# CREDIT EDA CASE STUDY

DISTRIBUTION OF INCOME RANGE
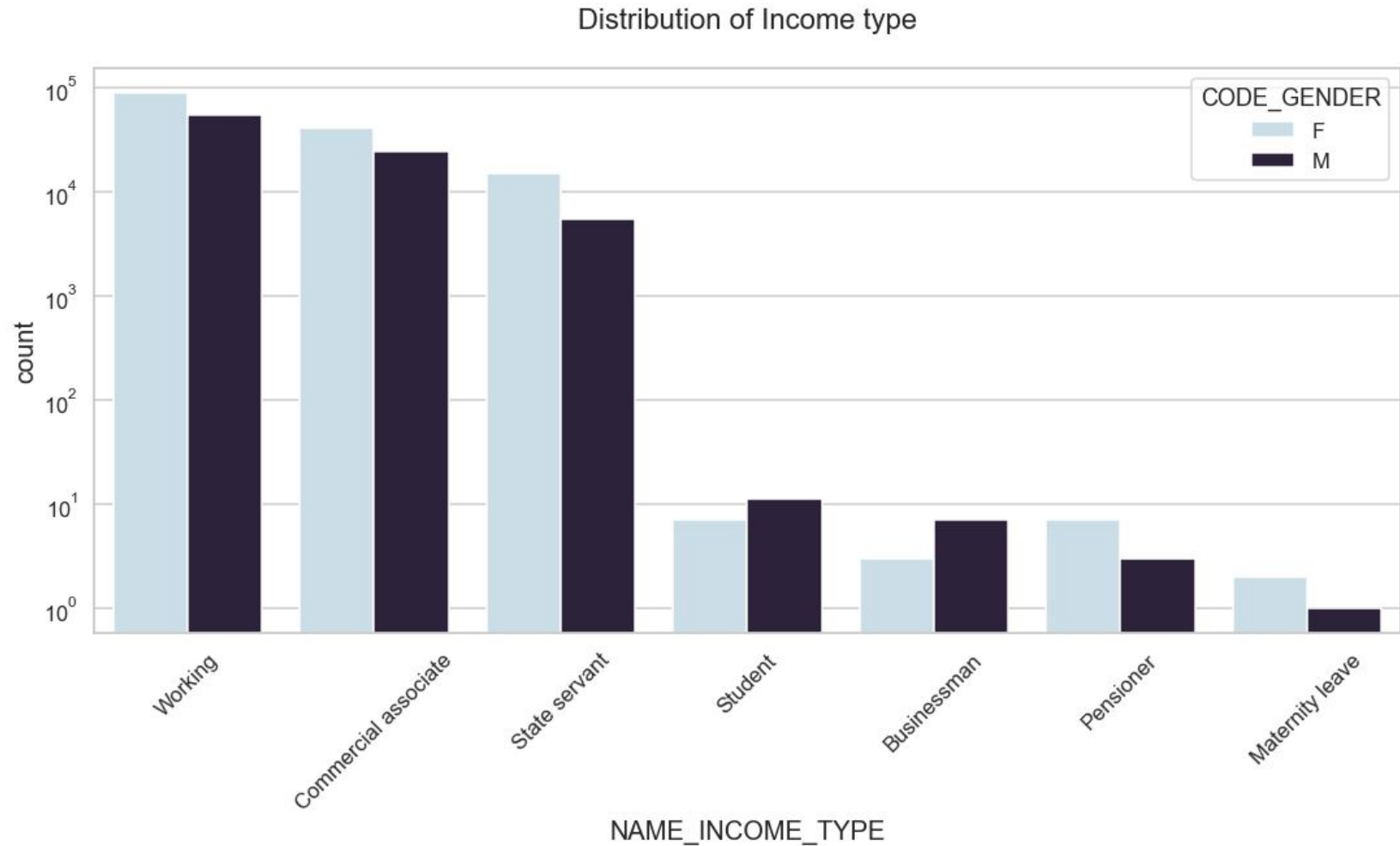
Conclusions to be drawn from the graph on the right.

- The number of females is higher than the number of males.The income range of 100,000 to 200,000 has the highest number of credits.

- This graph shows that females have more credits for that range than males.

- For incomes of 400000 and up, there is a very small number of people who are counted.
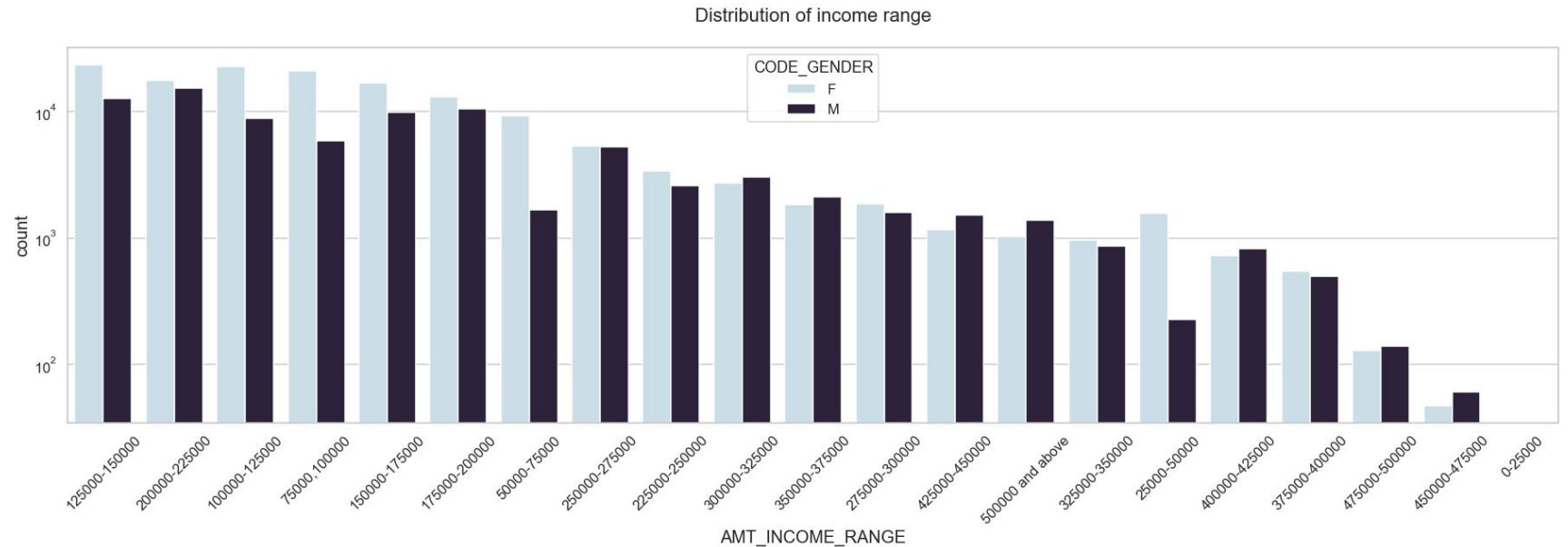
Distribution of income range

DISTRIBUTION OF INCOME TYPE

Conclusions to be drawn from the graph on the right.

- The number of credits is larger for the income types 'working,' 'commercial associate,' and 'State Servant.'

- As a result, females have a greater number of credits than males.

- The income types 'student,''pensioner,'Businessman,' and 'Maternity leave' have fewer credits.

Distribution of Income type

DISTRIBUTION FOR CONTRACT TYPE
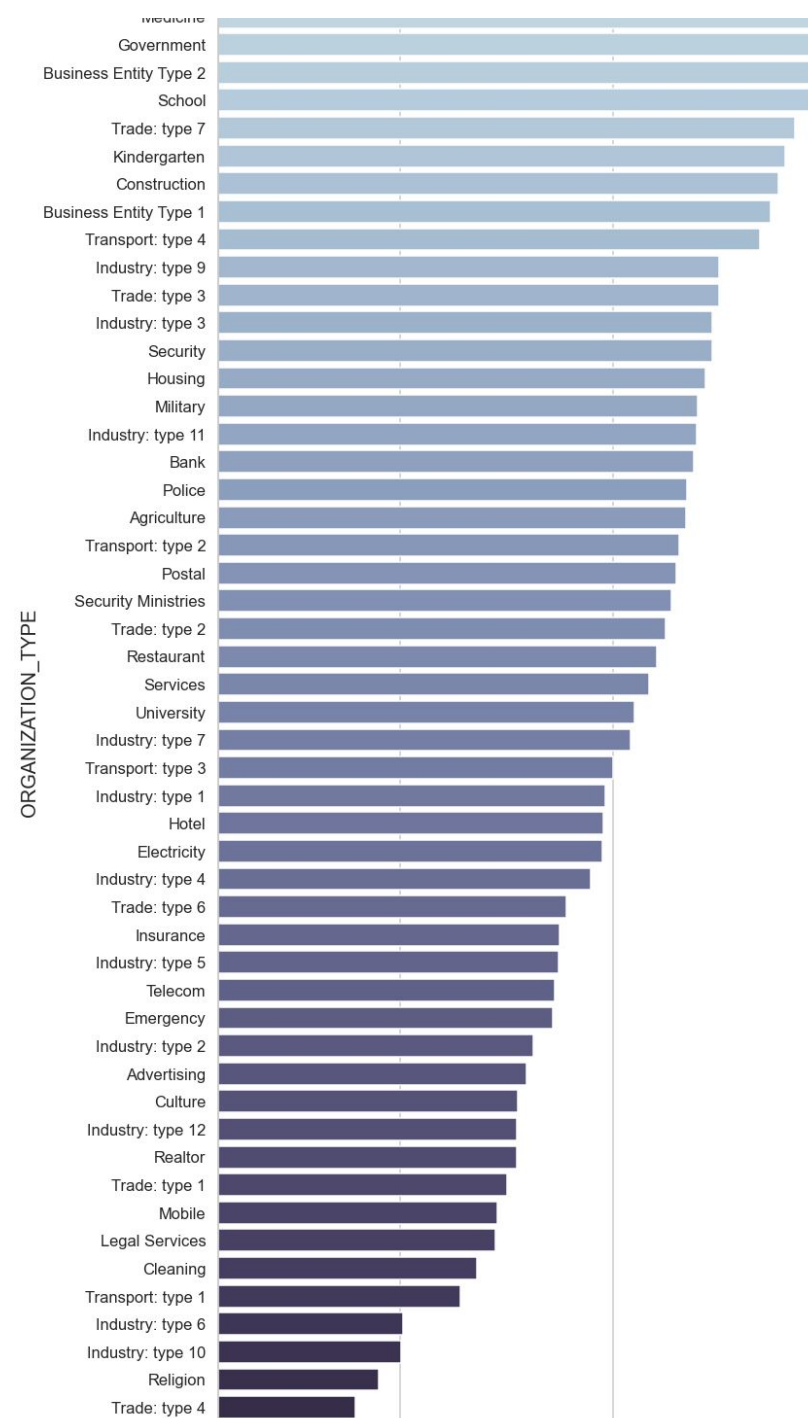
Conclusions to be drawn from the graph on the right.

