Credit EDA Assignment – Case Study

From – Pratik Walunj

Distribution of AMT_INCOME_RANGE
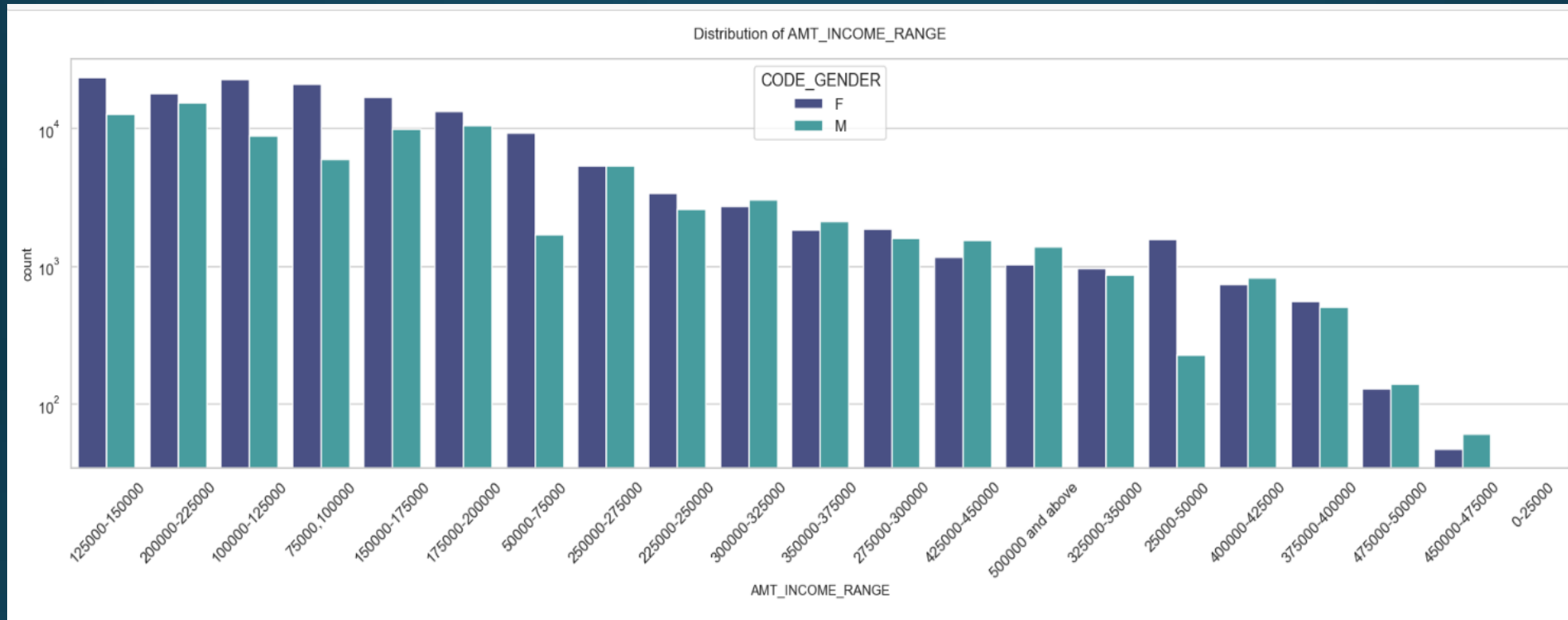
Points we can conclude from the above graph are -
1.Counts of females are higher then mens.
2.Income range from 100000 to 200000 is having more number of credits.
3.This graph show that females are more than male in having credits for that range.
4.Income range 400000 and above, have vey less count.

Distribution of Income type
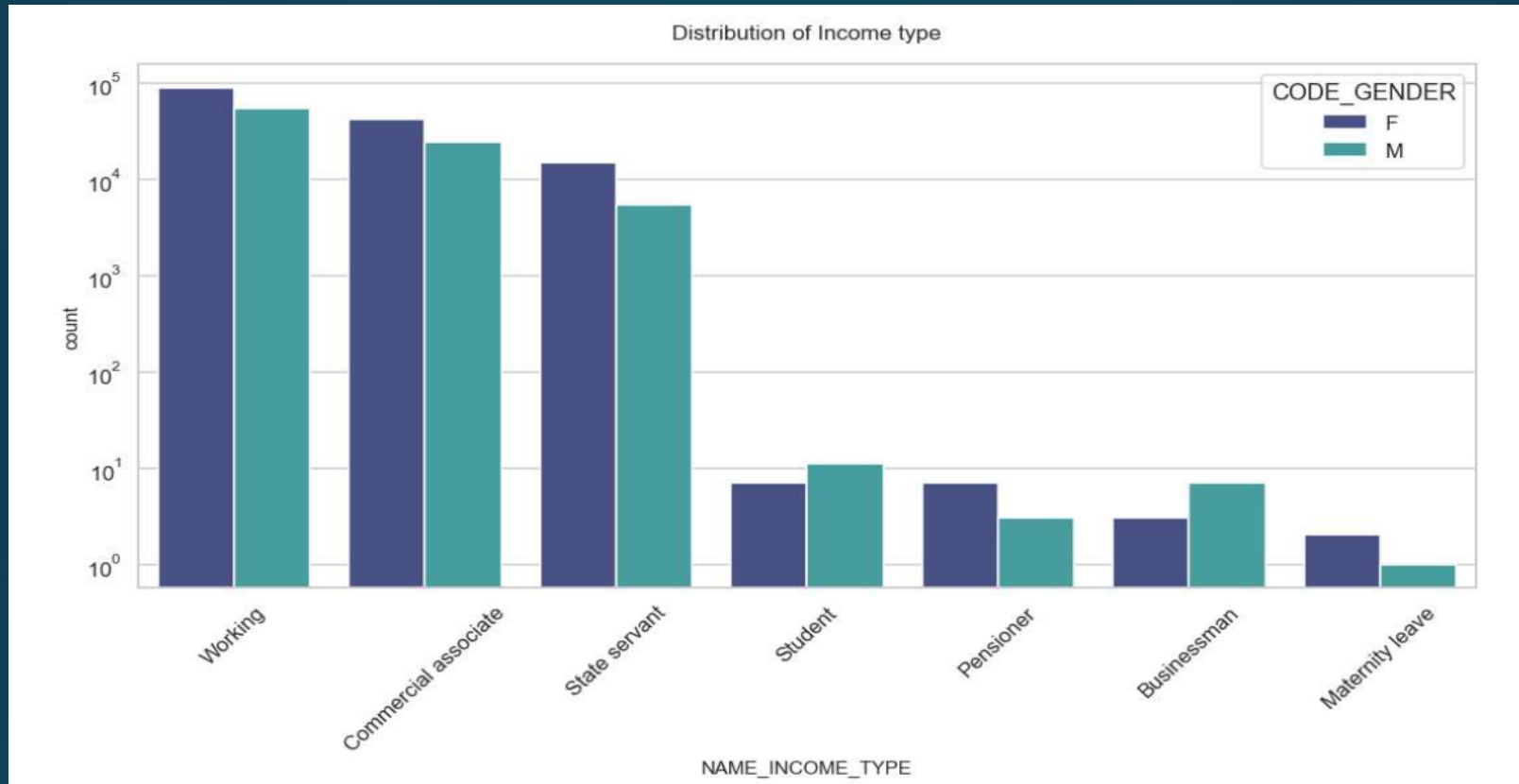
Points that can be concluded from the above graph -
1.For income type as Working , Commercial associate and State Servant the number of credits are higher than others.
2.Females are having more number of credits than male.
3.There is lessnumber of credits for income type student,pensioner,Businessman Maternity leave.

