

Exploratory Data Analysis on Bank Defaulters

By – Mehak Oberoi



Aim

- **To decrease Approvals to Defaulters**
- **To increase the number of loans given**

Solution

- **Decrease the Credit amount for a given Values of Goods to risky or more likely groups of defaulters**
- **Increase the Annuity for a given Values of Goods to risky or more likely groups of defaulters**
- **Based on the previous performance of a Repeater Client vary the Amount of Credit and Annuity issued**
- **Approach more Low-Risk groups with better benefits (More Credit on same value of goods, lower Annuity on same value of goods)**

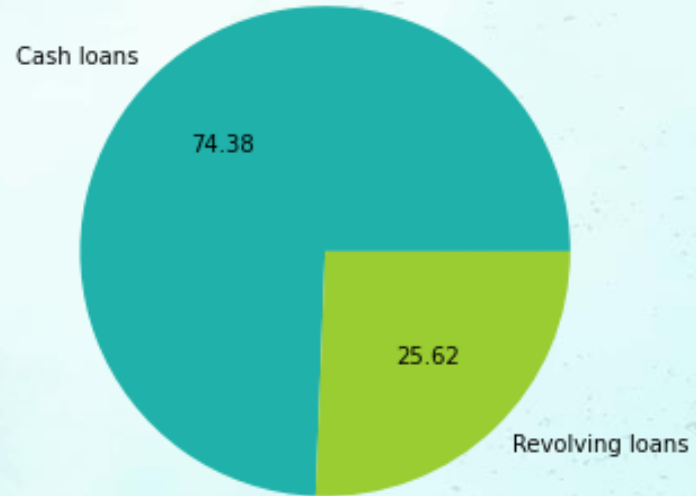
Risky Groups

- **Working Professionals**
- **Renters**
- **Single/Unmarried**
- **Labourers**
- **Self-employed**

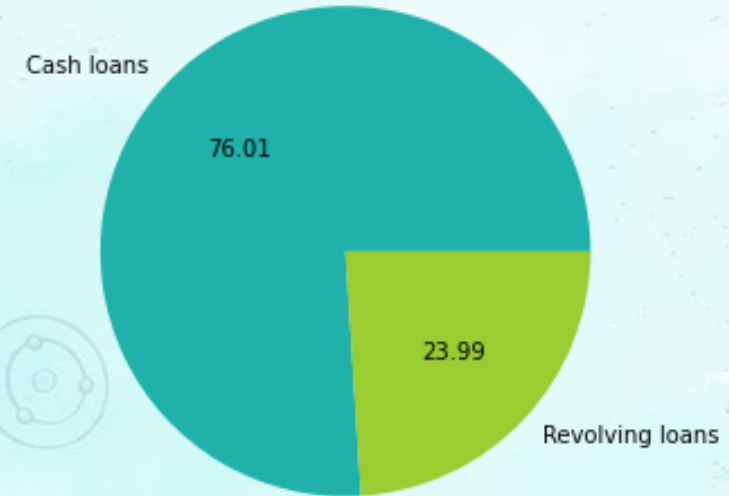
Low - Risk Groups

- **Pensioners**
- **Academic degree holders**
- **Higher Educated**
- **House/Apartment residents**
- **Widows**
- **Ages 45-70**