- The contract type 'cash loans' has a higher amount of credits than the contract type'revolving loans.'

- Females are also in the lead when it comes to applying for credit.

Distribution of contract type
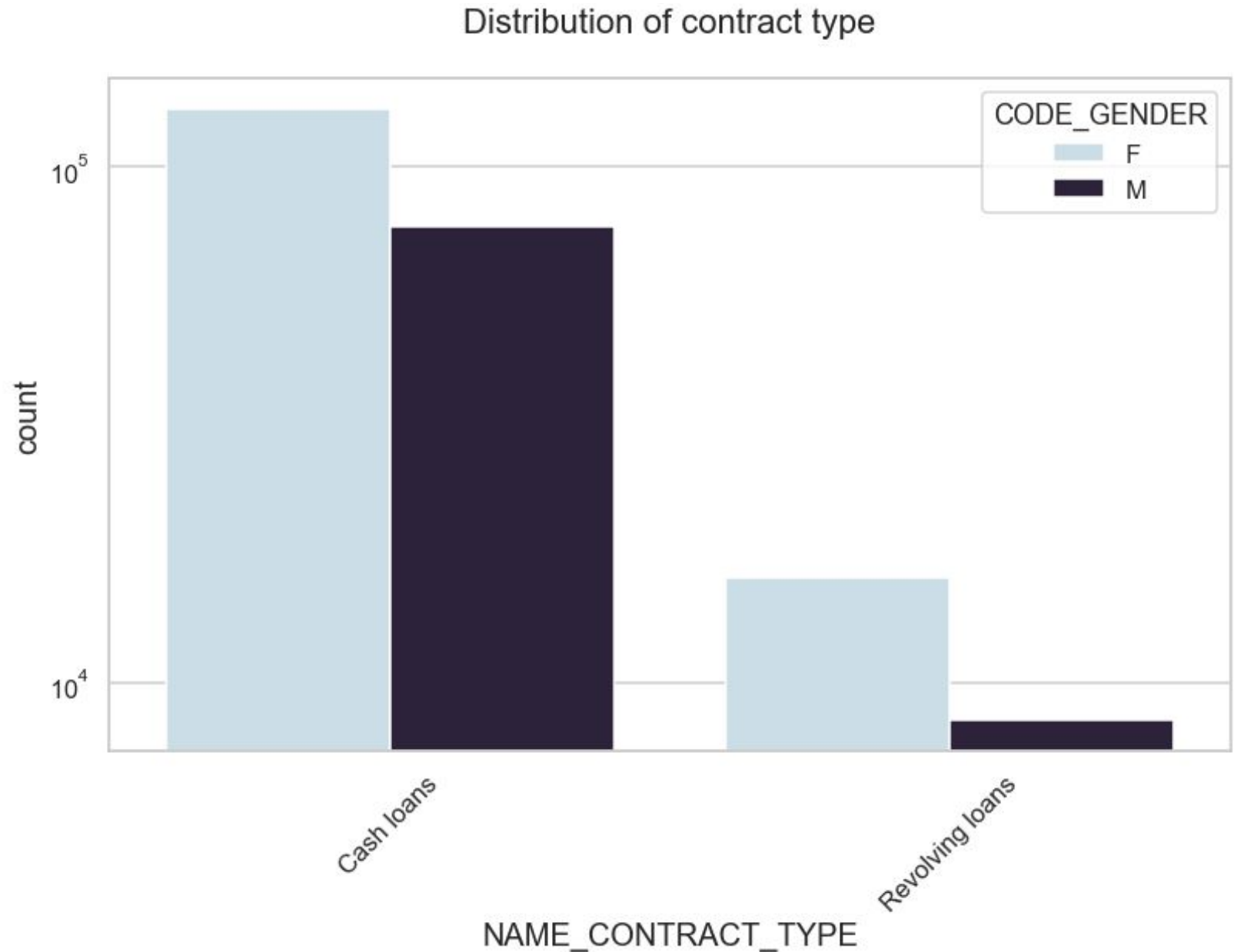
DISTRIBUTION OF ORGANIZATION TYPE

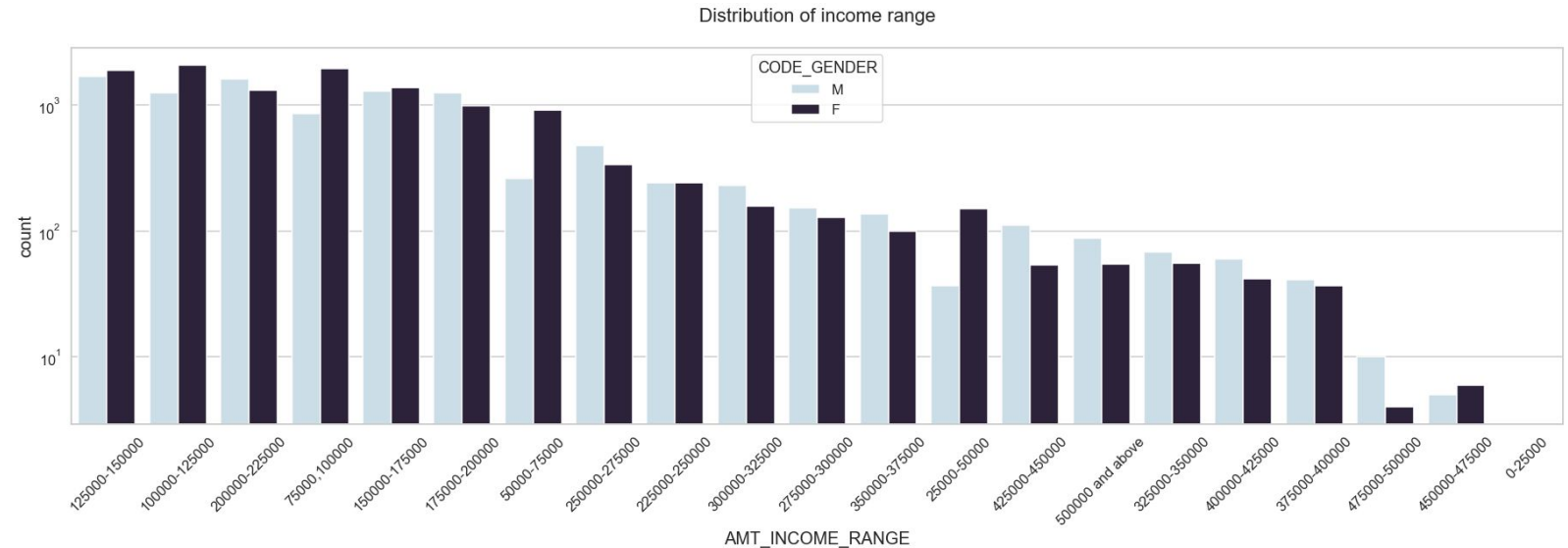Points to be concluded from the graph on the right.

- Most of the organisation types that have applied for credits are 'Business entity Type 3', 'Self employed', 'Other', 'Medicine', and 'Government'.

- Industry type 8, type 6, type 10, religion, and trade type 5, type 4 have fewer clientele.