Distribution of contract type
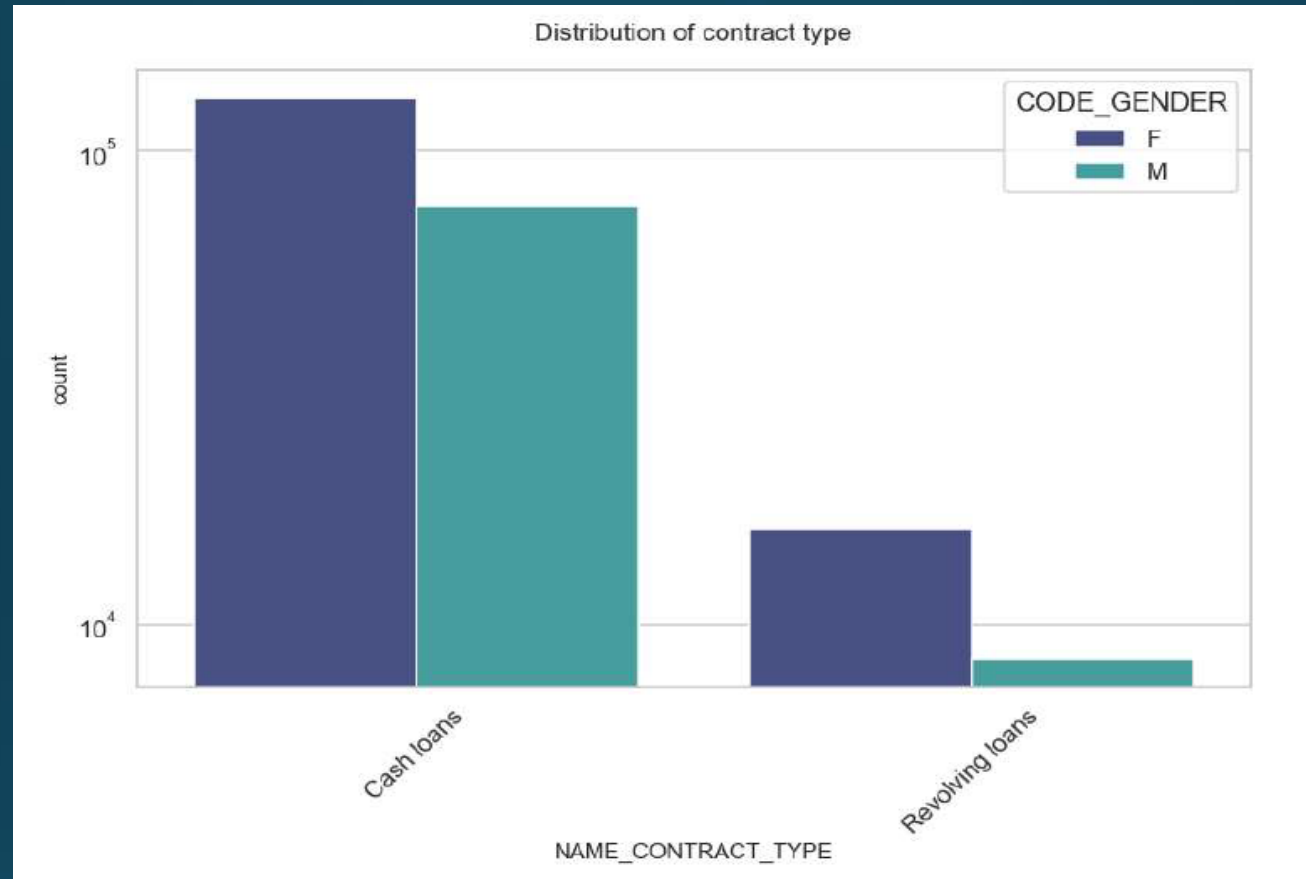
Points I cam across from the above graph-
1.Contract type 'cash loans' have higher number of credits than 'Revolving loans' contract type.
2.For this also Female is leading for applying credits.

Distribution of Organization type for target - 0
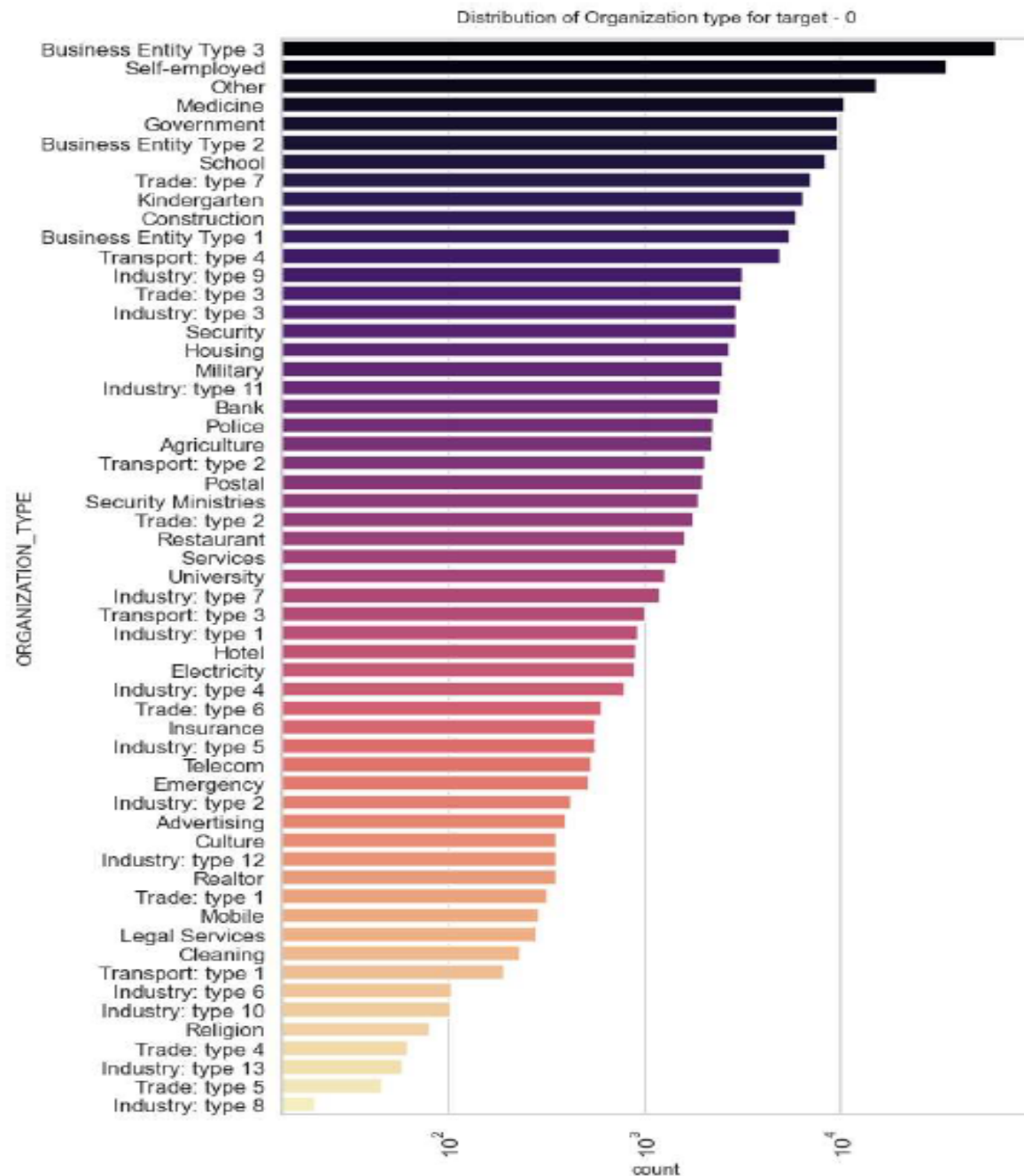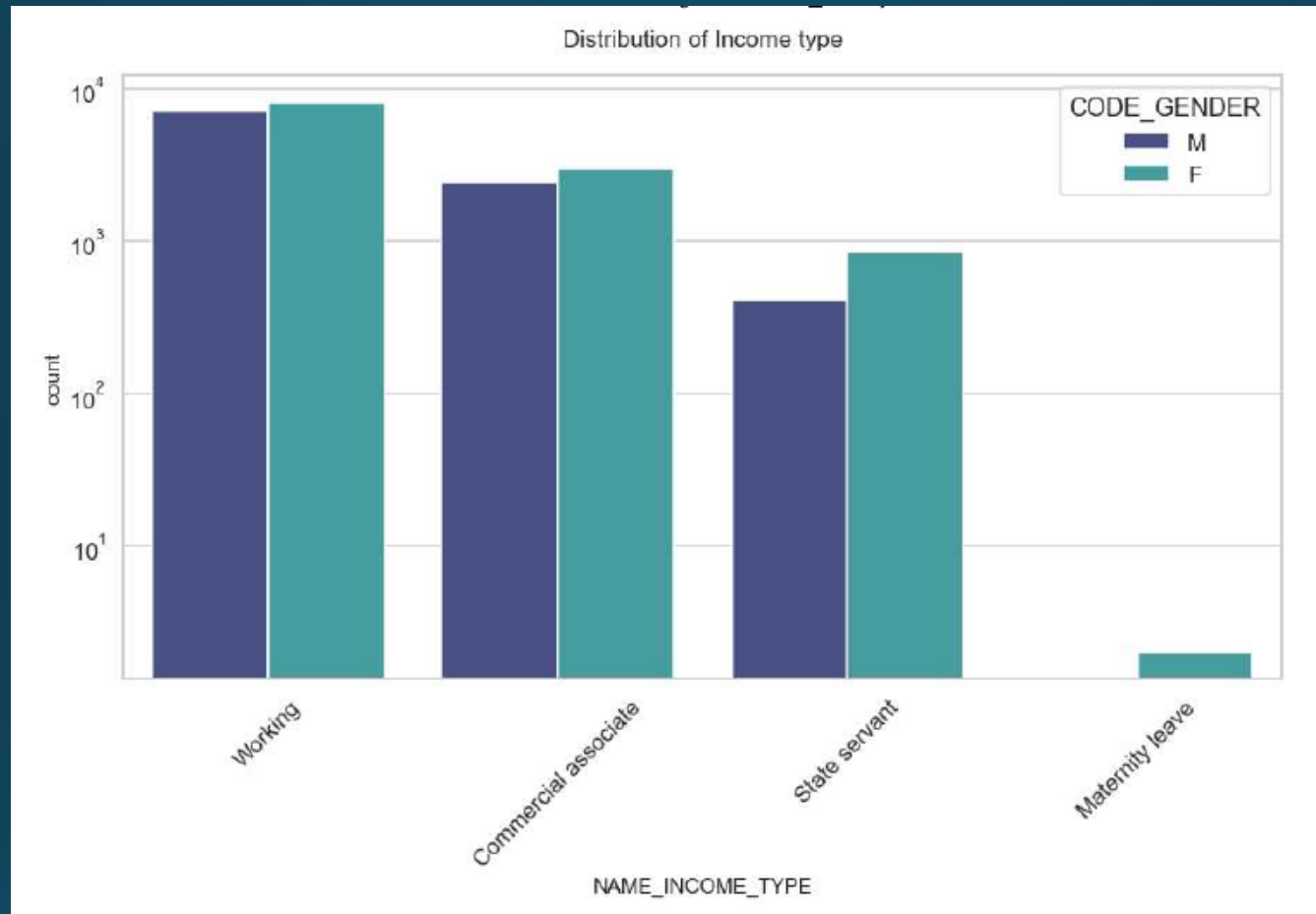
Points concluded from the above graph –