Difficulty in Paying Loan based on Contract Type

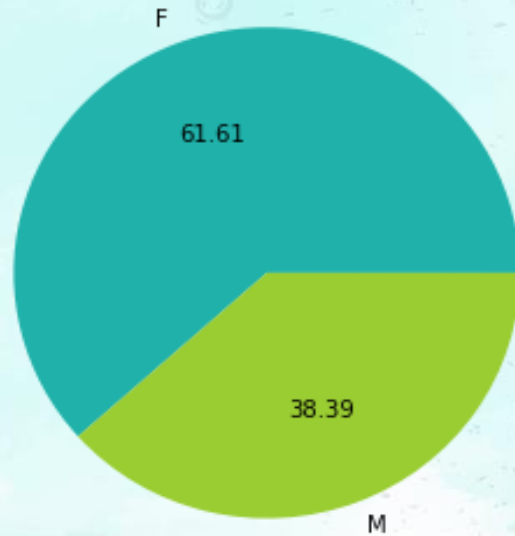


Non-Difficulty in Paying Loan based on Contract Type

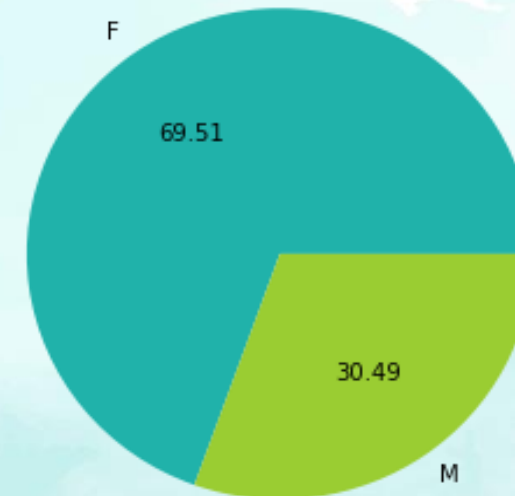


No
relation
based on
Contract
Type

Difficulty in Paying Loan based on Gender

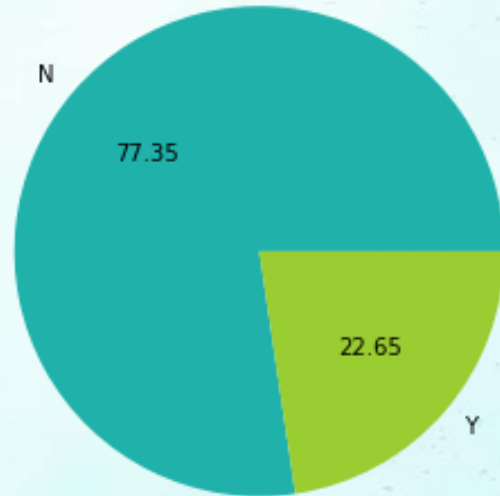


Non-Difficulty in Paying Loan based on Gender

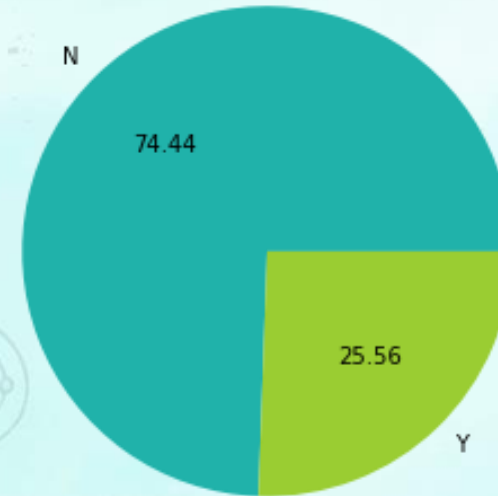


No
relation
based on
Gender

Difficulty in Paying Loan based on Ownership of Car

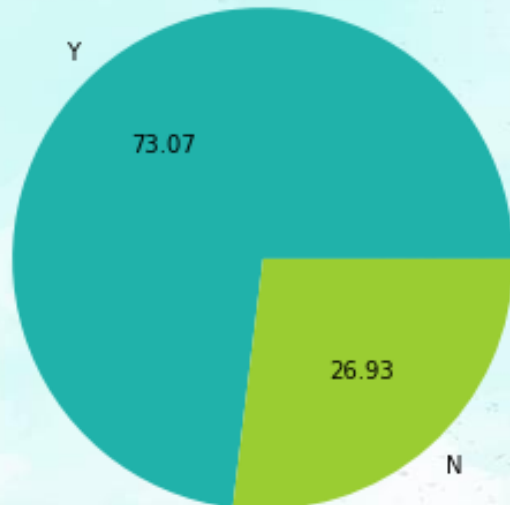


Non-Difficulty in Paying Loan based on Ownership of Car