ORGANIZATION_TYPE

Medicine
Government
Business Entity Type 2
School
Trade: type 7
Kindergarten
Construction
Business Entity Type 1
Transport: type 4
Industry: type 9
Trade: type 3
Industry: type 3
Security
Housing
Military
Industry: type 11
Bank
Police
Agriculture
Transport: type 2
Postal
Security Ministries
Trade: type 2
Restaurant
Services
University
Industry: type 7
Transport: type 3
Industry: type 1
Hotel
Electricity
Industry: type 4
Trade: type 6
Insurance
Industry: type 5
Telecom
Emergency
Industry: type 2
Advertising
Culture
Industry: type 12
Realtor
Trade: type 1
Mobile
Legal Services
Cleaning
Transport: type 1
Industry: type 6
Industry: type 10
Religion
Trade: type 4

DISTRIBUTION OF INCOME RANGE

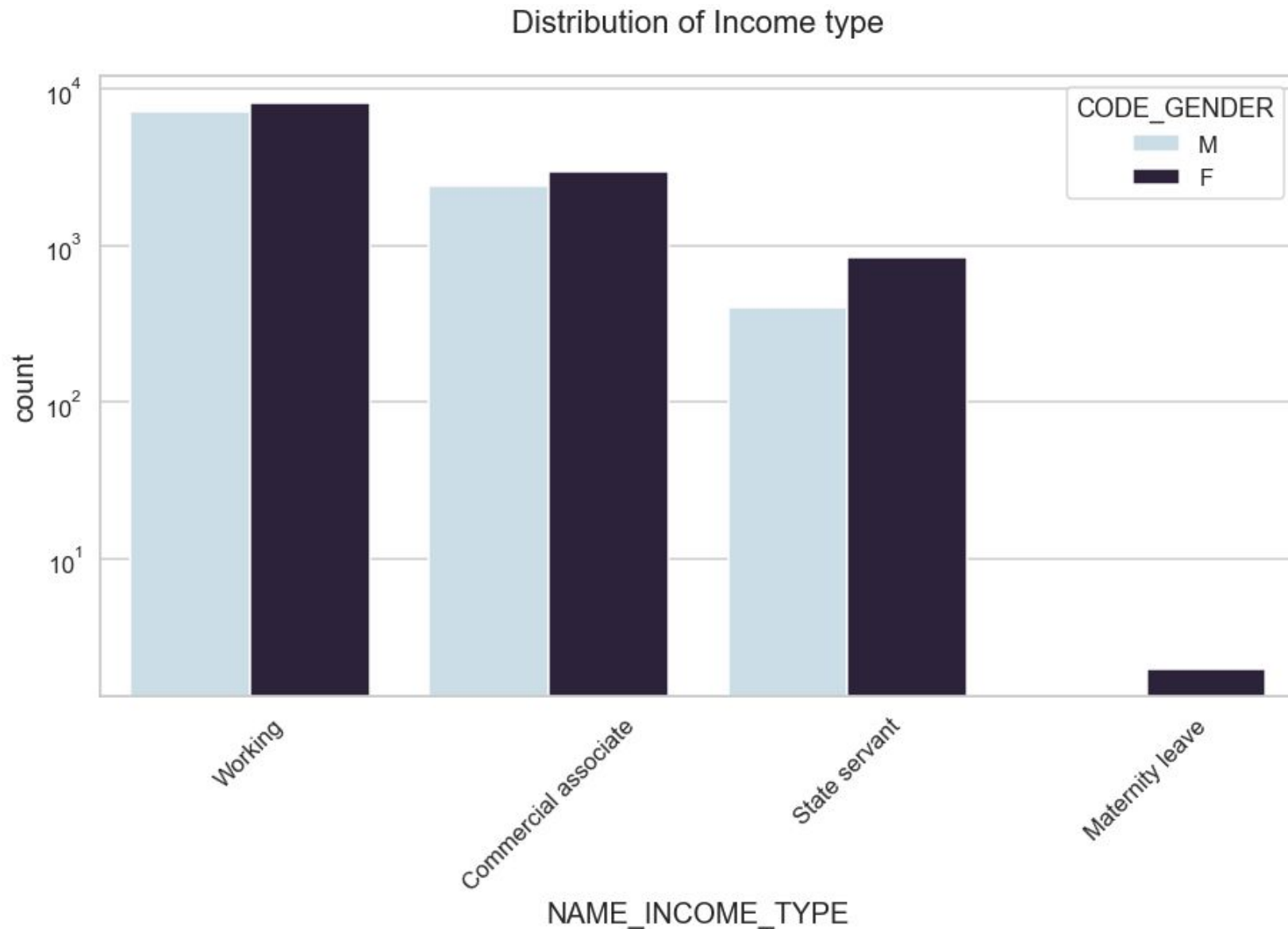Points to be concluded from the graph on the right side.

- Males have a higher count than females.

- The income range of 100,000 to 200,000 has the highest number of credits.

- This graph shows that males have more credits for that range than females.

- For incomes of $400000 and up, there is a very small number of people who are counted.

Distribution of income range

DISTRIBUTION OF INCOME TYPE

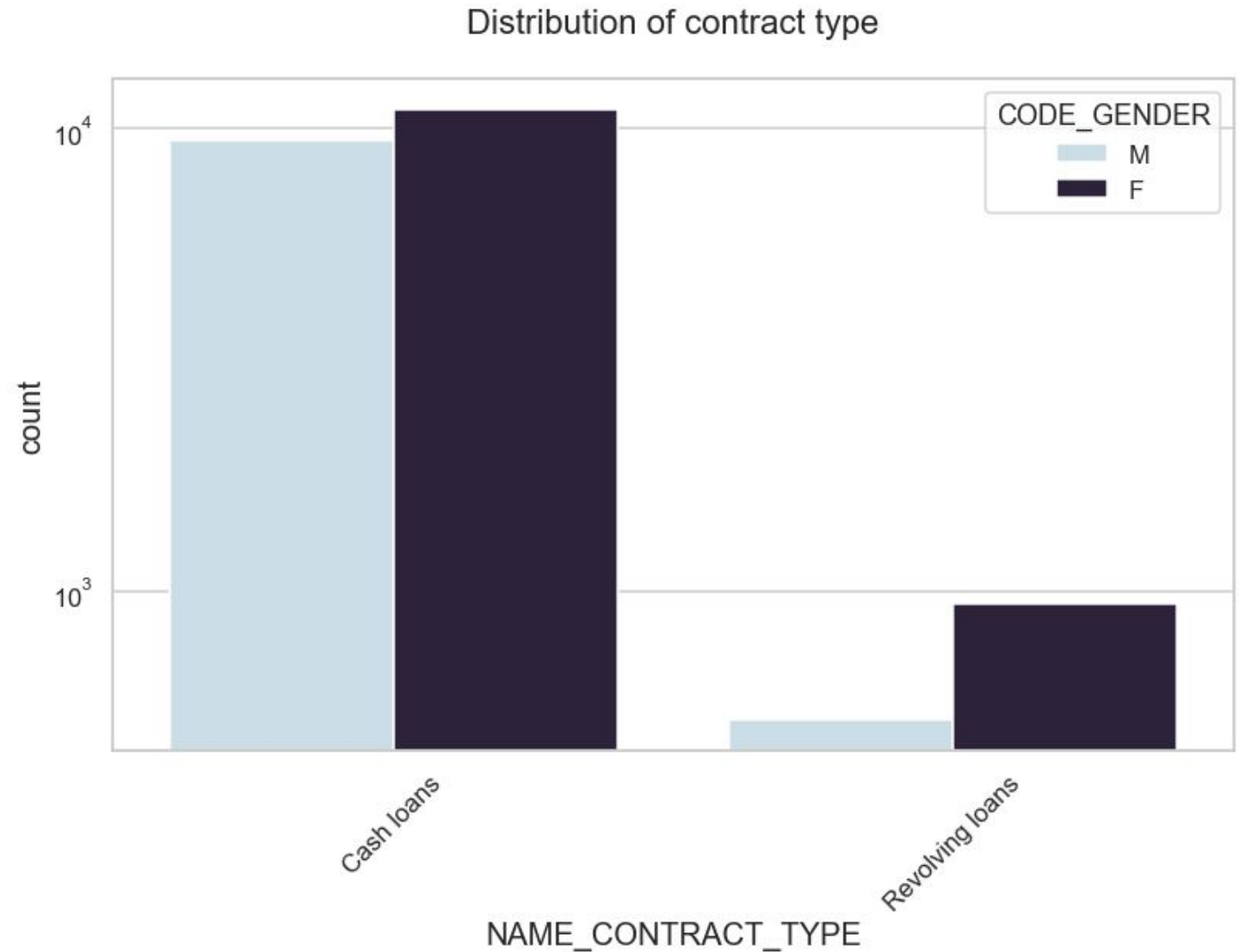Conclusions to be drawn from the graph on the right.

- The number of credits for the income types 'working,' 'commercial associate,' and 'State Servant' are higher than for the other income types, such as 'Maternity leave.'

- As a result, females have a greater number of credits than males.

- For the income type 'Maternity leave,' there are less credits available.

- For type 1,'student,' 'pensioner,' and 'businessman' have no income type, indicating that they do not make late payments.

Distribution of Income type

DISTRIBUTION FOR CONTRACT TYPE

Conclusions to be drawn from the graph on the right.

- The contract type 'cash loans' has a higher amount of credits than the contract type 'revolving loans.'

- Females are also in the lead when it comes to applying for credit.

- Only female revolving loans are available for type 1.


Distribution of contract type

DISTRIBUTION OF ORGANIZATION TYPE

Conclusions to be drawn from the graph on the right.

- Most of the organisation types that have filed for credits are 'Business entity Type 3', 'Self employed', 'Other', 'Medicine', and 'Government'.

- Industry type 8, type 6, type 10, religion, and commerce type 5, type 4 have fewer clientele.