1.Clients which have applied for credits are from most of the organization type - Business entity Type 3,Self employed, Other, Medicine and Government

2.Less clients are from Industry:type 8,Trade:type 5,Industry:type 13,Trade: type 4,Religion, Industry: type 10.

Distribution of income range
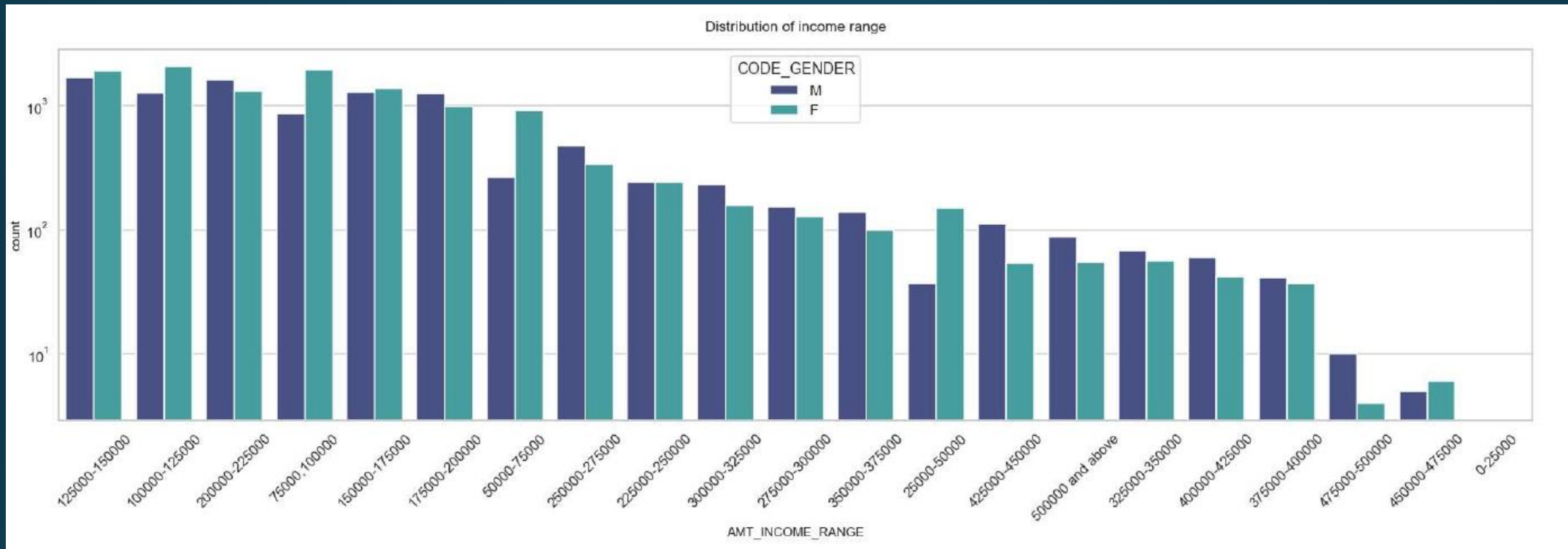
Points I have concluded from the above graph-
1.Male counts are higher than female here(in clients with payment difficulties)
2.Income range from 100000 to 200000 is having more number of credits.
3.Graph show that males are more than female in having credits for that range.
4.Very less count for income range 400000 and above
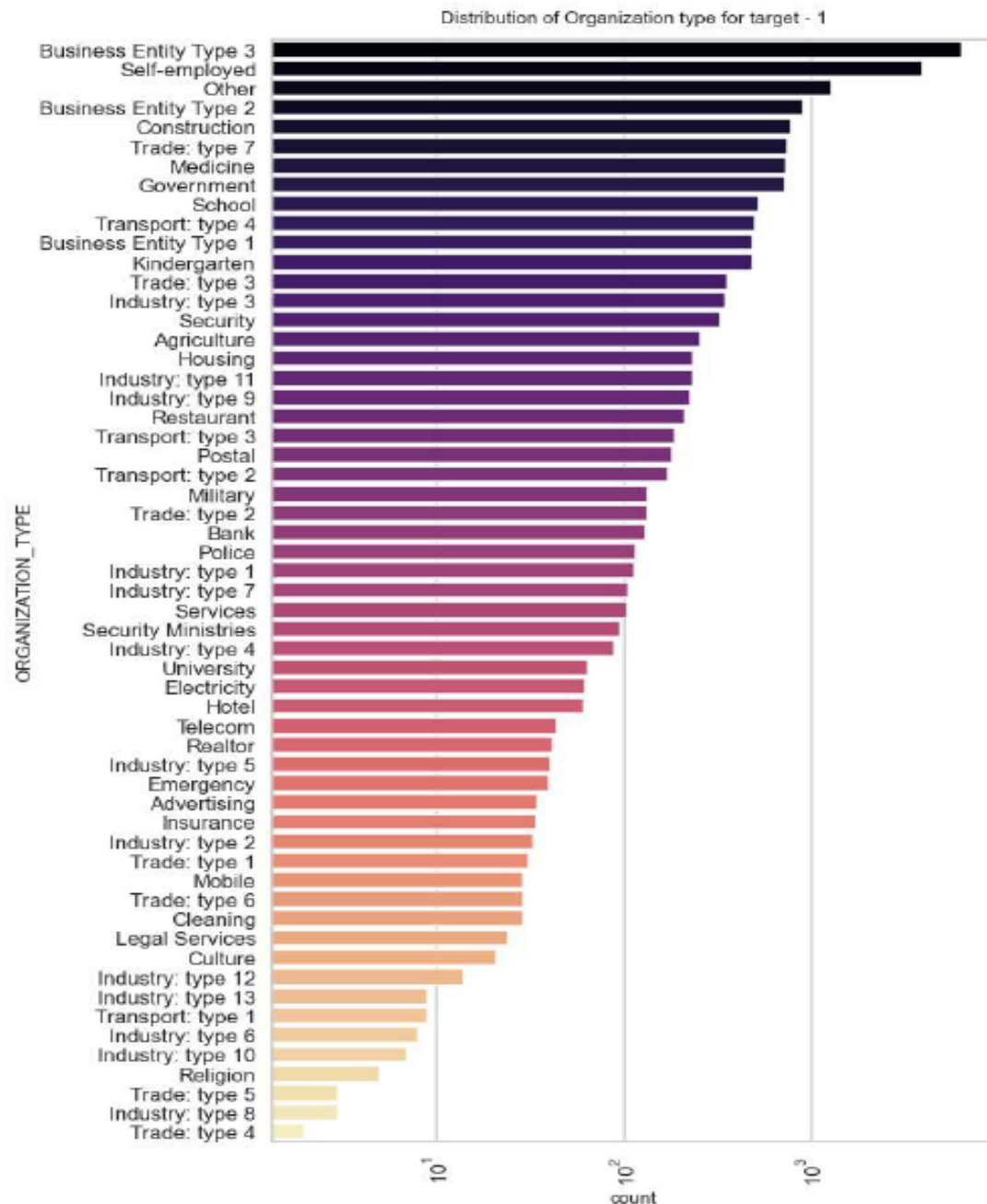
Points I have concluded from the above graph -
1.For income type- Working,Commercial associate and State Servant , no.of credits are higher than other i.e. Maternity leave.
2.For this case also, females are having more number of credits than male.
3.There is less number of credits for income type - Maternity leave.
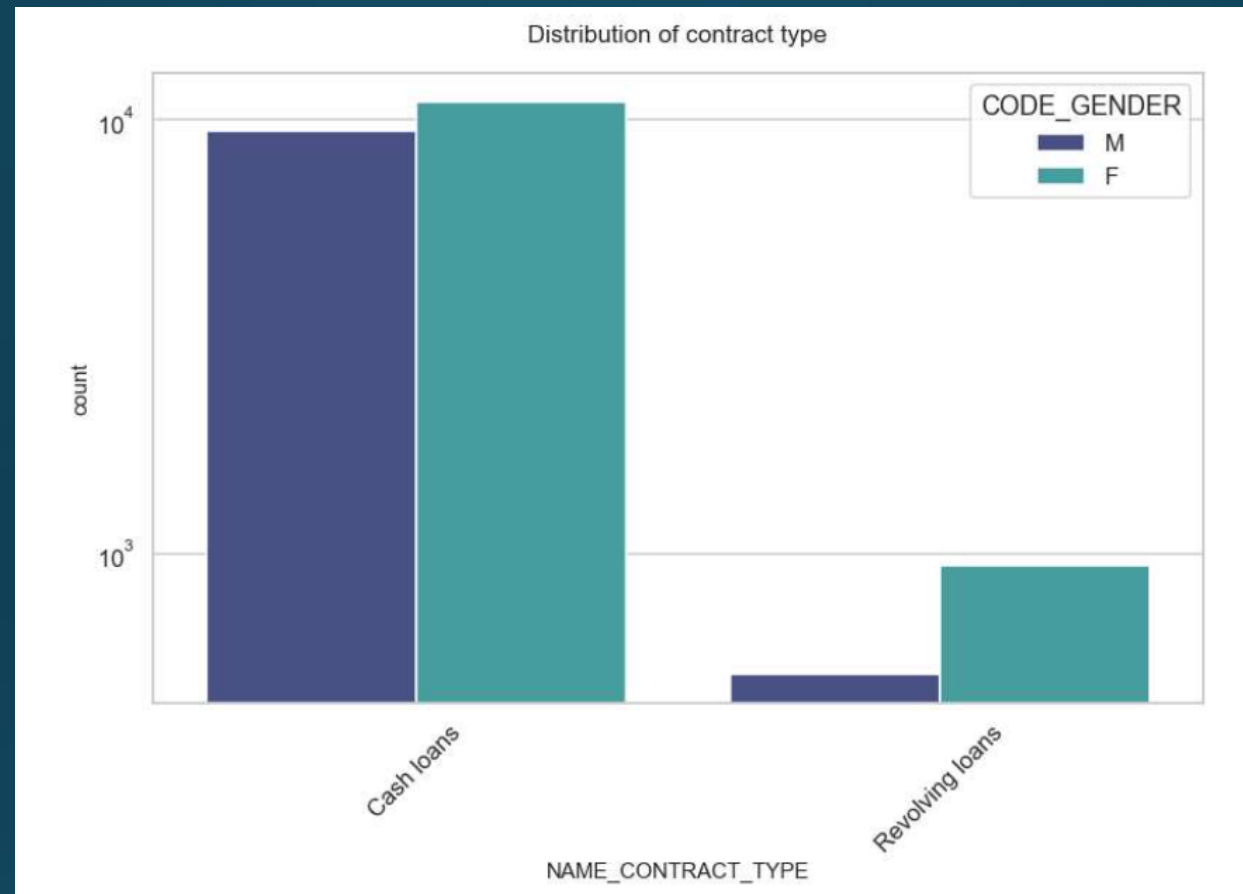
Points I have concluded from the above graph -
1.Contract type - Cash loans have higher number of credits than Revolving loans contract type.
2.Females are leading for applying credits.
3.For target 1 : there is almost only Female Revolving loans.