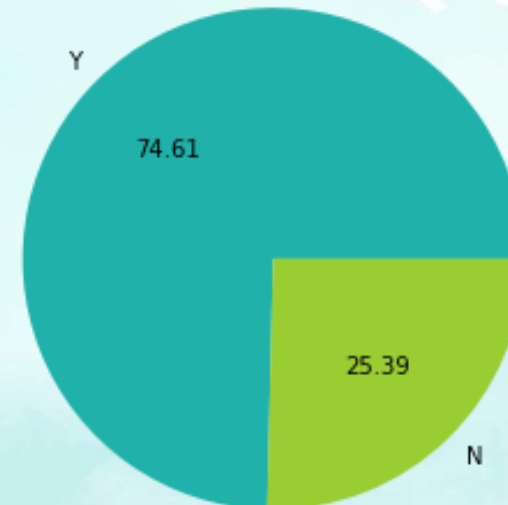


No relation
based on
Ownership
of Car

Difficulty in Paying Loan based on Ownership of House



Non-Difficulty in Paying Loan based on Ownership of House



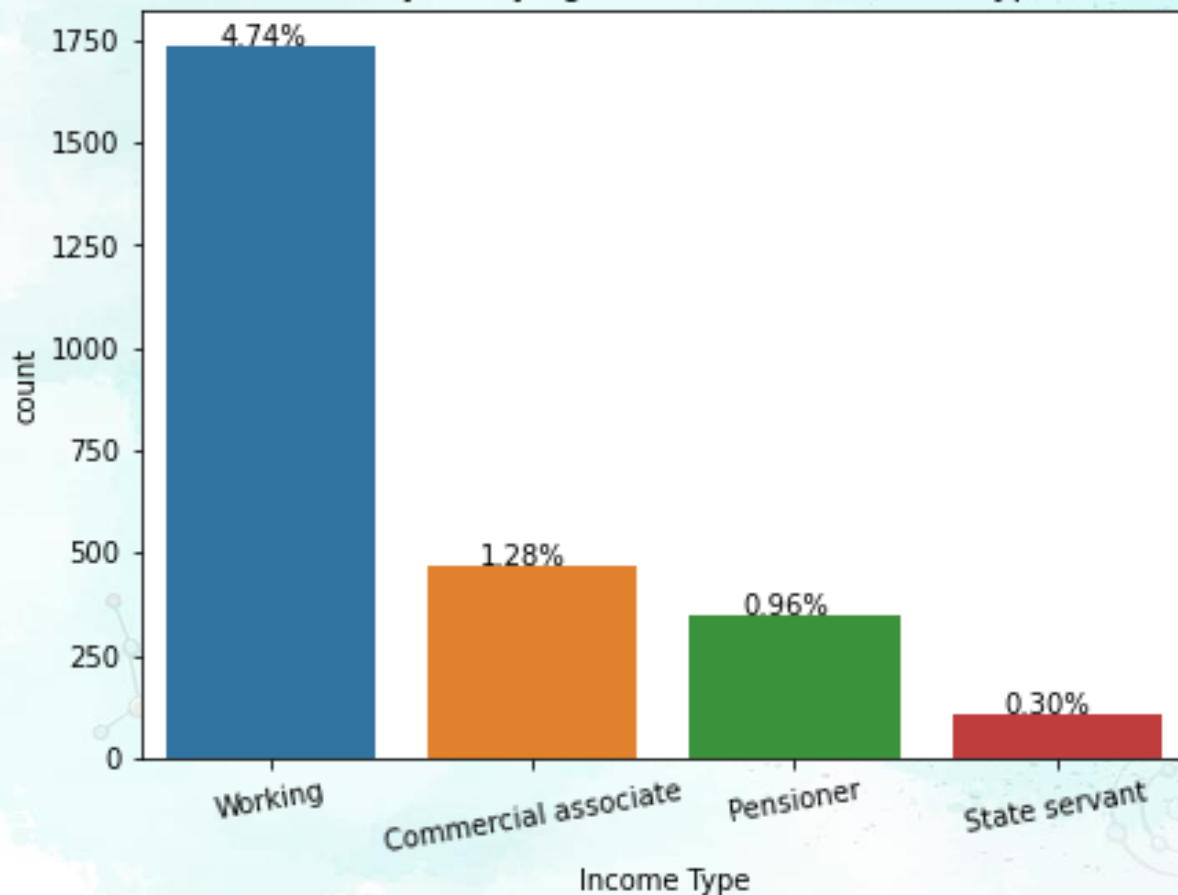
No relation
based on
Ownership
of House

Income Type

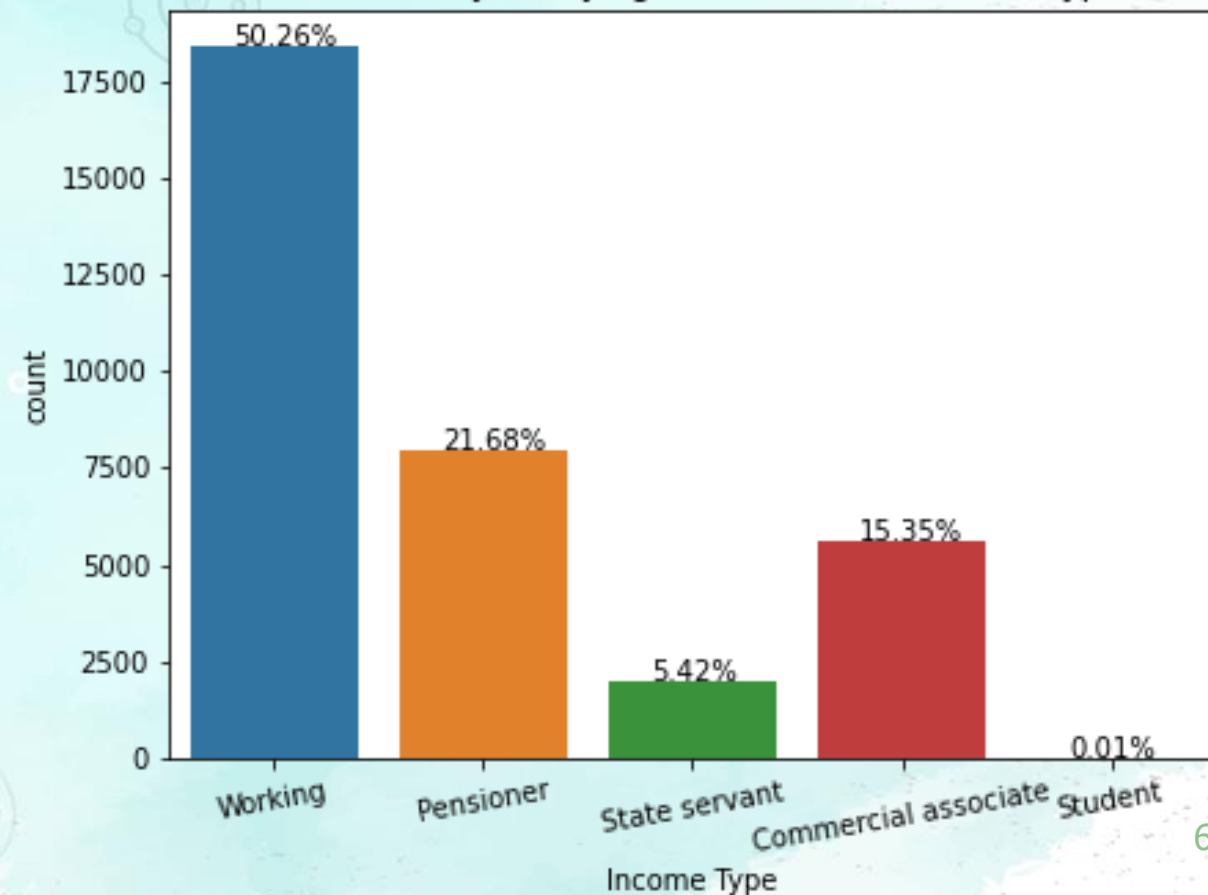
- **Working professionals a most likely to default**
- **Pensioners are least likely to be defaulters**

Type	% contribution	% of type as defaulter
Working	55.01	8.61
Pensioner	22.64	4.24
Com. Associate	16.63	7.69
State Servant	5.72	5.24