- In terms of organisation type distribution, type 0 is the same as type 0.
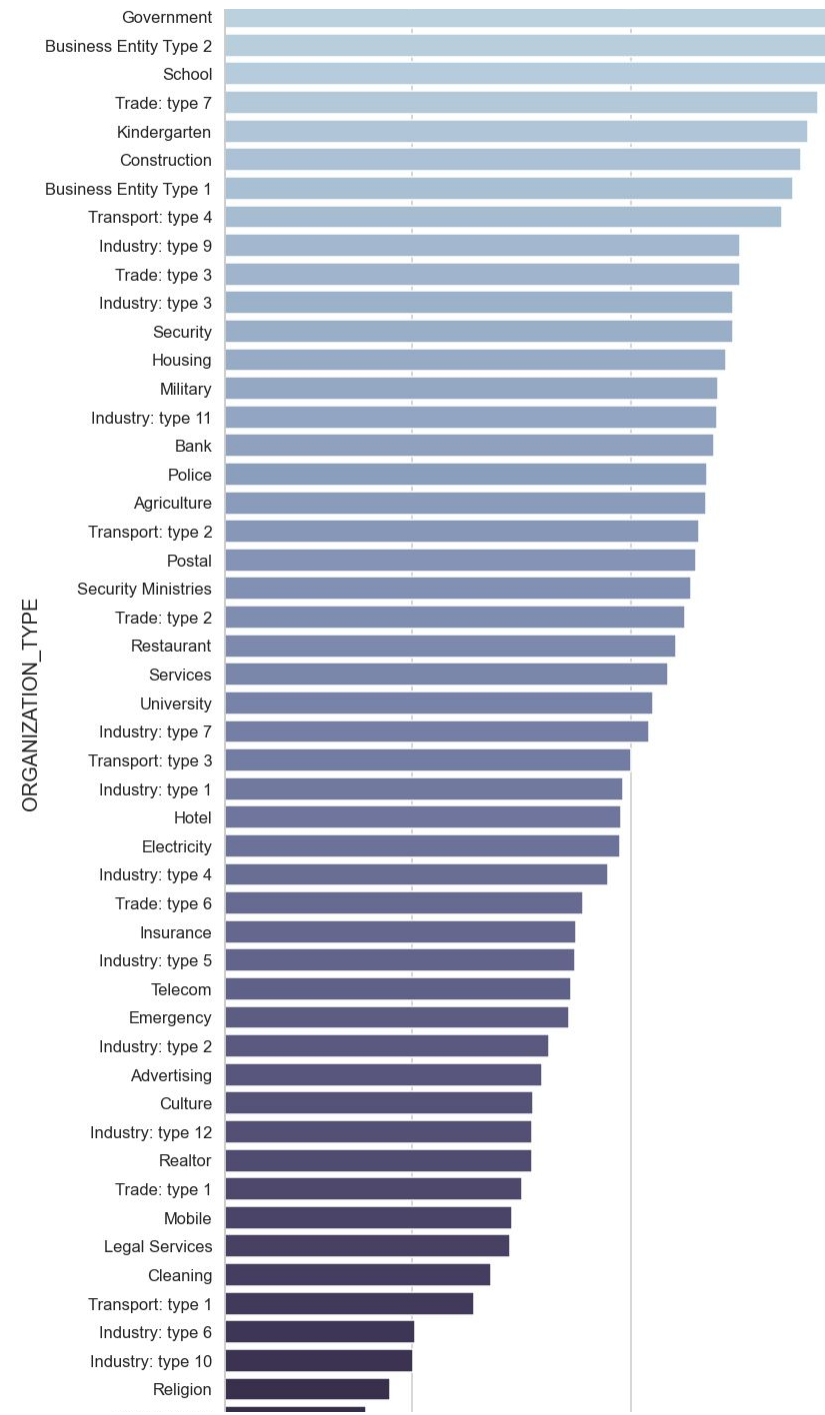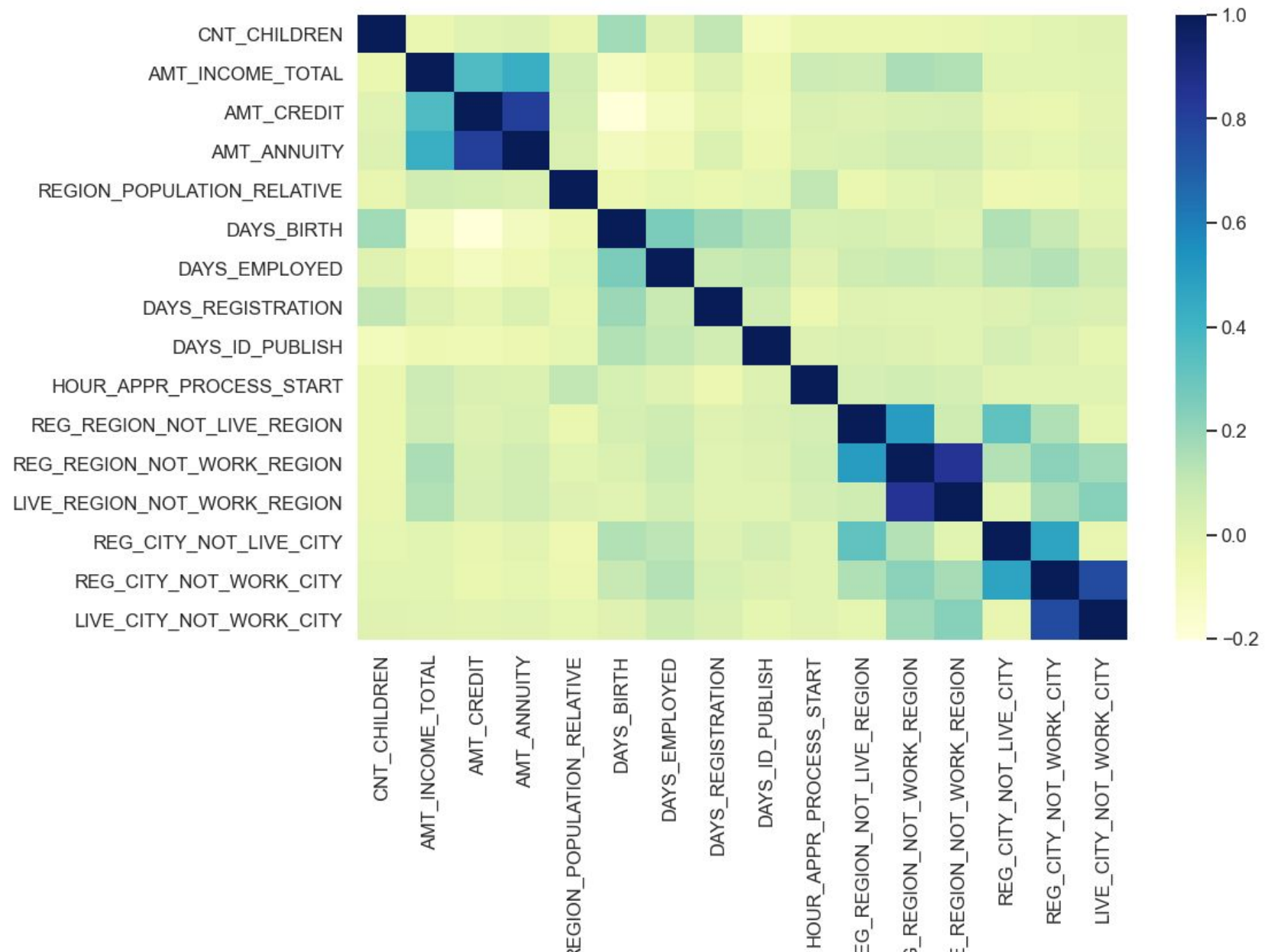
CORRELATION OF TARGET 0