Distribution of Organization type for target - 1

Points I have concluded from the above graph -

1.Clients which have applied for credits are from most of the organization type 'Business entity Type 3' , 'Self employed' , 'Other' , 'Business entity Type 2' and 'Construction'.

2. Less clients are from Industry:type 8,Trade:type 5, Trade:type 4, Religion and Industry:type 10

Correlation for target 0
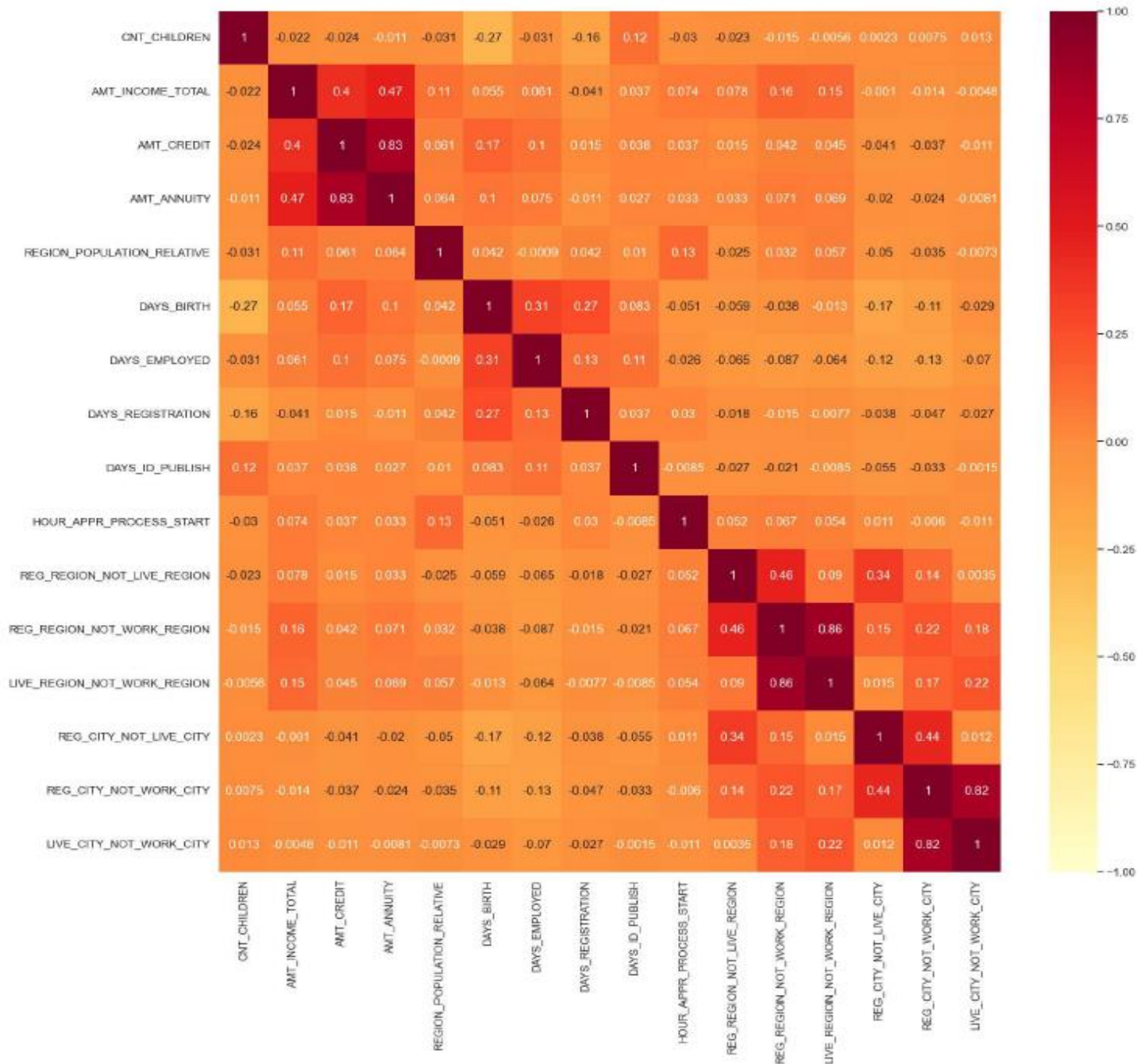
Correlation in Target o (with non-payment difficulty)

- The income is higher in densely populated area.

- Credit amount is inversely proportional to the date of birth, indicating Credit amount is higher for low age and vice-versa.

- Income amount is inversely proportional to the number of children client have, means more income for less children client have and vice-versa.