Difficulty in Paying Loan based on Income Type



Non-Difficulty in Paying Loan based on Income Type

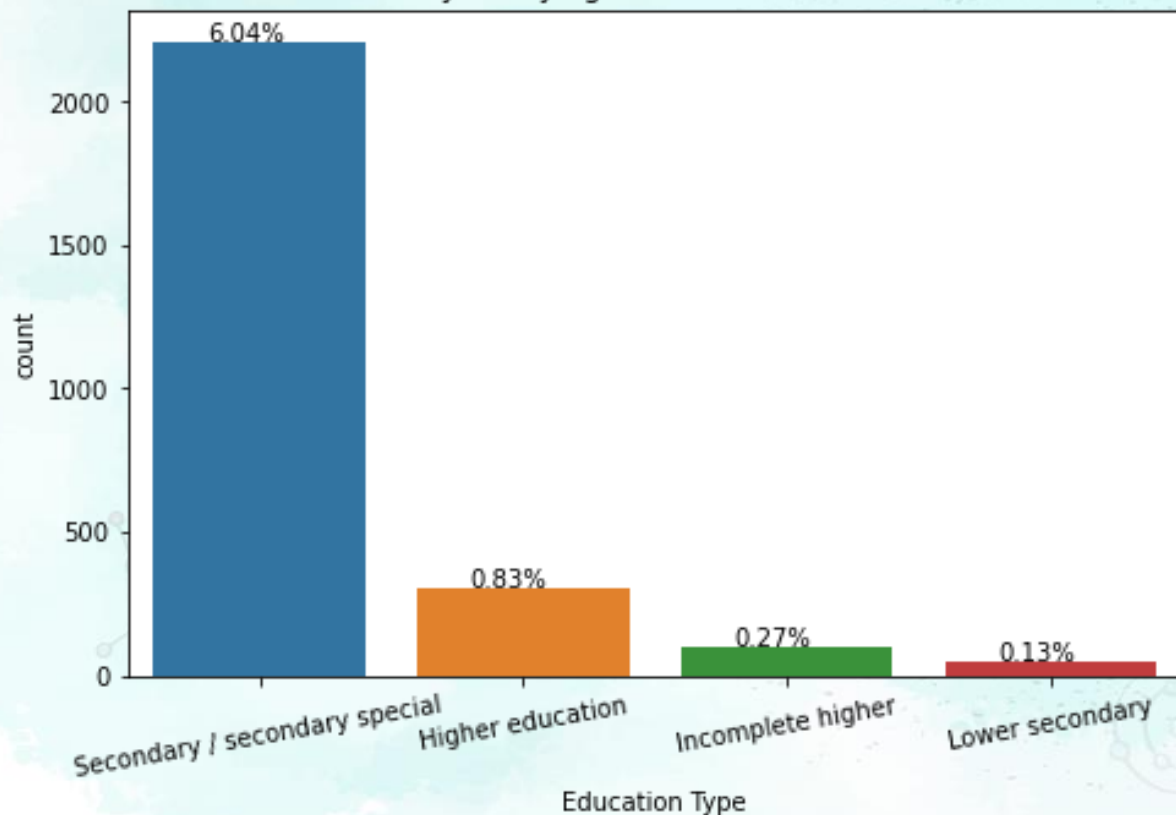


Education Type

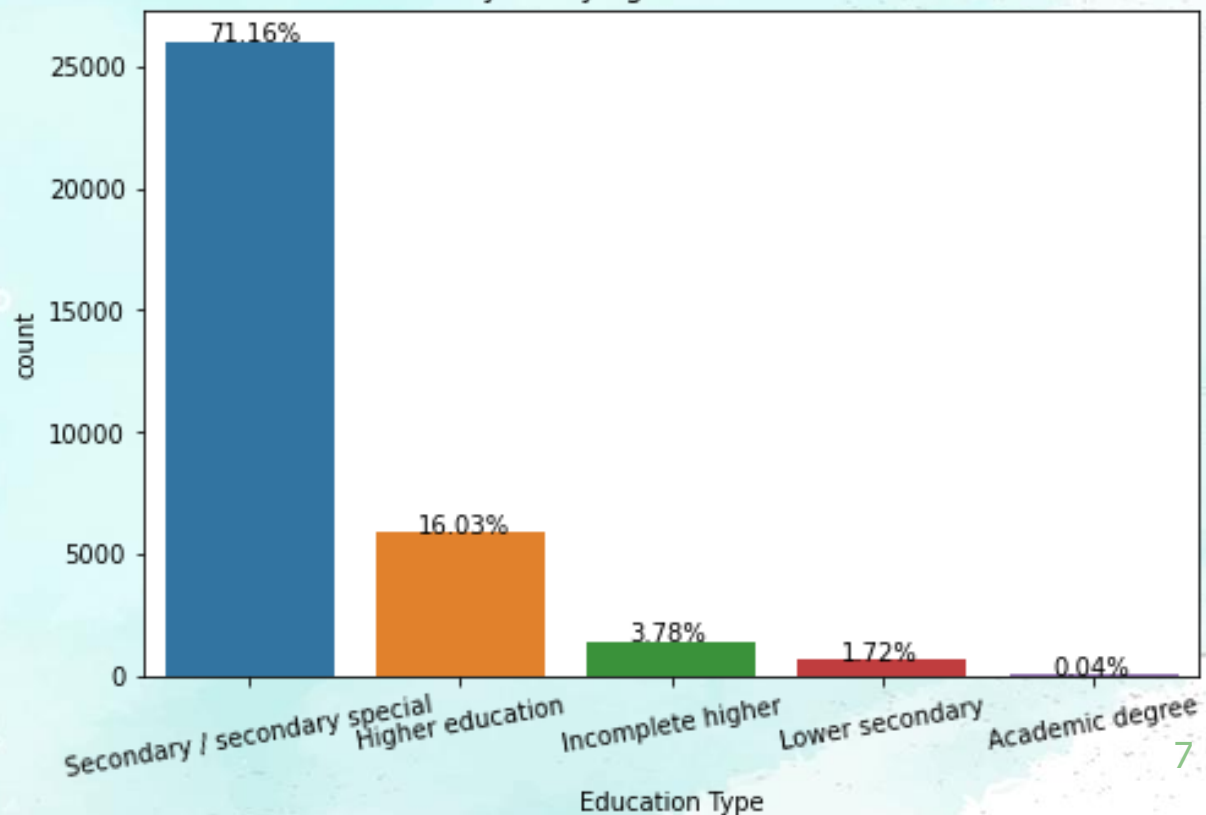
- **Academic Degree holders always repay**
- **Higher Educated people are least likely to be defaulters**

Type	% contribution	% of type as defaulter
Secondary	77.2	7.82
Higher	16.03	5.17
Incomplete	4.05	6.66
Lower Sec	1.85	7.02