Correlation for target 0
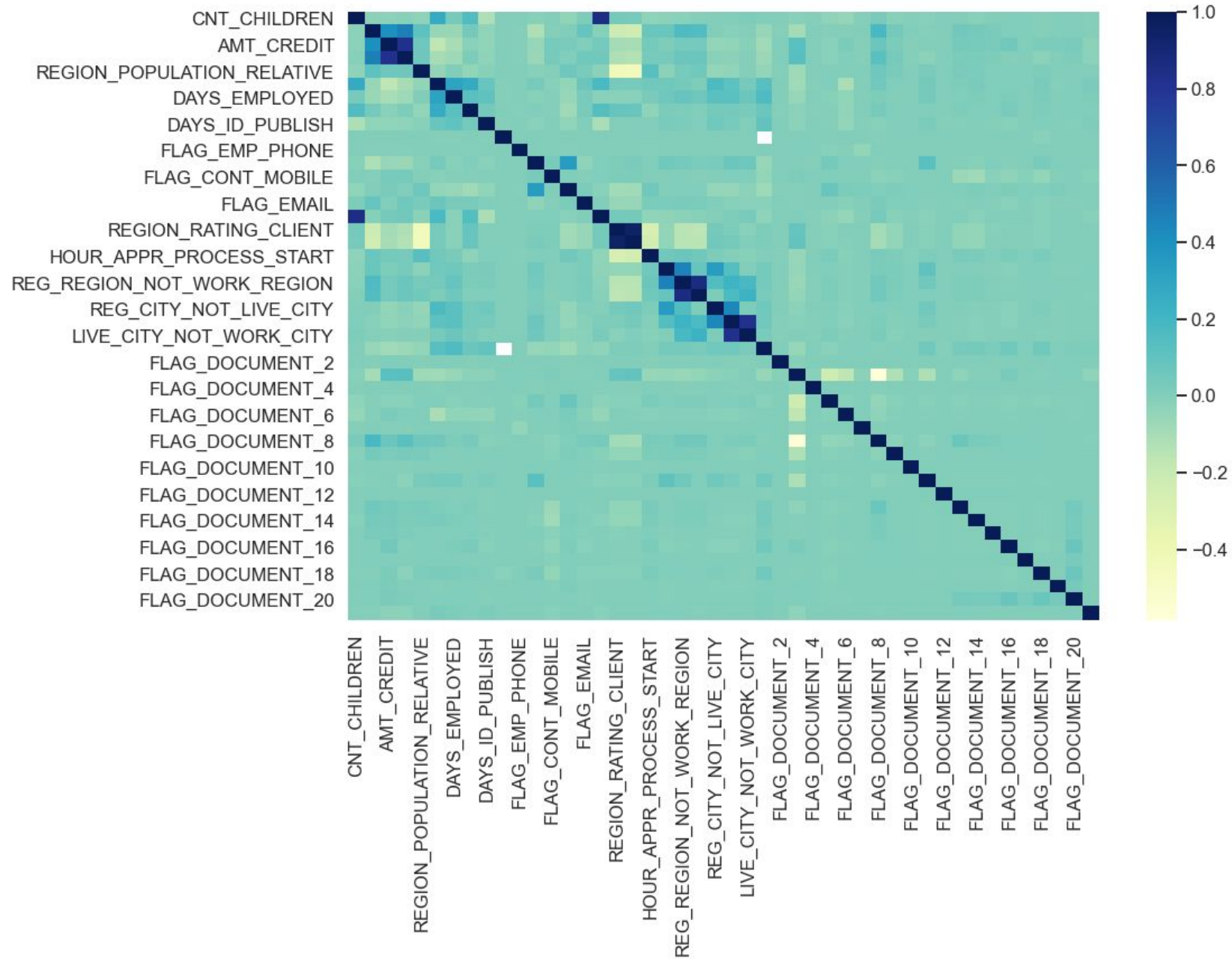
CORRELATION FOR TARGET 0

As can be seen from the correlation heatmap above, there are a number of observations worth noting.

- The credit amount is inversely related to the date of birth, meaning that the credit amount is higher for younger people and lower for older people.

- The credit amount is inversely proportional to the number of children the client has, which means that the credit amount is higher when the client has fewer children and vice versa.

- The quantity of income is inversely linked to the number of children a client has; higher income for fewer children and vice versa.

- In a heavily populated location, clients have fewer children.

- The amount of credit given to heavily inhabited areas is higher.

- In highly inhabited areas, income is also higher.

CORRELATION OF TARGET 1

CORRELATION FOR TYPE 1

- Similarly to Target 0, this heat map for Target 1 has a similar observation. However, there are a few exceptions. The following is a list of them.

- Clients whose permanent address differs from their contact address have fewer children, and vice versa.

- When a client's permanent address differs from his or her work address, he or she has fewer children, and vice versa.
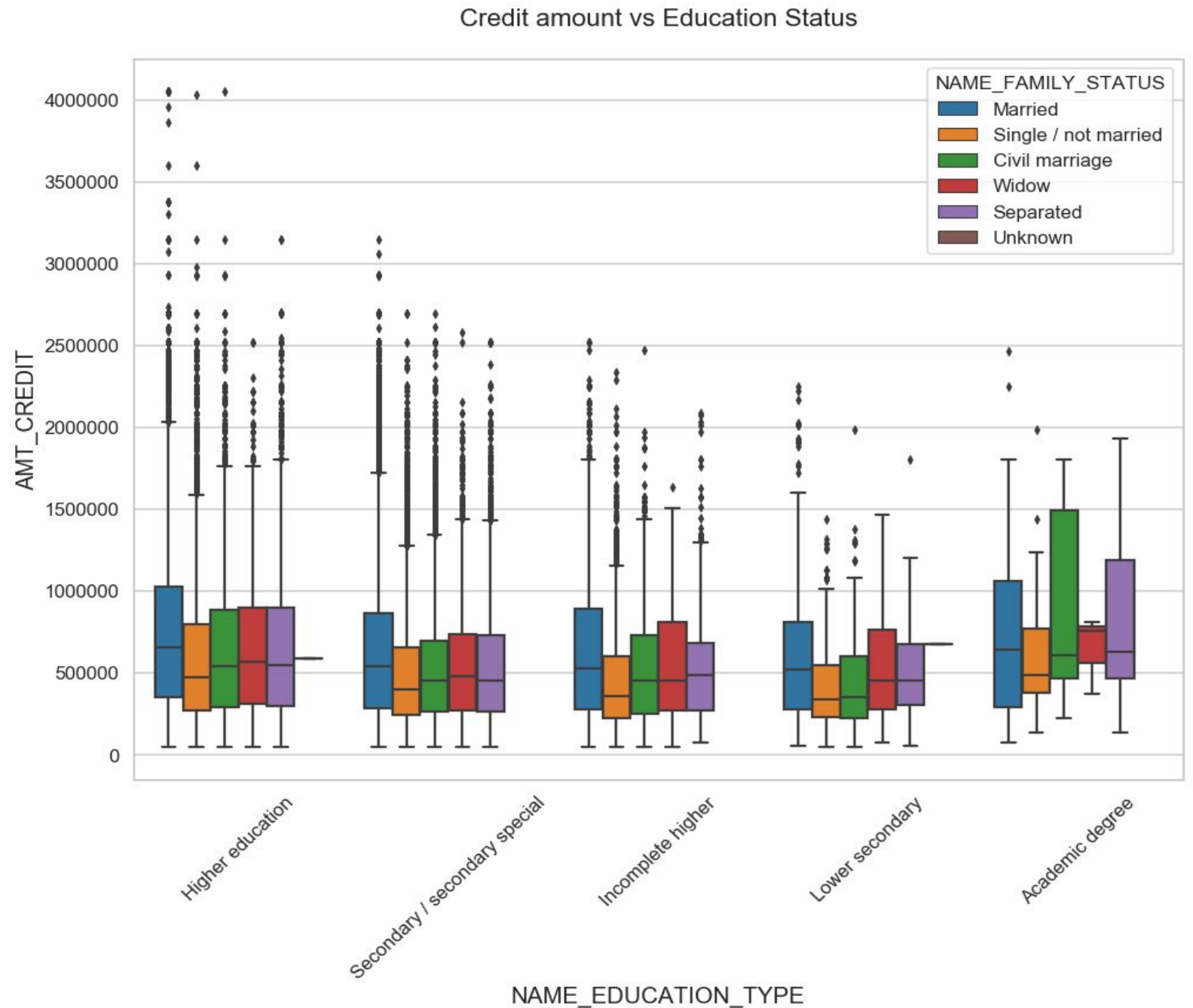
Bivariate Analysis for Numerical Variables

CREDIT AMOUNT VS EDUCATION STATUS
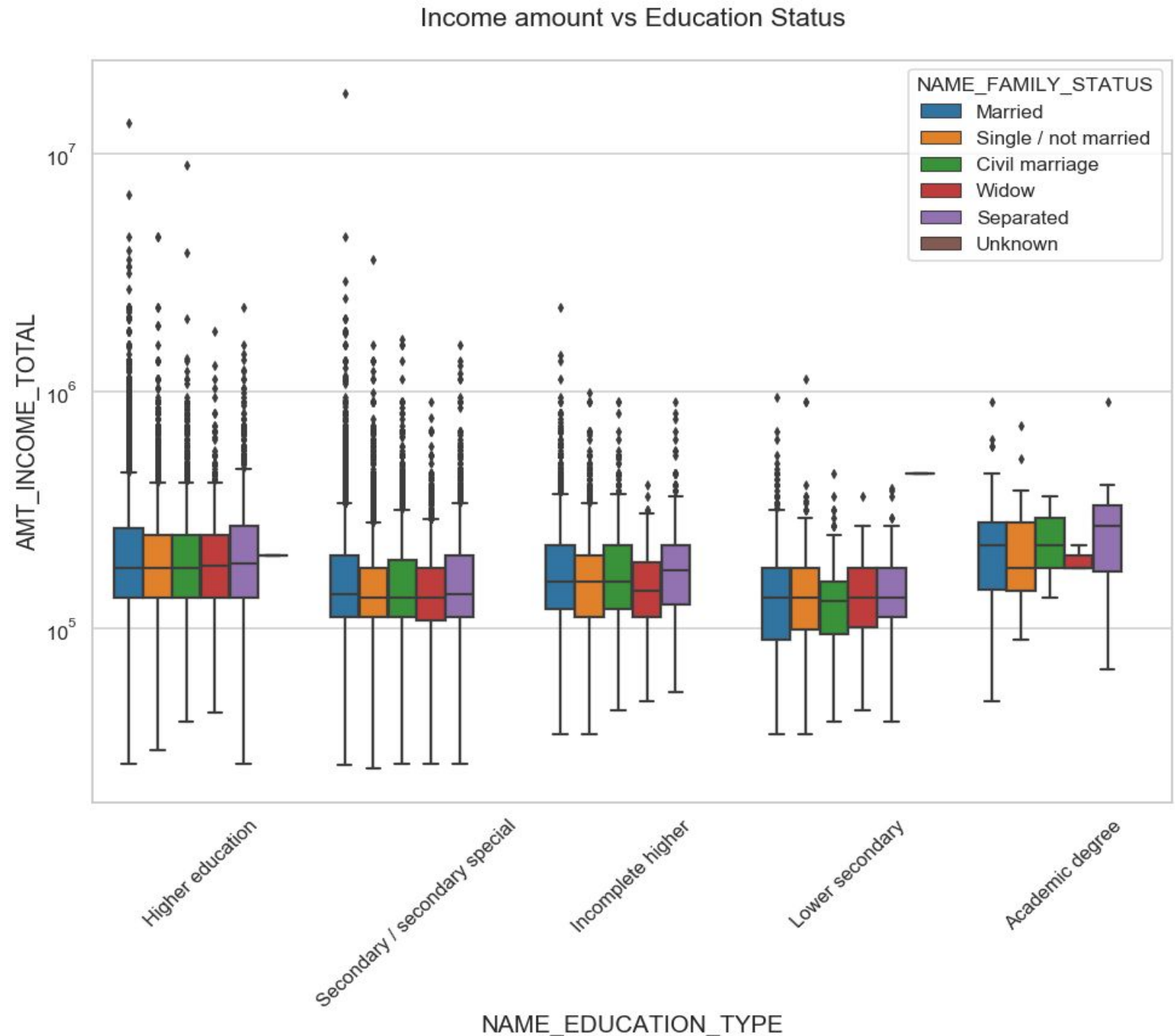
The graph can only be used to draw a few conclusions.