- Credit amount is higher to densely populated area.
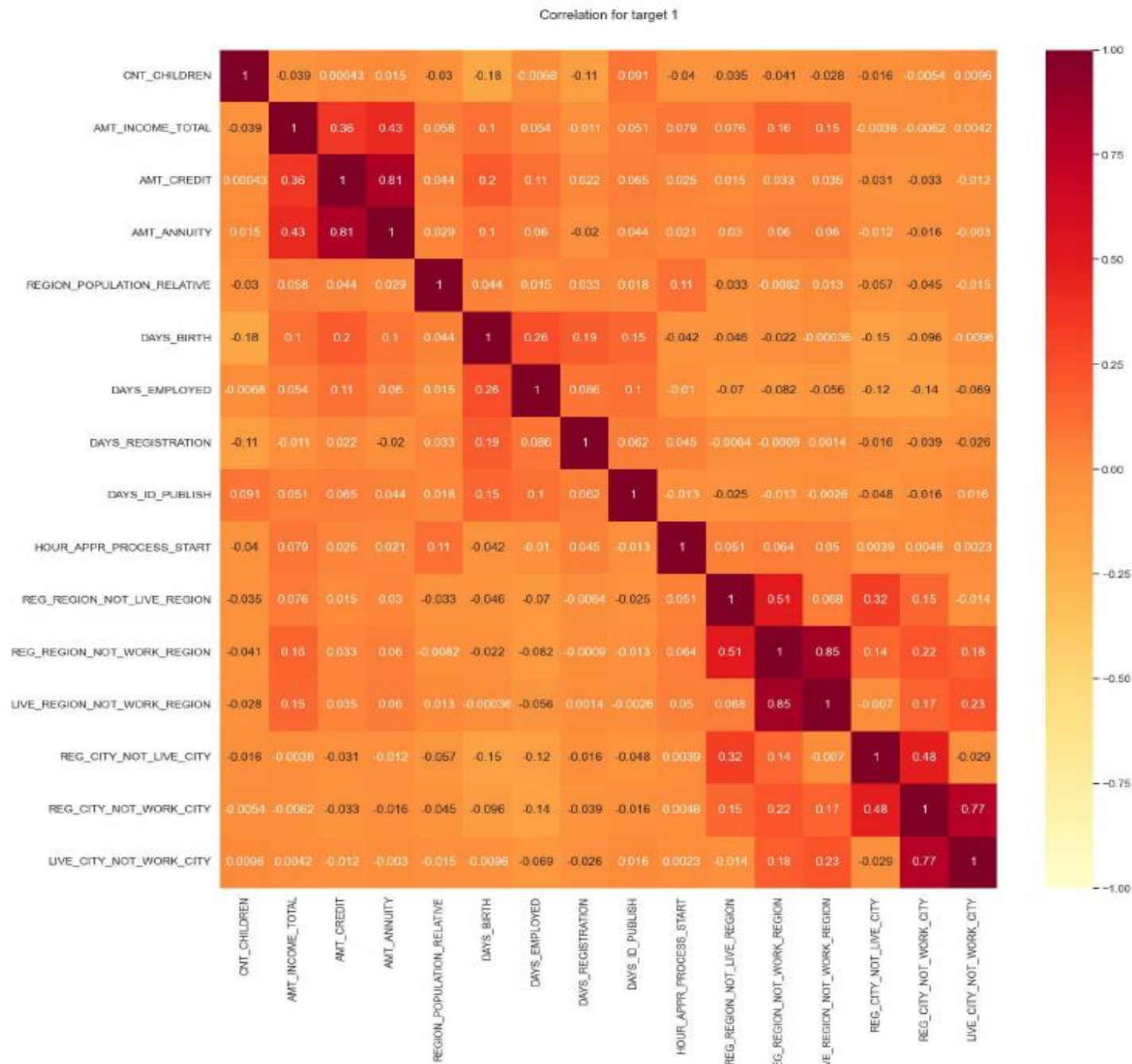
Correlation in Target 1 (with payment difficulties)
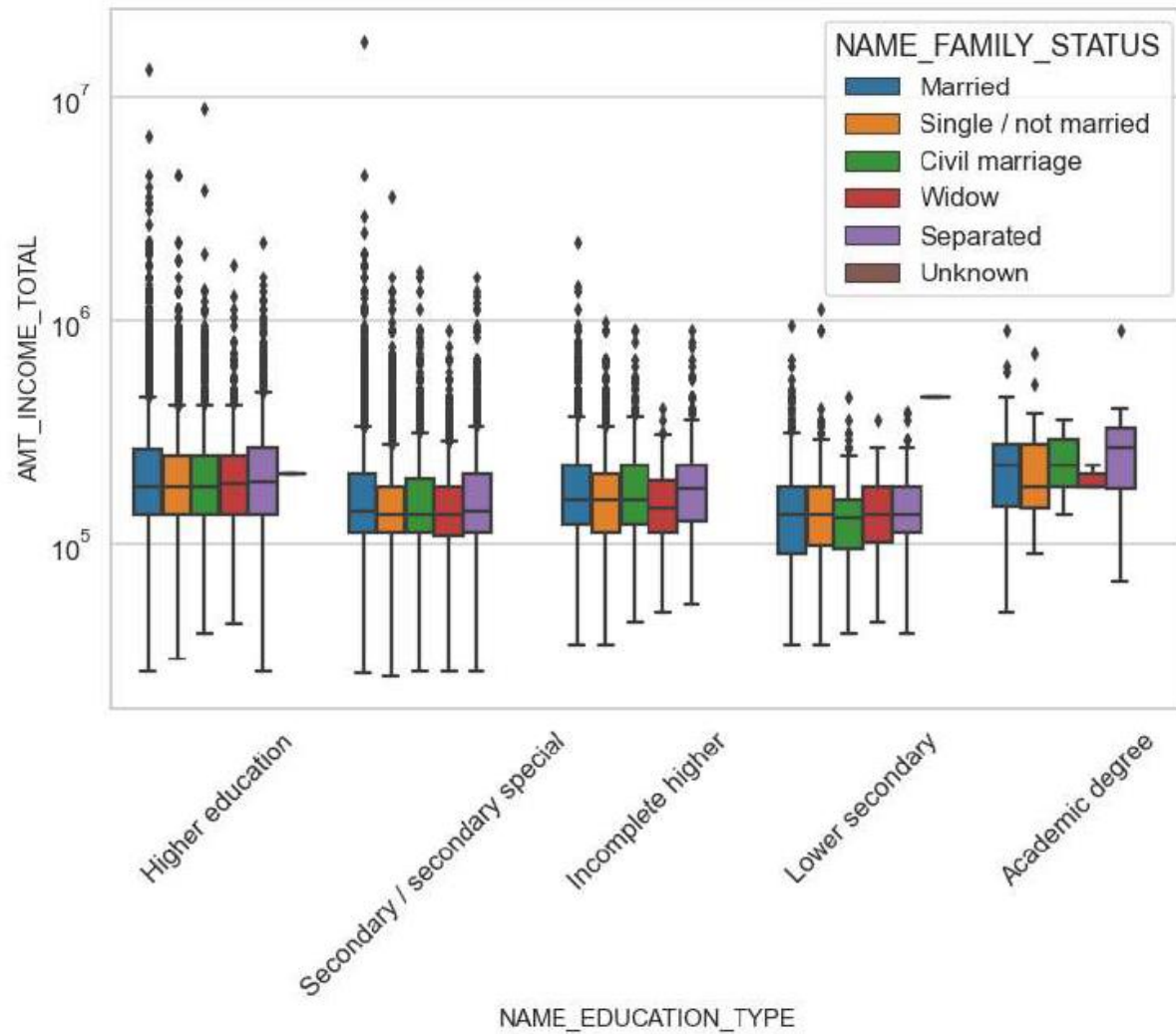
Credit amount vs Education Status
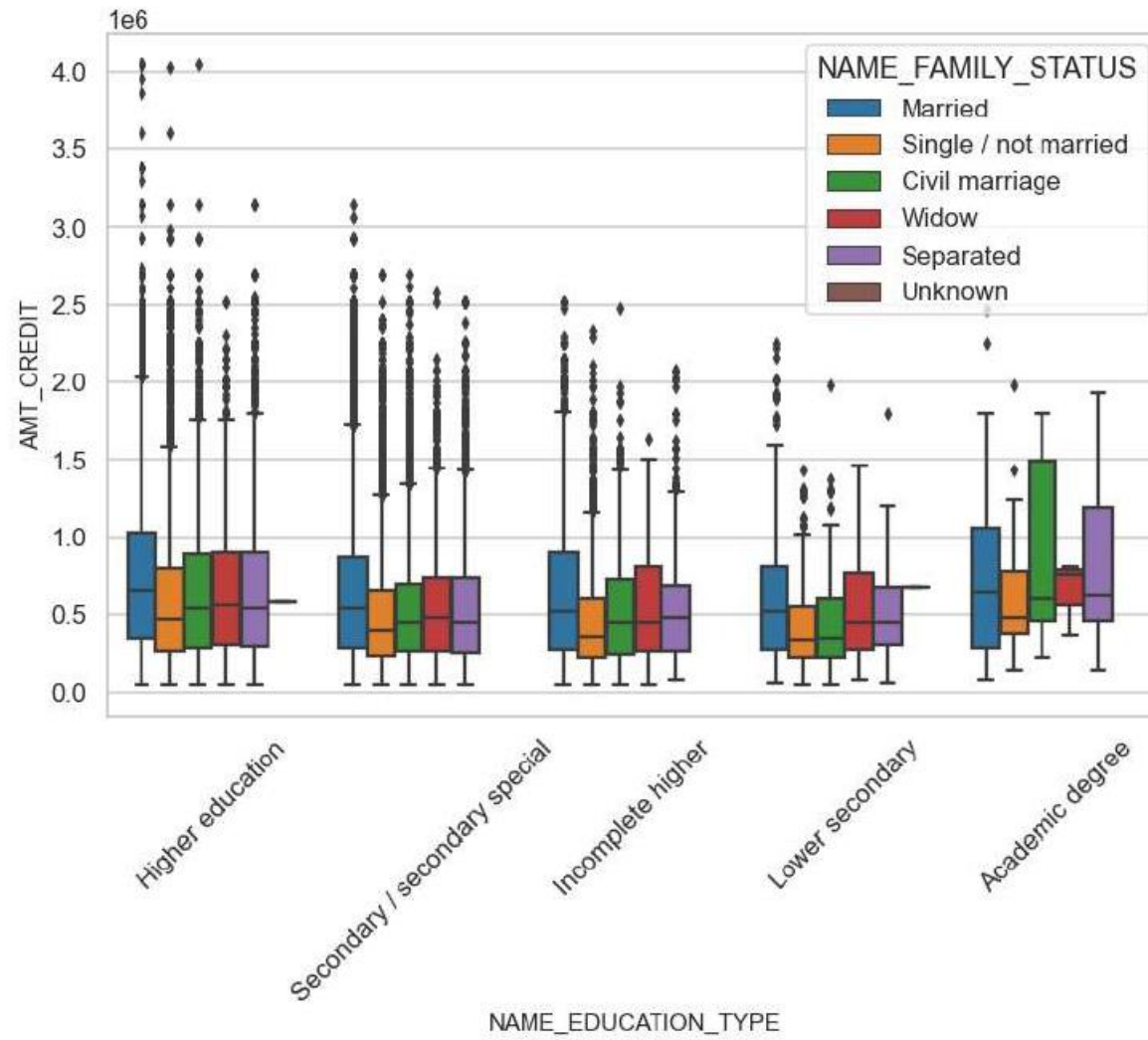
From the above box plot we can conclude that –