Difficulty in Paying Loan based on Education



No-Difficulty in Paying Loan based on Education

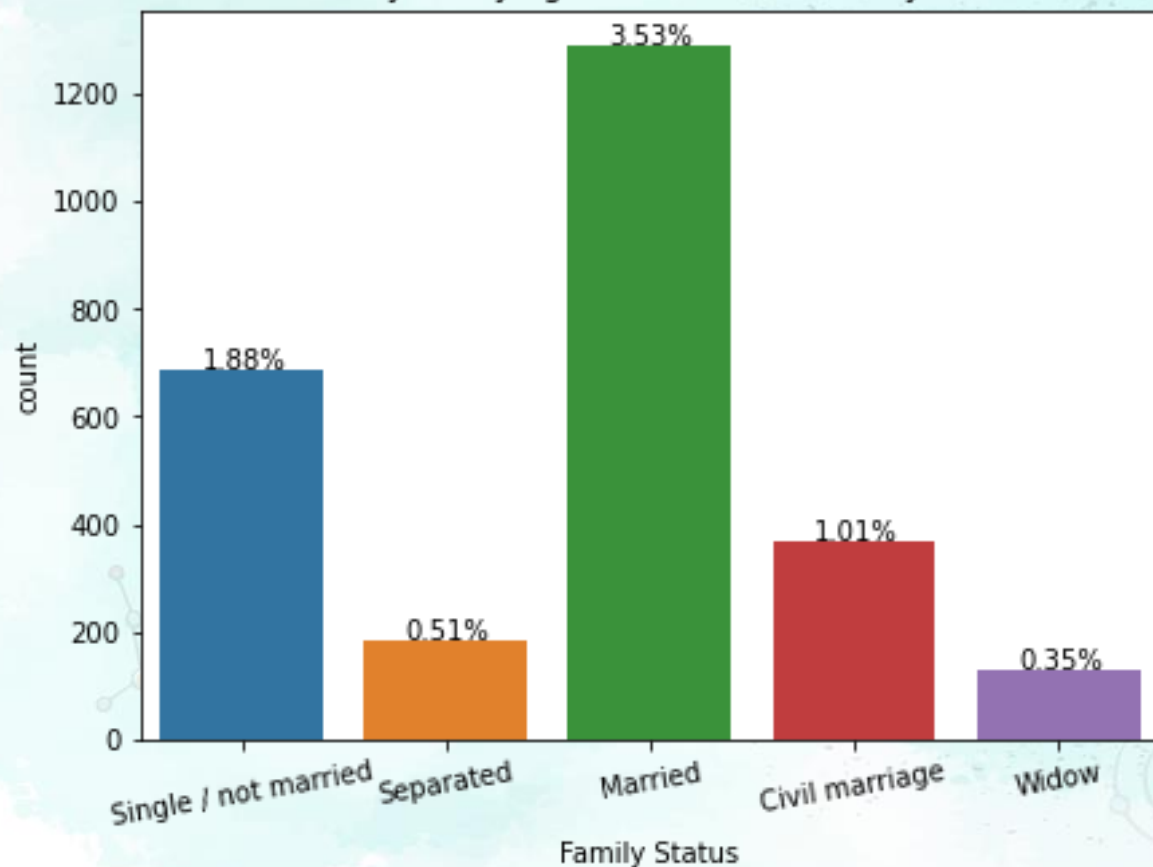


Family Type

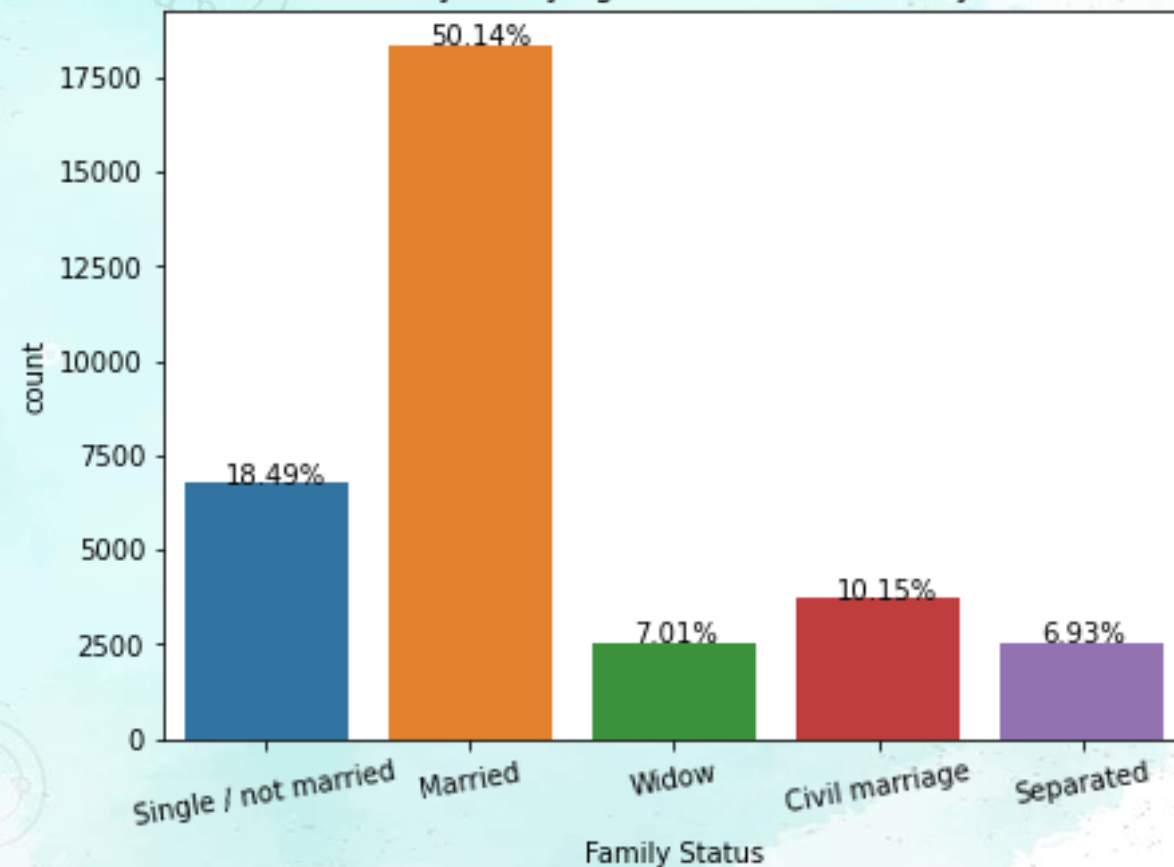
- **Singles are most likely to default**
- **Widows are least likely to be defaulters**

Type	% contribution	% of type as defaulter
Married	53.67	6.57
Single	20.37	9.23
Civil marriage	11.16	9.05
Widow	7.36	4.75
Separated	7.44	6.85