- Academic degree education family statuses of 'civil marriage,"marriage,' and 'separated' have more credits than others.

- There are more outliers in higher education of family status of 'marriage,"single,' and 'civil marriage.'

- The majority of the credits in a civil marriage for an academic degree are in the third quartile.

Credit amount vs Education Status

INCOME AMOUNT VS EDUCATION STATUS

The graph can only be used to draw a few conclusions.

- The income amount is basically equivalent with family status for Education type 'Higher education.' There are a lot of outliers in it.

- Academic degrees have fewer outliers, but their earnings are somewhat greater than those with a higher education.

- The lower secondary of civil marriage family status has a lower income than the others.

Income amount vs Education Status

CREDIT AMOUNT VS EDUCATION STATUS

The graph can only be used to draw a few conclusions.

- Similarly to Target 0, we may claim that family statuses of 'civil marriage,''marriage,' and 'separated' of Academic degree education have more credits than others.

- The Education types 'Higher education' and 'Secondary' account for the majority of the outliers.

- The majority of the credits in a civil marriage for an academic degree are in the third quartile.

Credit Amount vs Education Status
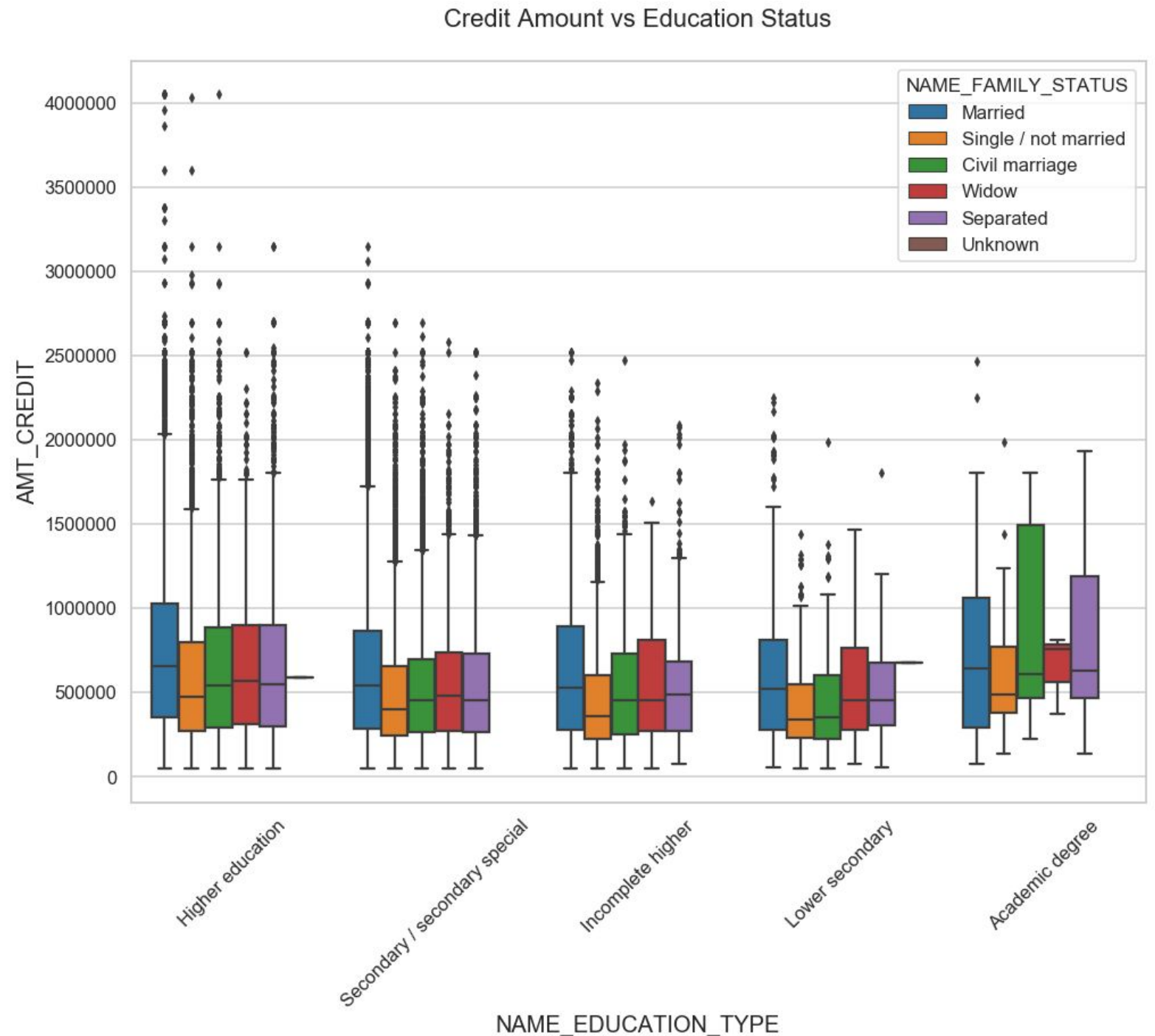
INCOME AMOUNT VS EDUCATION STATUS

Few points can be concluded from the graph.

- Similar to Target0, the income amount is mainly equivalent with family status in the above boxplot for Education type 'Higher education.'

- Academic degrees have fewer outliers, but their earnings are somewhat greater than those with a higher education.

- Lower secondary students earn less money than their peers.

Income amount vs Education Status
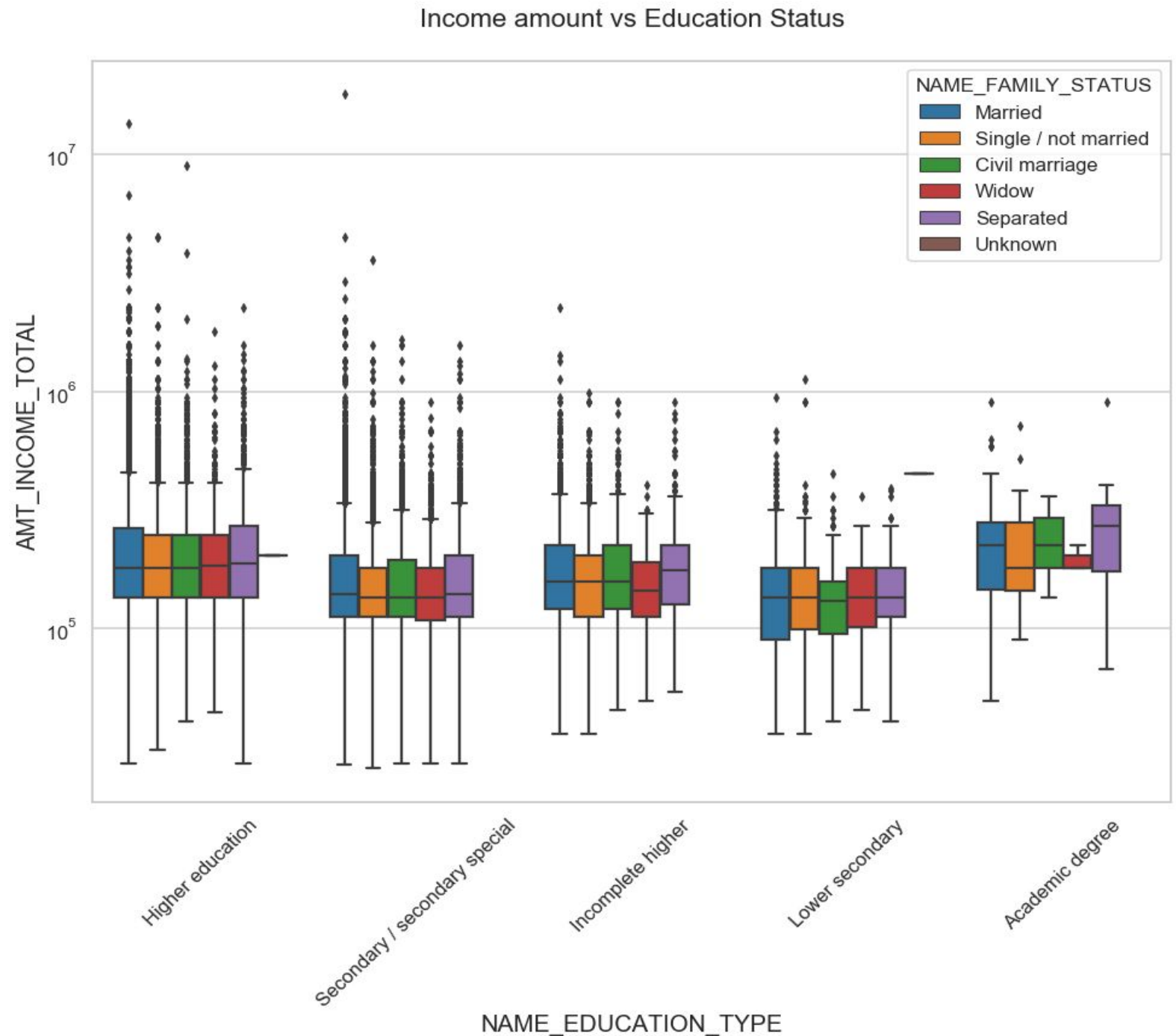
PERFORMING UNIVARIATE ANALYSIS