1. Family status of 'civil marriage', 'marriage' and 'separated' of Academic degree education are having higher number of credits than others.

2. Also, higher education of family status of 'marriage', 'single' and 'civil marriage' are having more outliers.

3. Civil marriage for Academic degree is having most of the credits in the third quartile.
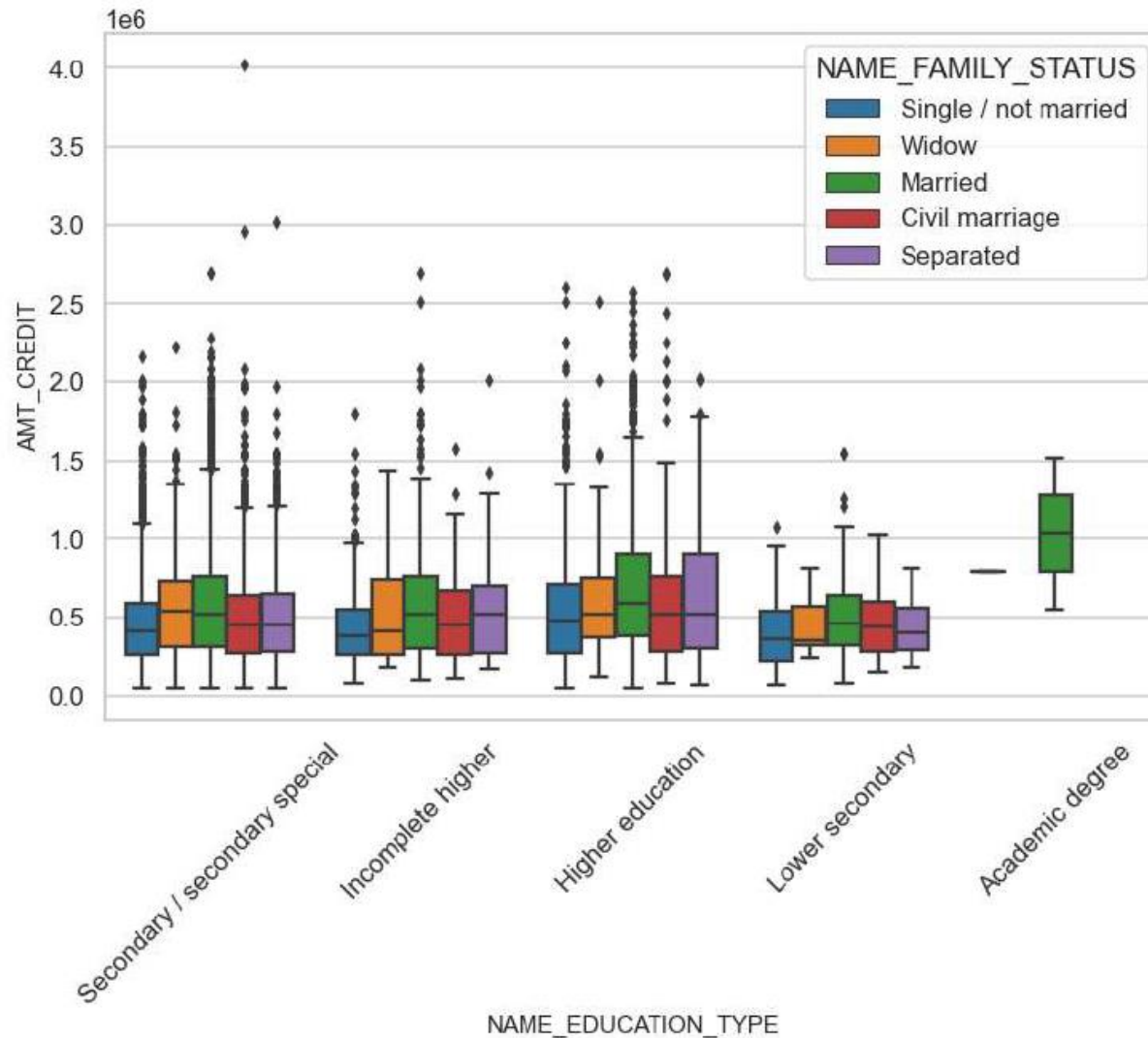
Income amount vs Education Status

From above plot I conclude –

1.For Education type 'Higher education' - the income amount is mostly equal with family status.

2.Lower secondary of civil marriage family status are have less income amount than others.

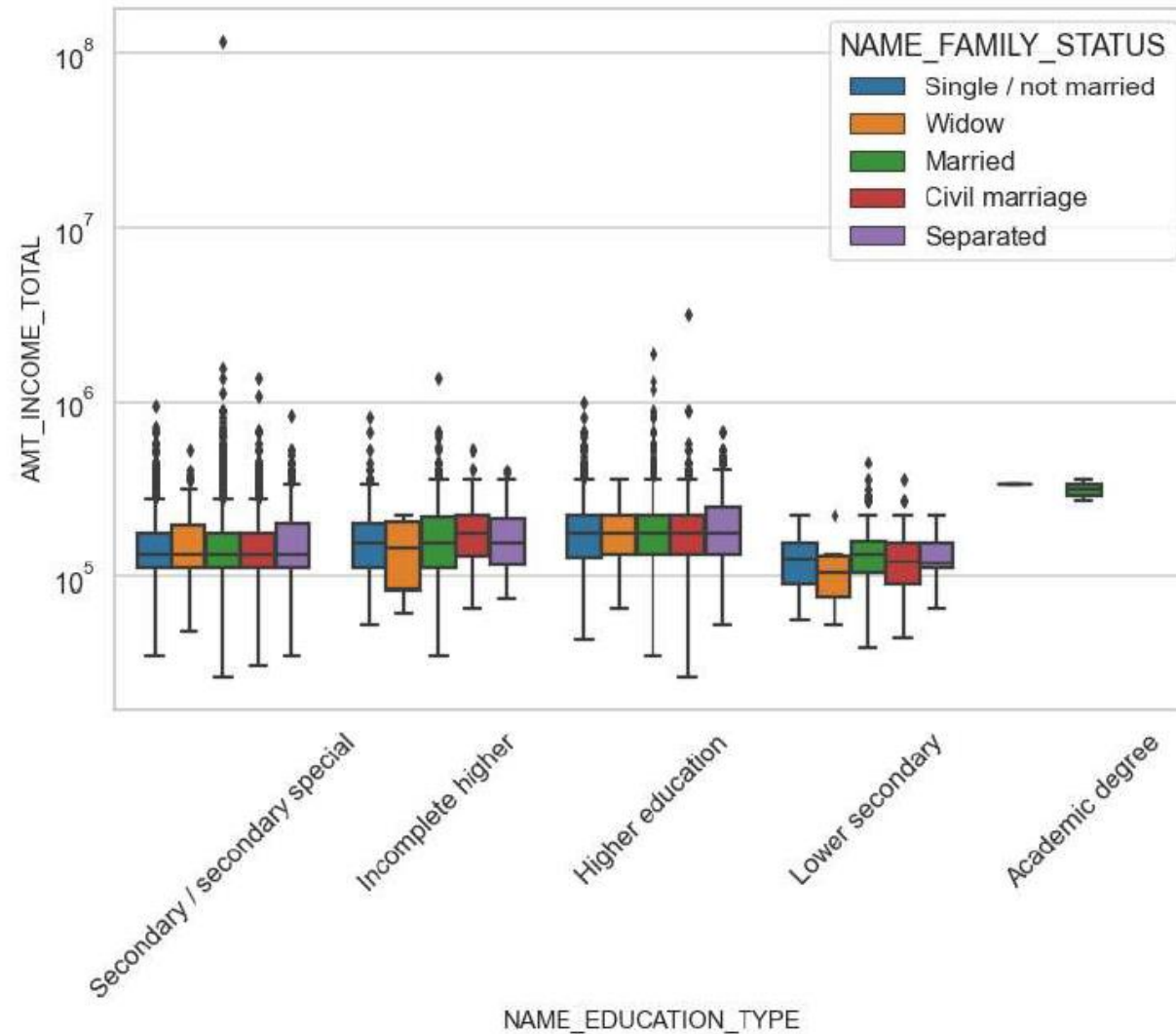3.Lower secondary are have less income amount than all others.

