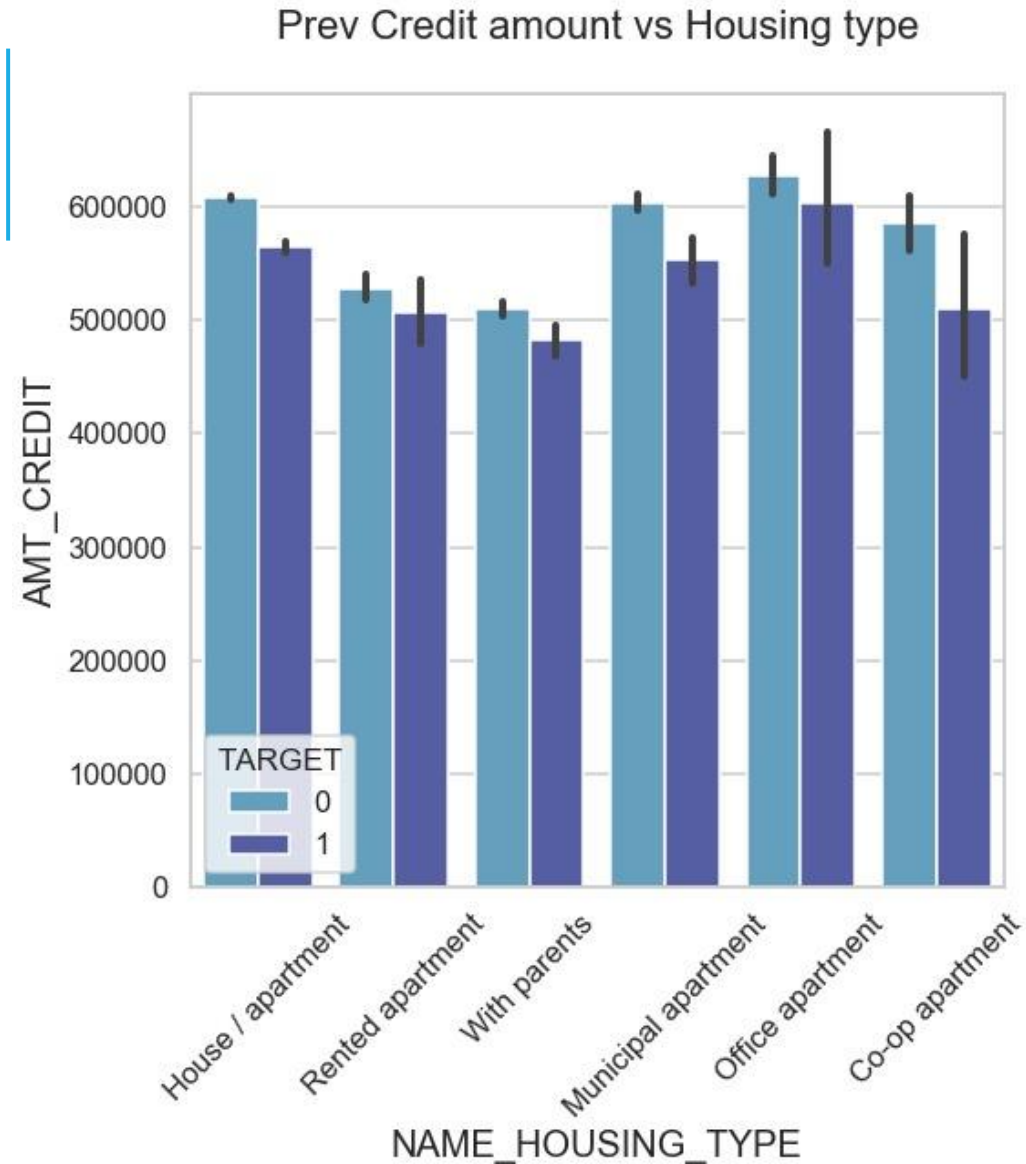


Male customers have more income when compared to female customers and hence the number of applications are more. Unused offers do not have null values in the gender column



Below graphs depict the gender against the housing types — clearly female customers with house have higher probability of repaying the loans. Even though the number of customers with parent applying for loans are less, there are higher chances of them repaying