DISTRIBUTION OF CONTRACT STATUS WITH PURPOSES

Few points can be concluded from the graph.

- The majority of loan rejections were due to the need for 'repairs.'

- We have an equal amount of authorises and rejections for educational purposes.

- Paying off other debts and purchasing a new car receive far more rejections than approvals.
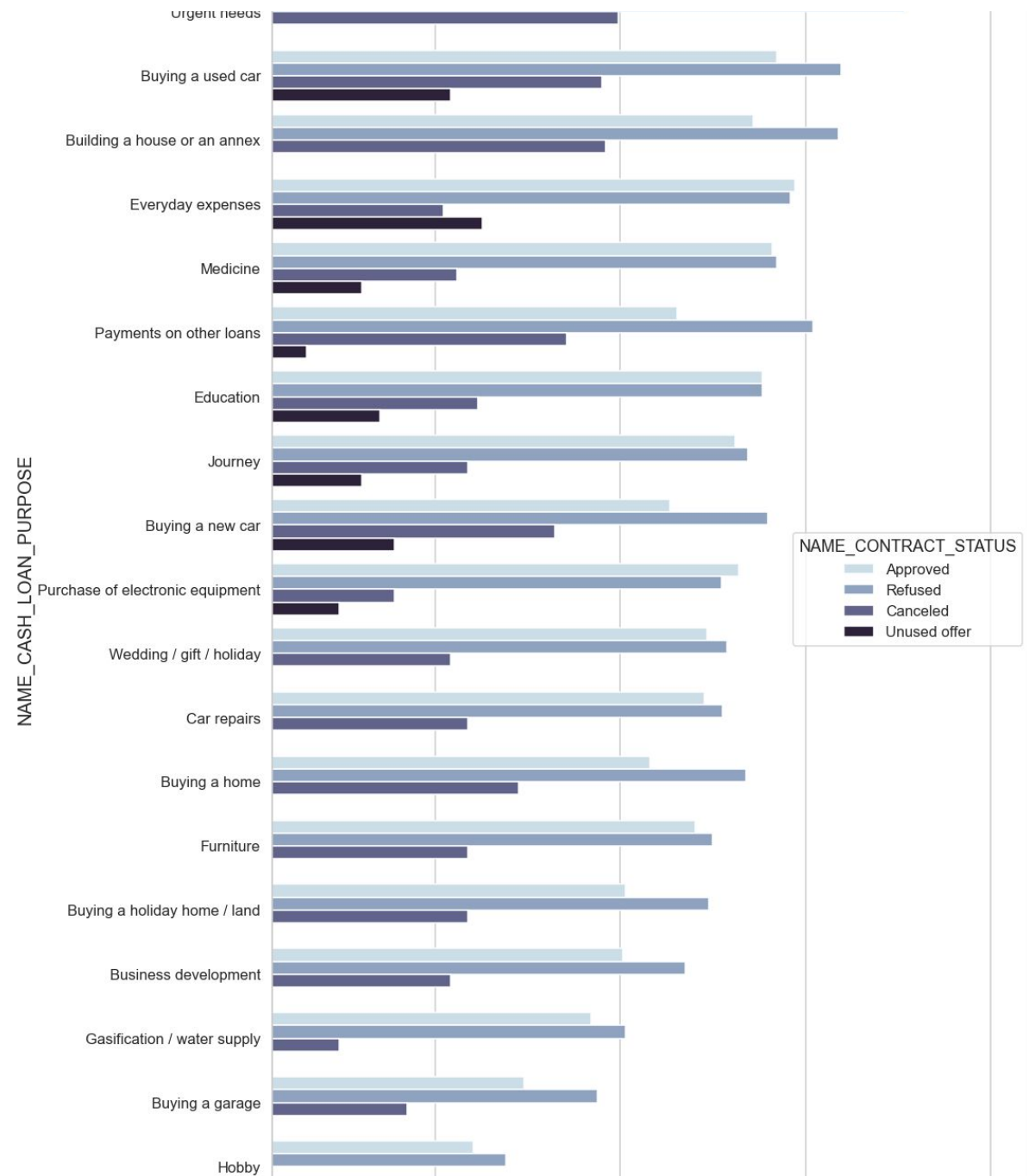
DISTRIBUTION OF PURPOSES WITH TARGET

Few points can be concluded from the graph.

- Loans for 'Repairs' are having more difficulty making timely payments.

- There are just a few instances where loan repayment is much higher than the risk of financial difficulty. 'Purchasing a garage,' 'Business expansion,' 'Purchasing land,' 'Purchasing a new car,' and 'Education' are among them. As a result, we can concentrate on the purposes for which the client is experiencing just minor payment difficulties.
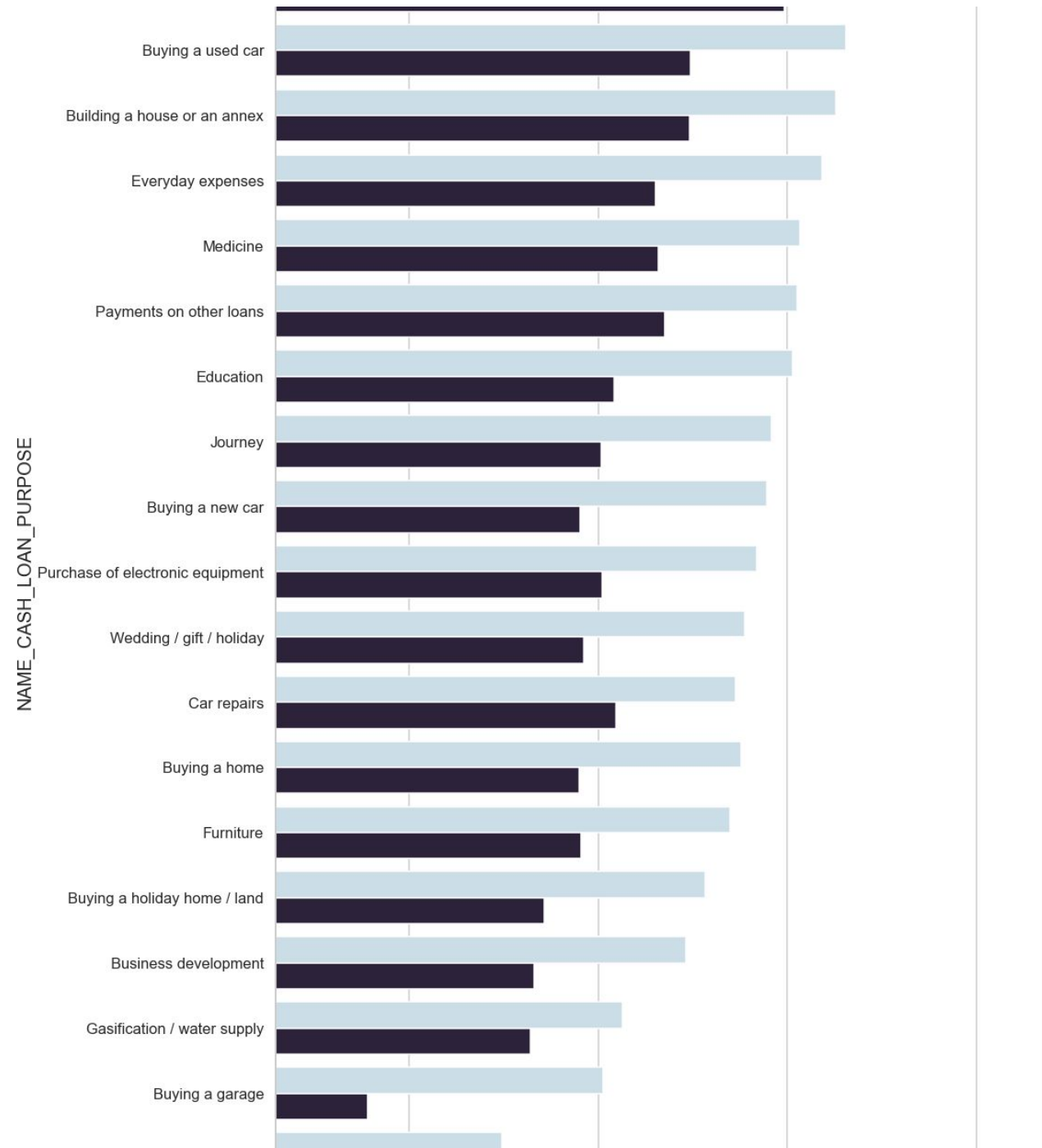
PERFORMING BIVARIATE ANALYSIS