Credit Amount vs Education Status

From the above plot we can say –

1. Family status of 'civil marriage', 'marriage' and 'separated' of Academic degree education are having higher credits than others.

2. Most of the outliers are from Education type 'Higher education' and 'Secondary'.

3. Civil marriage for Academic degree is having most of the credits in the third quartile.

From above plot I came across below points –

1. For Education type -'Higher education' the income amount is mostly equal with family status.

2. There are less outlier for Academic degree but income amount is little higher that Higher education.

3. Lower secondary are have less income amount than all others.

Distribution of contract status with purposes
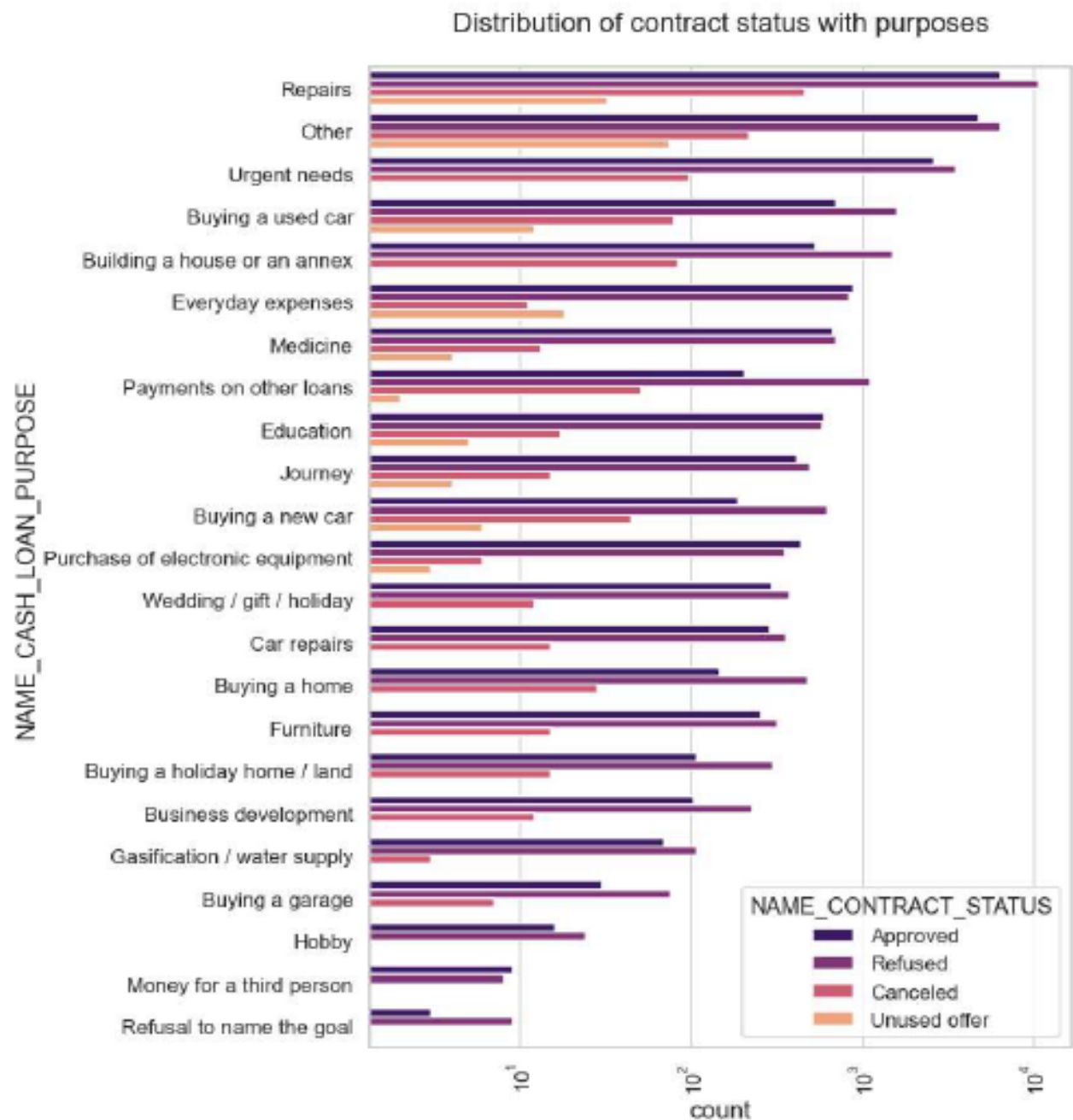
Points I have concluded from above plot:

1. Most rejection of loans came from purpose 'repairs'.

2. For education purposes we have equal number of approves and rejection

3. Payments on other loans and buying a new car is having significant higher rejection than approves.

Distribution of purposes with target
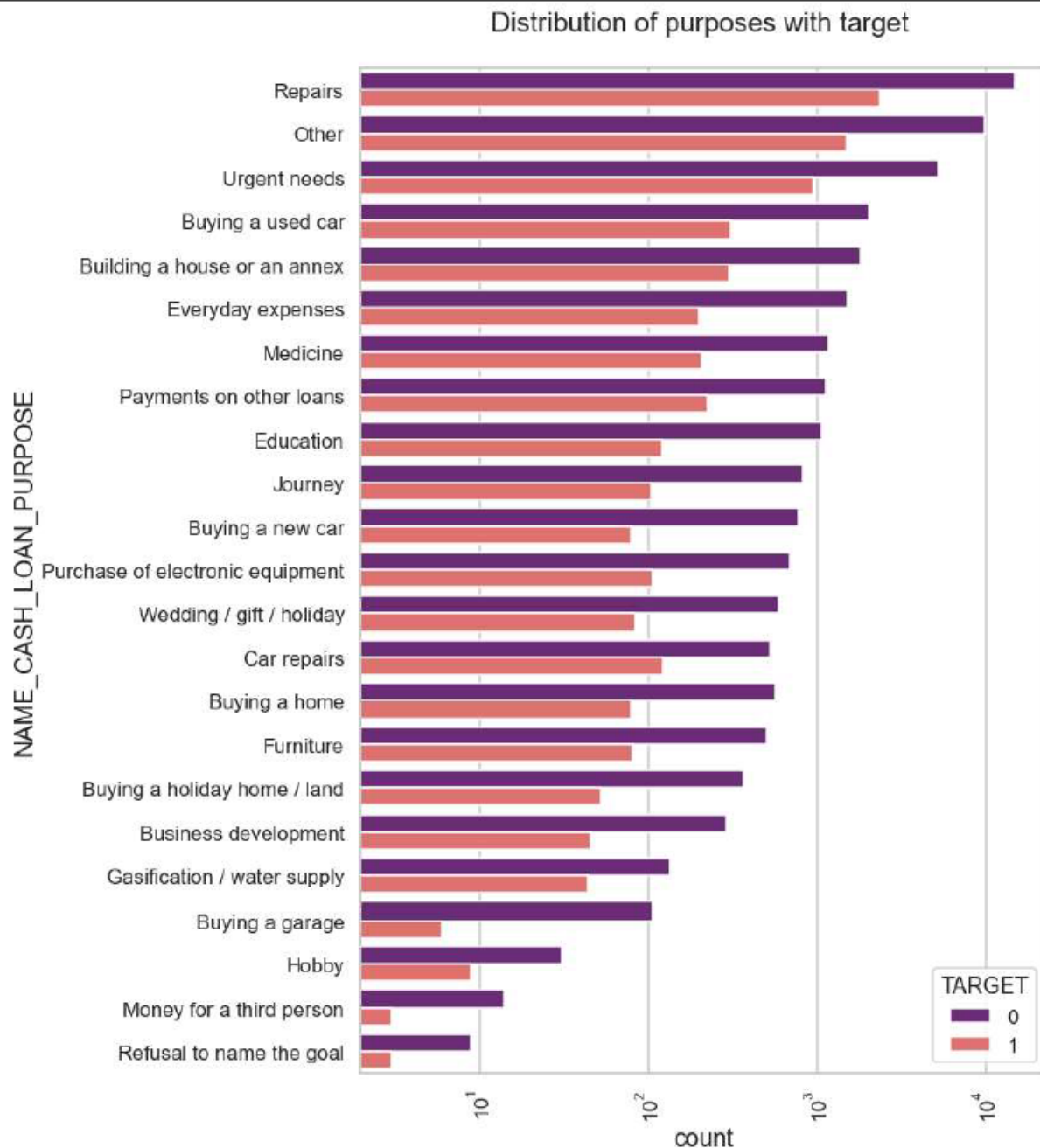
Points I can conclude from above plot:

1. Loan purposes with 'Repairs' are have more difficulty in payment on time.
2. There are few purposes where loan payment is significant higher than facing difficulties.
   They are 'Buying a garage', 'Business developemt', 'Buying land','Buying a new car' and 'Education'

Hence we can focus on these purposes for which the client is having for minimal payment difficulties

Previous Credit amount vs Loan Purpose
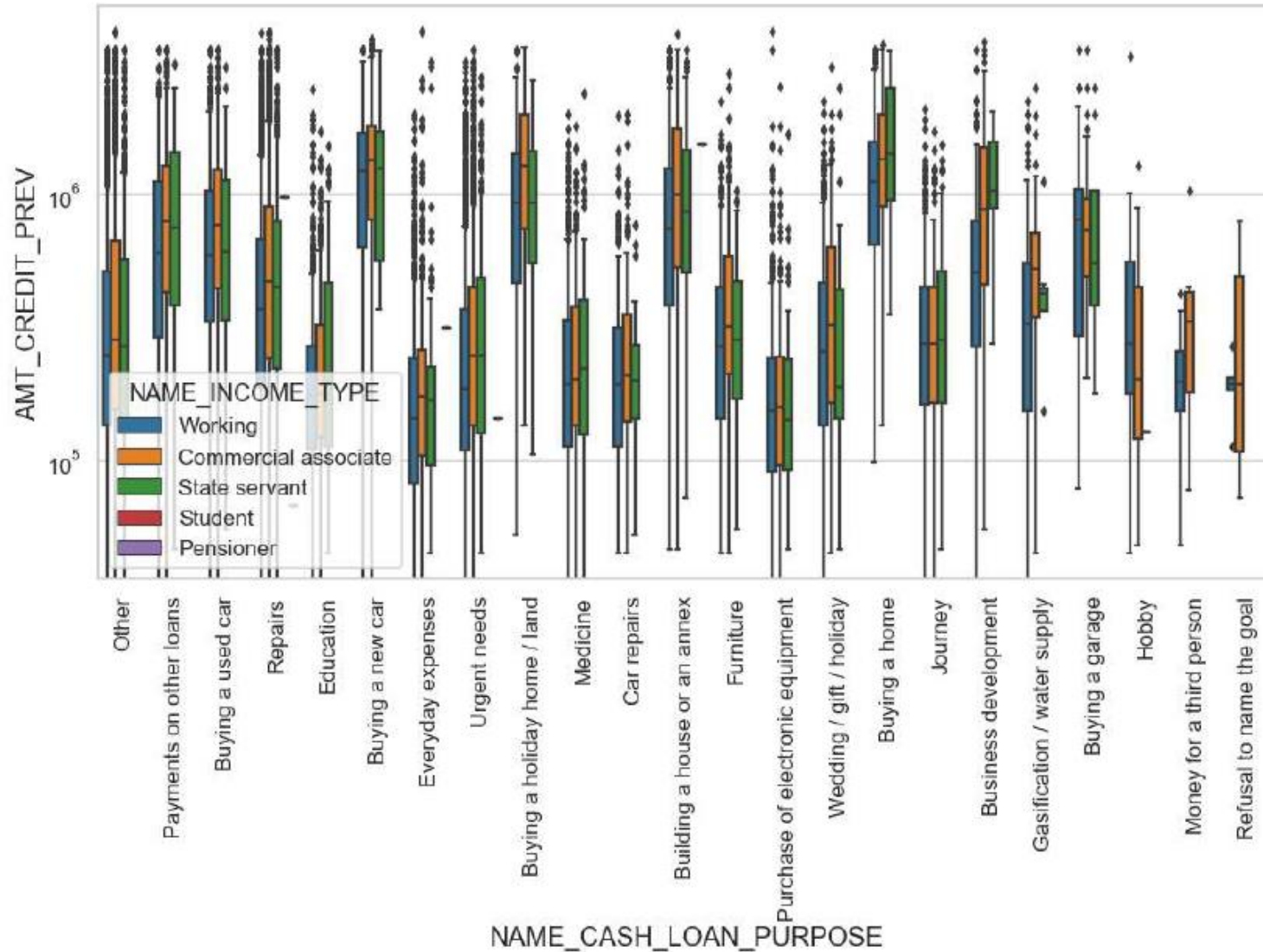
From the above plot I can conclude below points-

1.The credit amount of Loan purposes like 'Buying a home','Buying a land','Buying a new car' and'Building a house' is higher.

2.Income type of state servants have a significant amount of credit applied

3.Money for third person or a Hobby is having less credits applied for.

Previous Credit amount vs Housing type
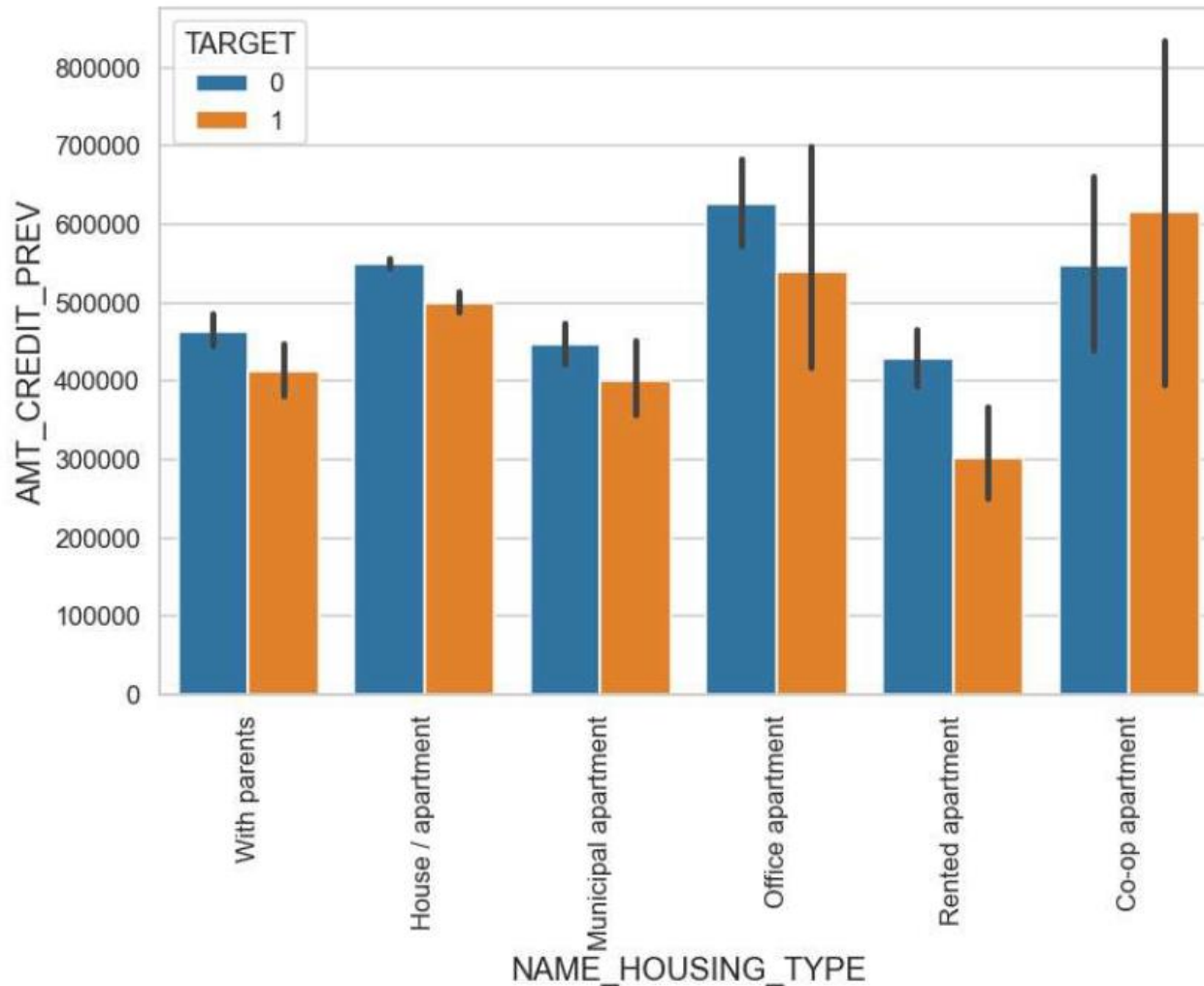
From the above plot, I conclude the below points –

1.For Housing type - Office apartment have higher credit of target 0.

2.Co-op apartment have higher credit of target 1.

So, I can conclude that bank should avoid giving loans to the housing type of co-op apartment as they are having difficulties in payment. Bank can focus mostly on housing type with parents or House\apartment or municipal apartment for successful payments.

Conclusions

1. Banks should focus more on contract type 'Student' ,'pensioner' and 'Businessman' with housing 'type other than 'Co-op apartment' for successful payments.

2. Banks should focus less on income type 'Working' as they are having most number of unsuccessful payments.¶

3. Also with loan purpose 'Repair' is having higher number of unsuccessful payments on time.

4. Get as much as clients from housing type 'With parents' as they are having least number of unsuccessful payments.