Difficulty in Paying Loan based on Family Status



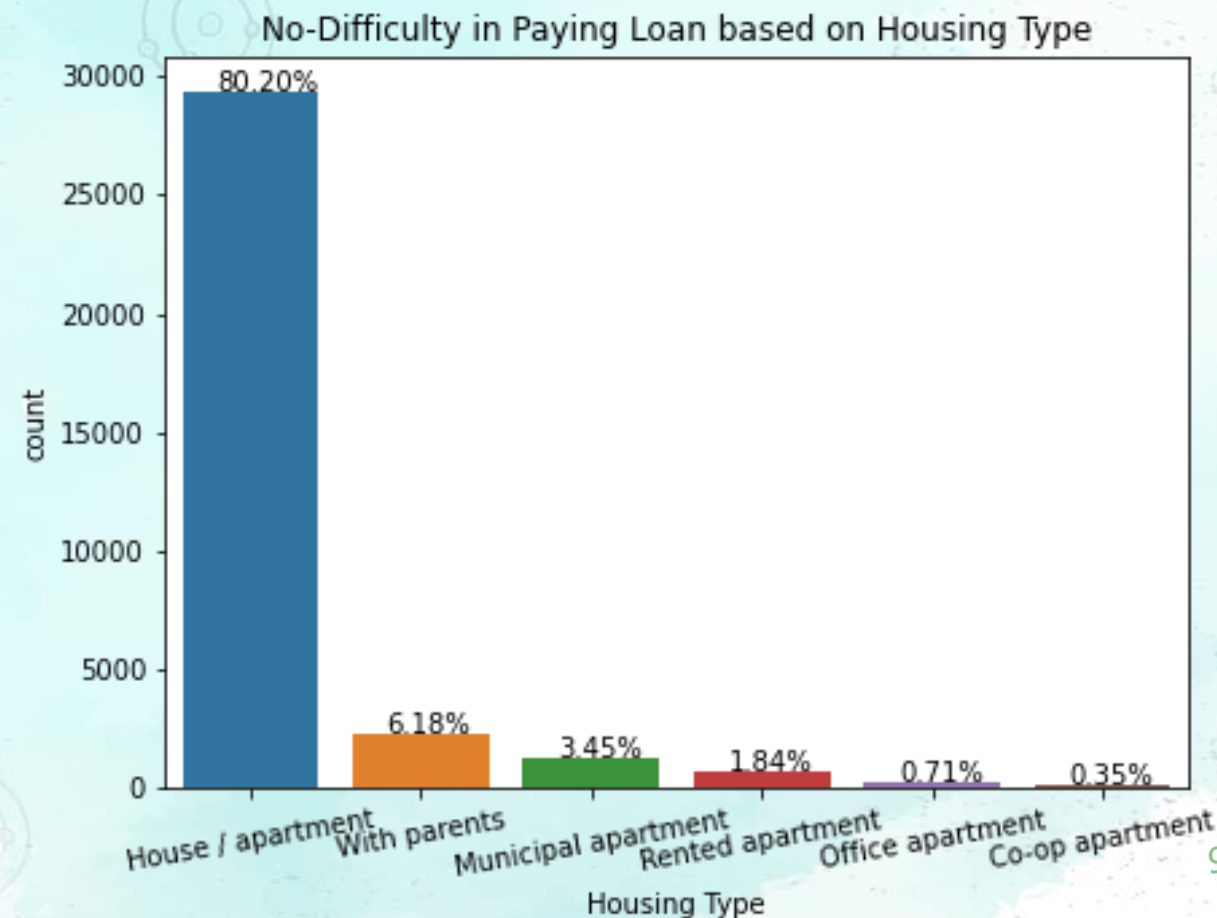
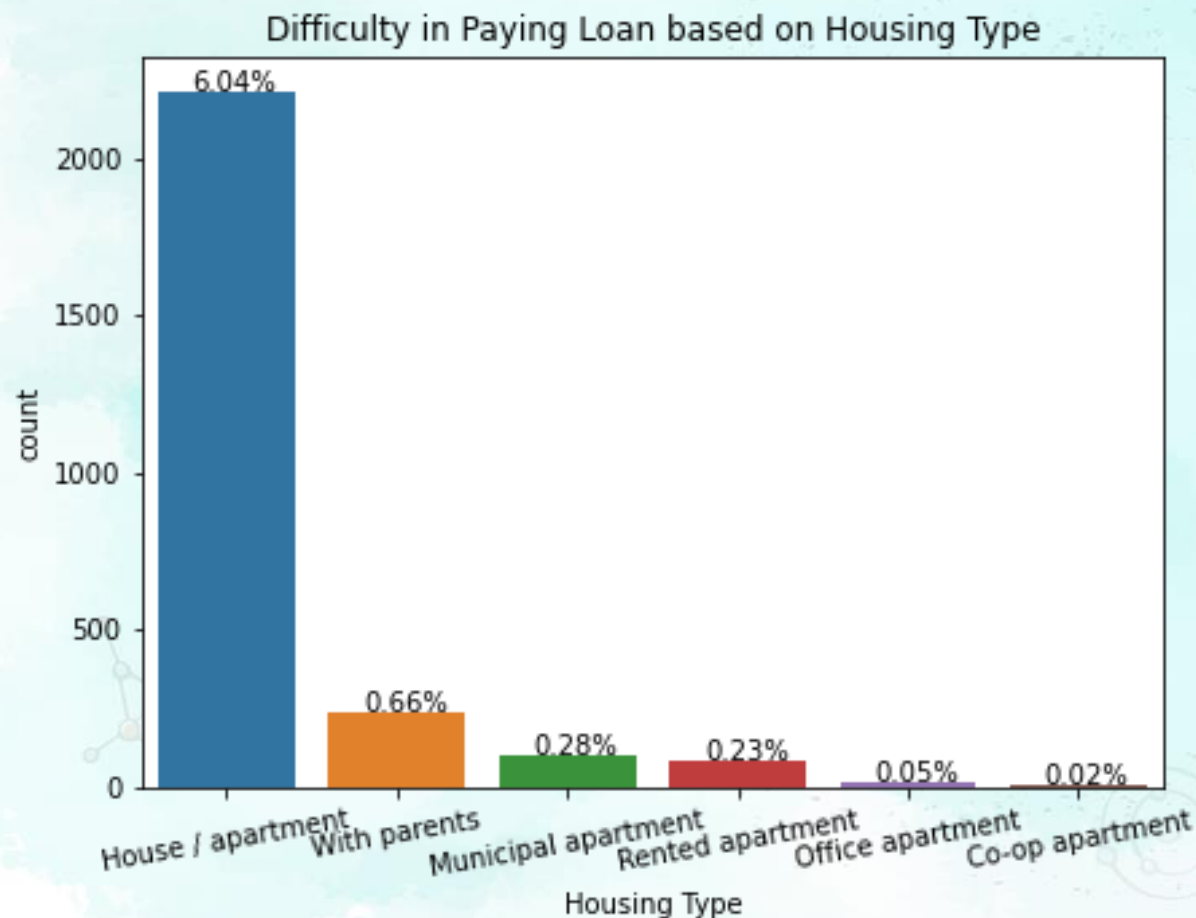
No-Difficulty in Paying Loan based on Family Status