Prev Credit amount vs Loan Purpose
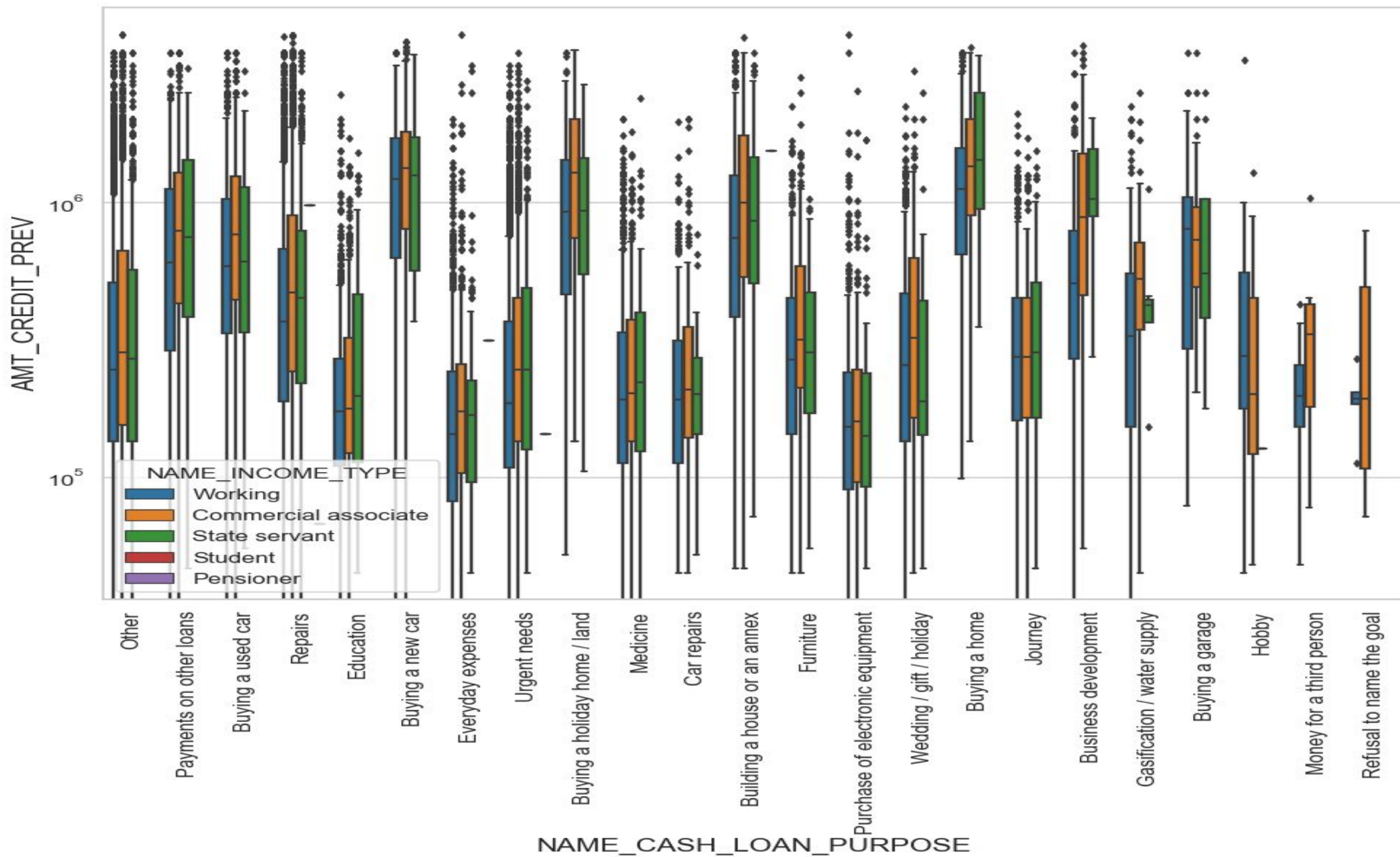
PREV CREDIT AMOUNT VS LOAN PURPOSE

We can deduce the following points from the above graph:

- The credit amount for Loan objectives such as "buying a home," "buying a piece of land," "buying a new car," and "Building a house" is higher.

- A considerable amount of credit is applied to the income type of state employees.

- Money for a third party or a hobby is receiving fewer credits.

PREV CREDIT AMOUNT VS HOUSING TYPE

Few points can be concluded from the graph.

- In terms of housing type, office apartments have a higher target 0 credit and co-op apartments have a higher target 1 credit.

- As a result, we may conclude that banks should refrain from lending to co-op apartment buildings because they are experiencing payment troubles.

- For successful payments, the bank can concentrate on home types with parents, such as houses, apartments, or municipal apartments.

Prev Credit amount vs Housing type
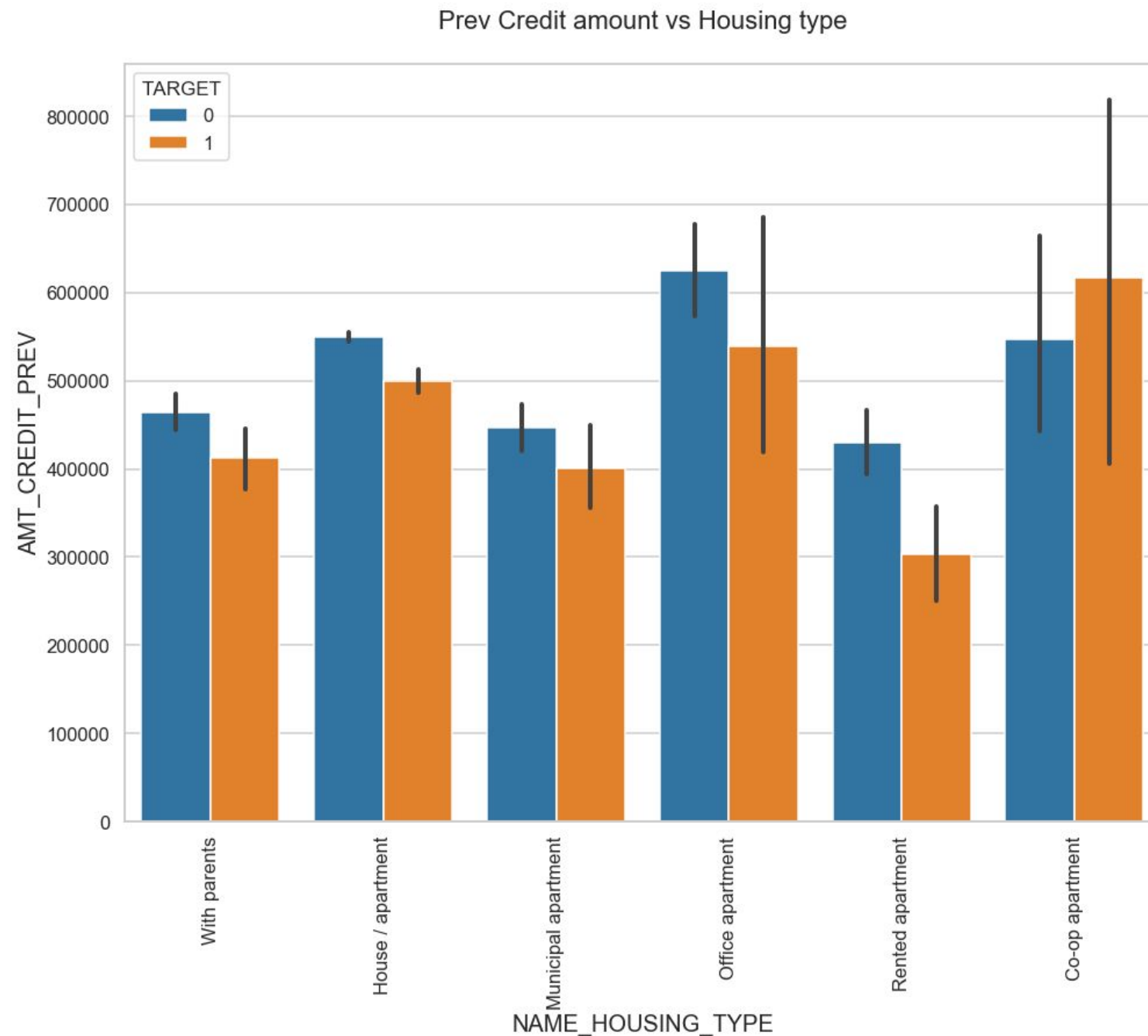
CONCLUSION

- For effective payments, banks should focus more on contract types such as "student," "pensioner," and "businessman" with housing types other than "co-op unit."

- Banks should focus less on the 'Working' income type, which has the highest number of failed payments.

- Also, when it comes to lending purposes, 'Repair' has a greater rate of late payments.

- Get as many consumers as possible from the dwelling type 'With parents,' as they have the fewest failed payments.

THANK YOU