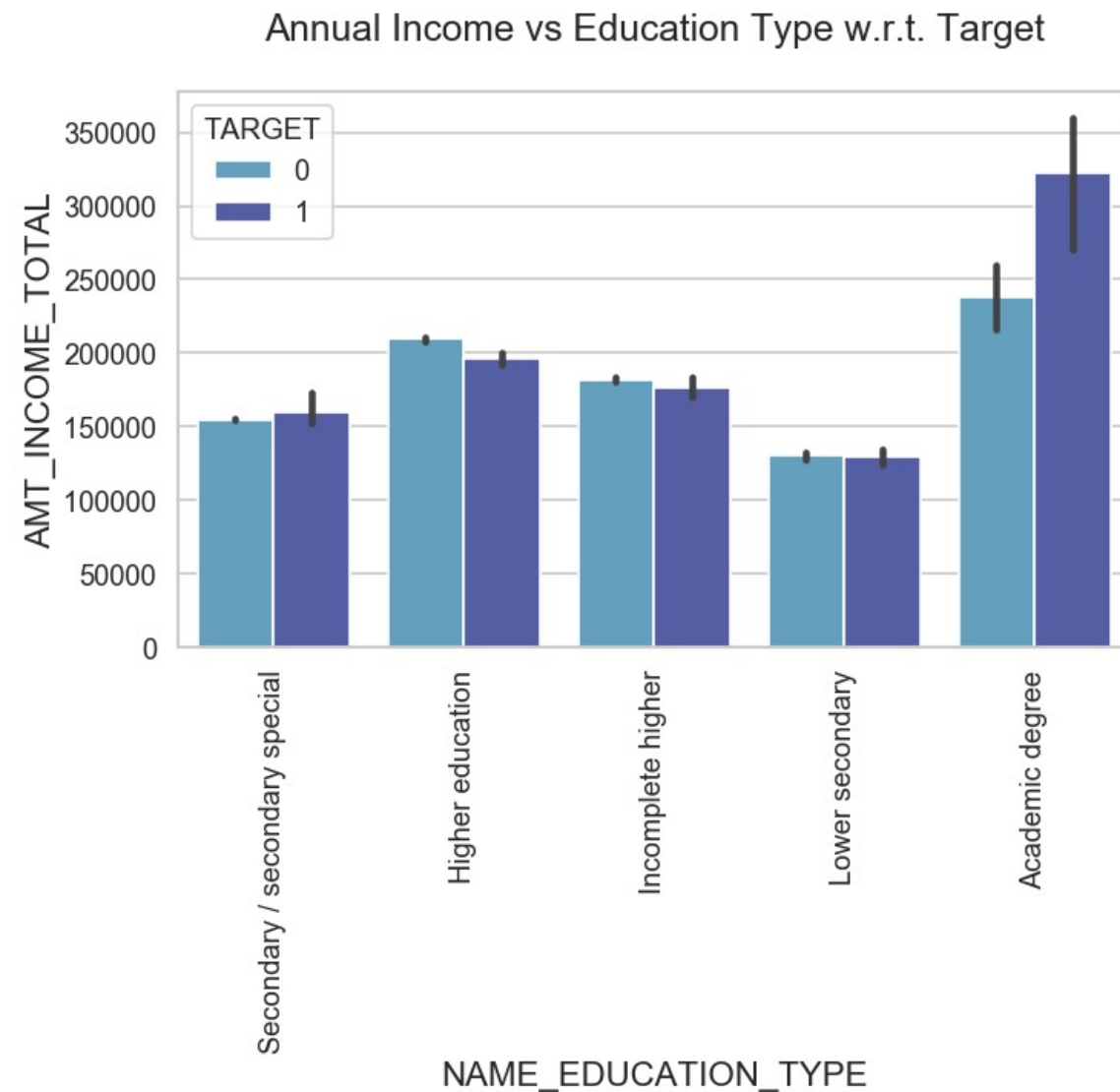
HOUSING TYPE VS PREVIOUS CREDIT AMOUNT

- The customers with housing type office apartment have higher credit in the liquidators whereas customers with co-op apartment have higher credit in the defaulters list.
- This implies that bank should consider the housing type when issuing high value loans.