Housing Type

- Renters are most likely to be defaulters
- Apartment people are least likely to be defaulters

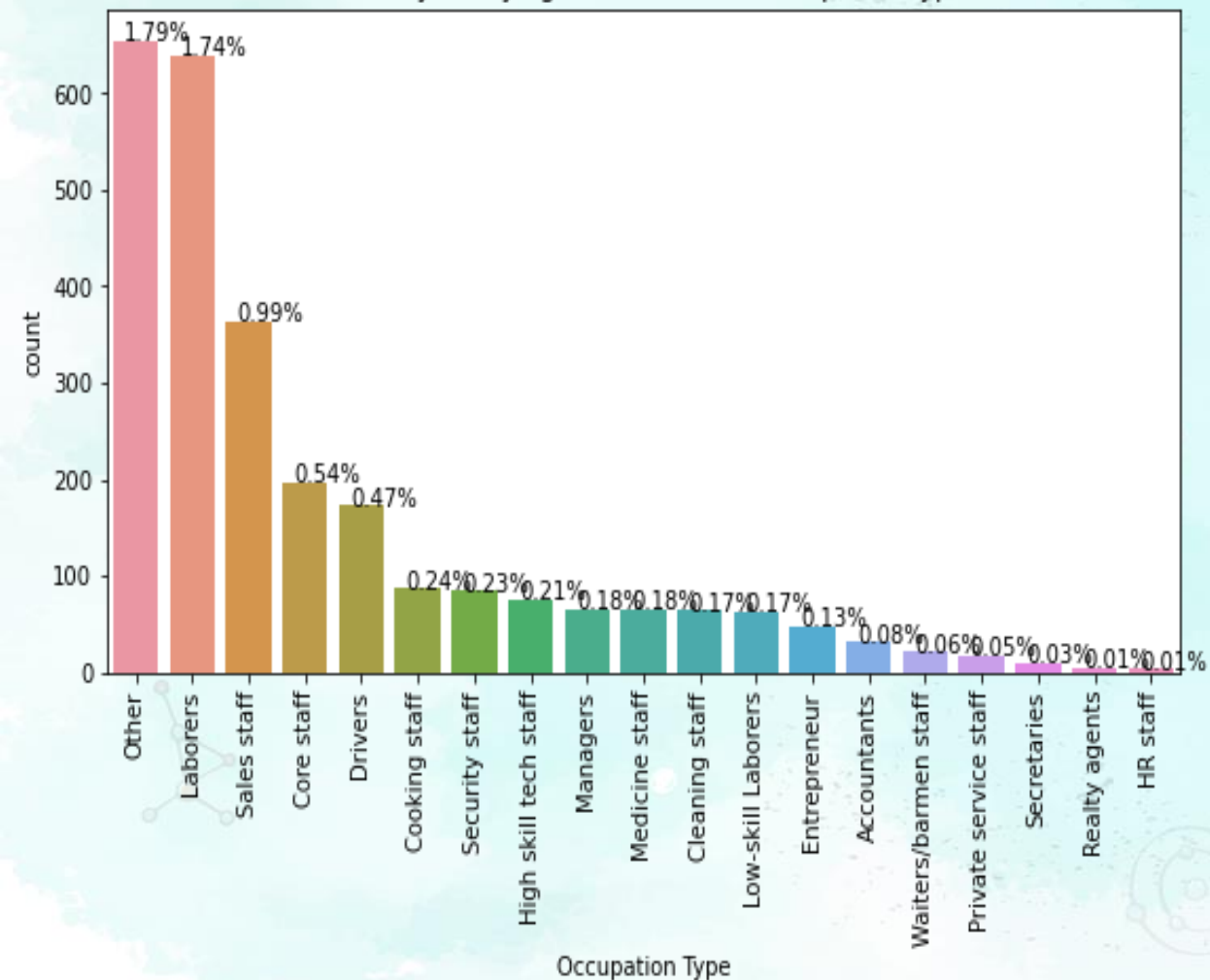
Type	% contribution	% of type as defaulter
Apartments	86.24	7
With Parents	6.84	9.64
Municipal co-op	3.73	7.5
Rented	2.07	11.11