EDUCATION TYPE & ANNUAL INCOME

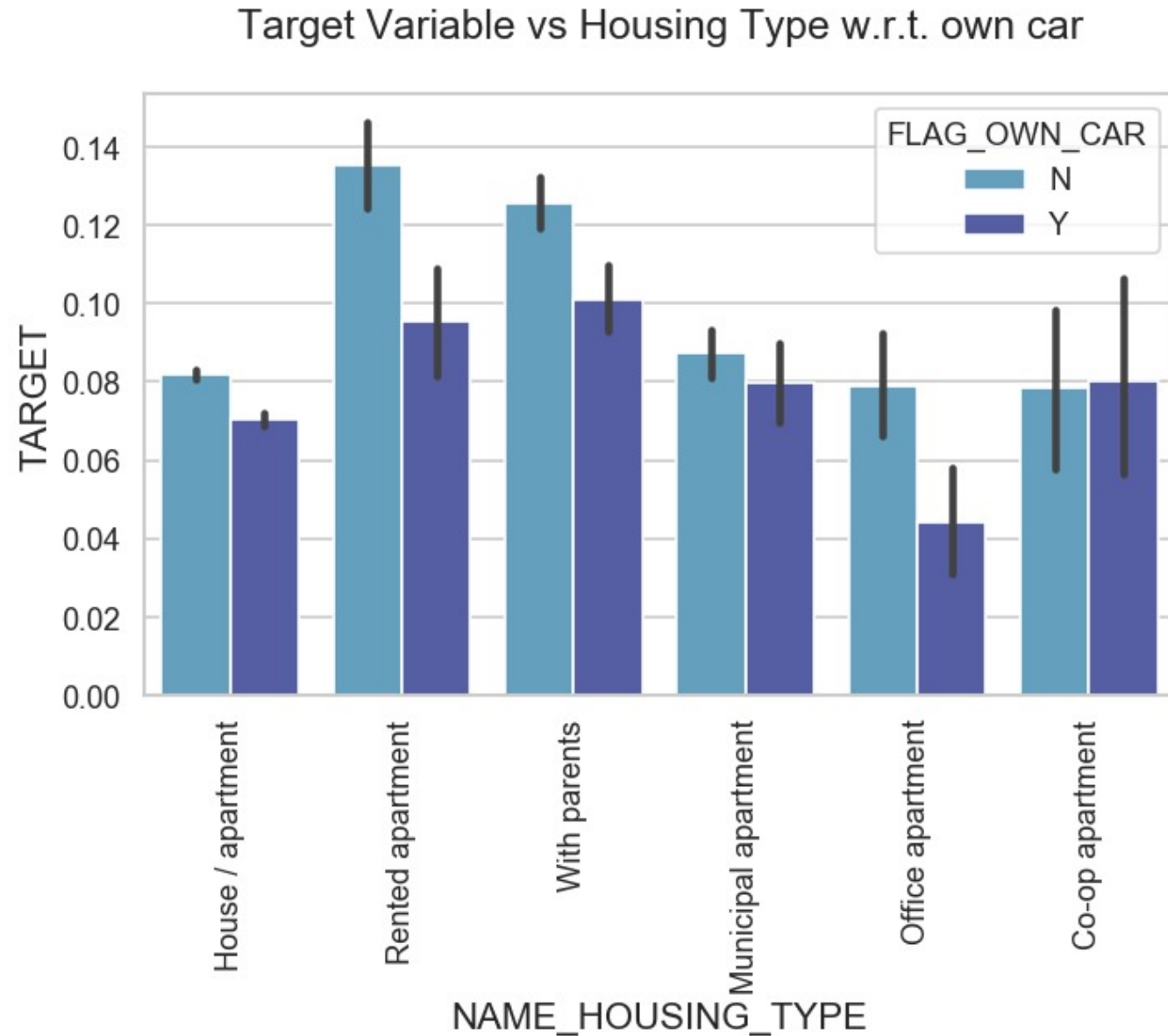
Customers with Academic Degree although earn more they are also the highest defaulters.

Remaining groups have same number of customers who repay the loan as well as the defaulters.



HOUSING TYPE VS OWNING CAR

- Customers without car and staying in rented apartments have higher chances of defaulting.
- Customers staying in office apartment who also have a car are the favorable applicants.



CONCLUSION

- Customers with income type 'Working' applications should be scrutinized more as they have a greater number of default cases.
- The contract type customers in the groups 'Student', 'Pensioner' and 'Businessman' are another favorable bunch who repay.
- Banks should focus more on contract type 'Student', 'pensioner' and 'Businessman' with housing 'type other than 'Co-op apartment' for successful payments.
- Customers with housing type staying with parents need to be concentrated more as this group has the least number of unsuccessful payments.
- Banks must be extra careful with customer who live in 'Co-op apartment', their payments are mostly unsuccessful.