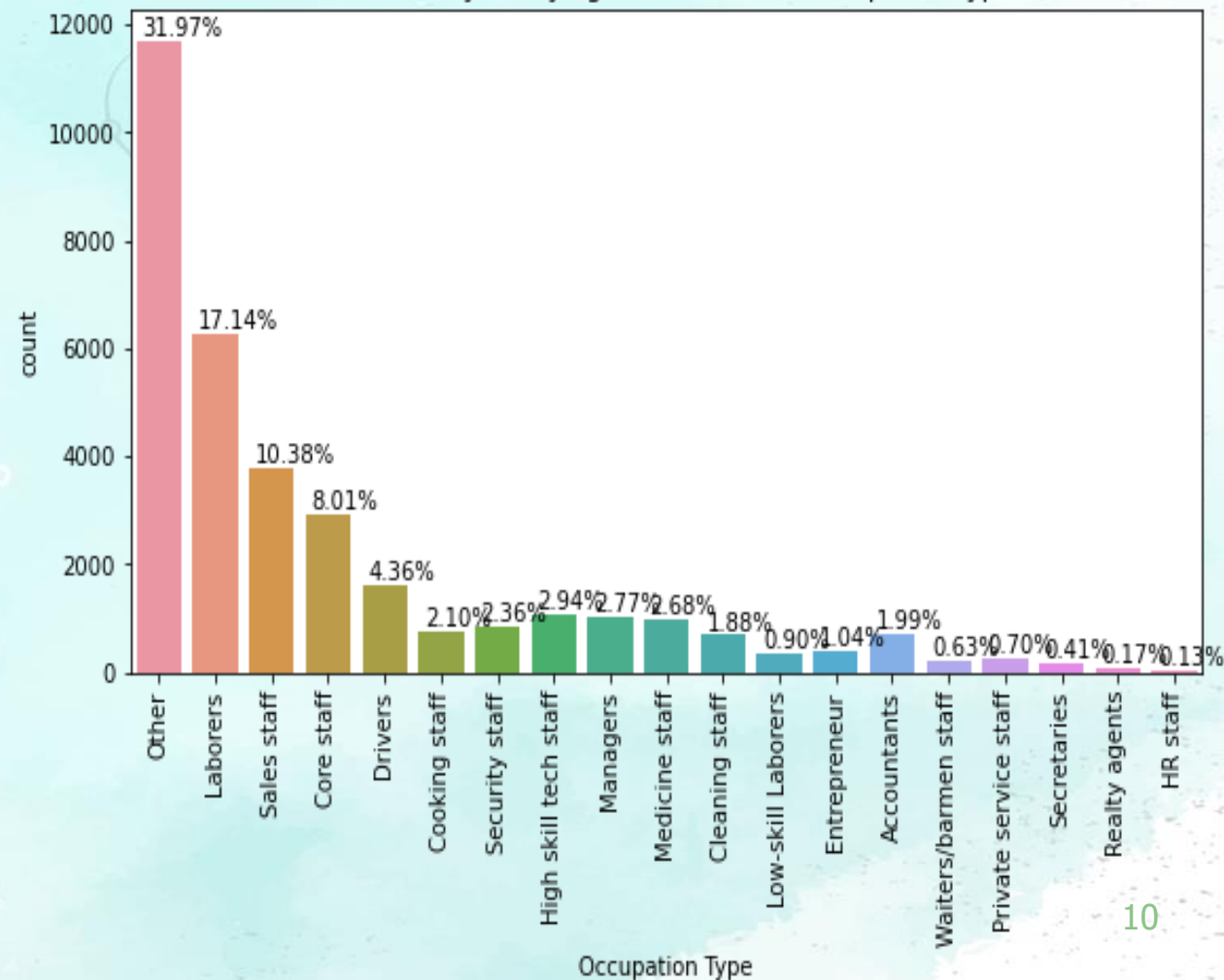
Occupation Type

- Labourers find it the most difficult to repay Loan

Difficulty in Paying Loan based on Occupation type



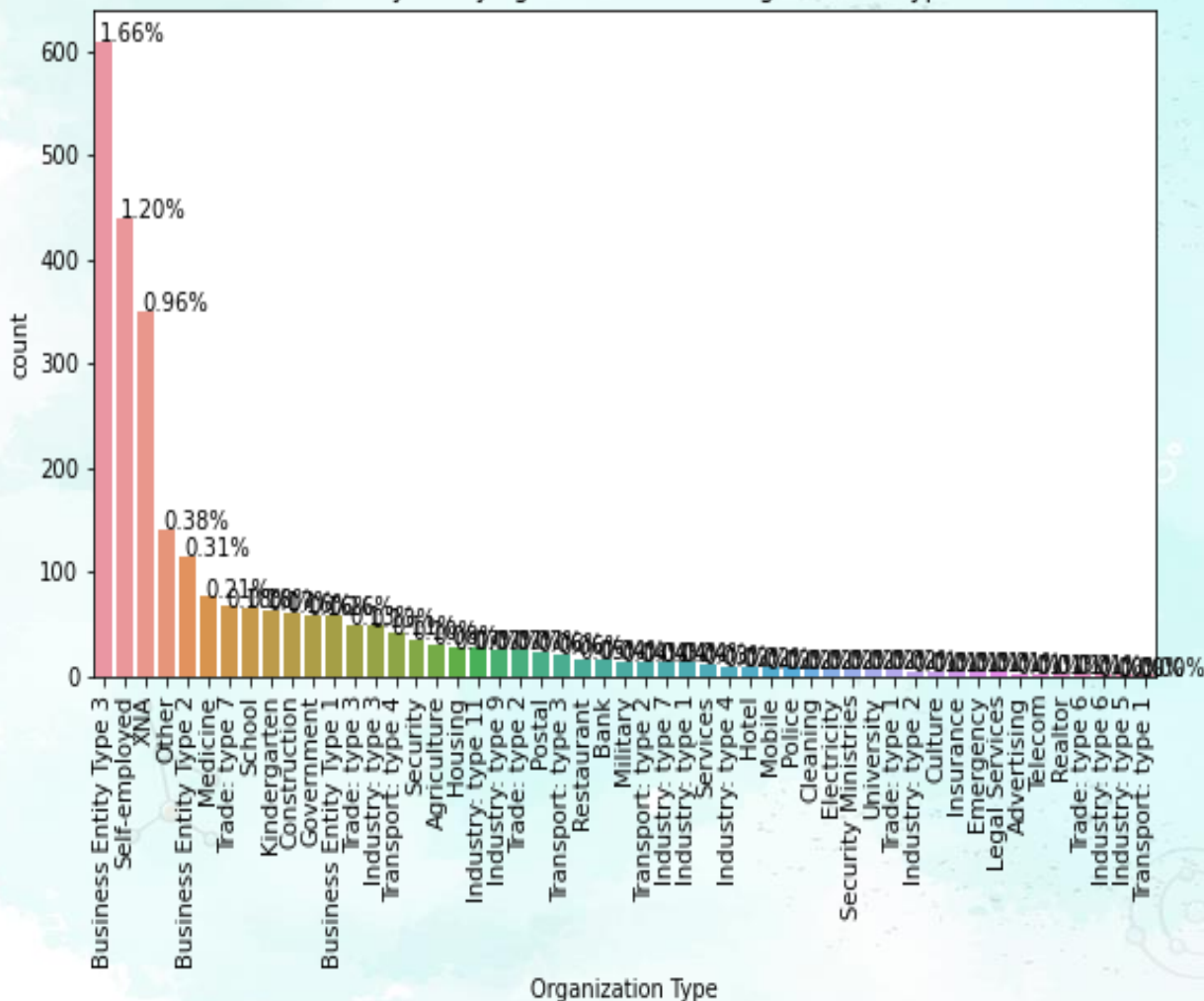
No-Difficulty in Paying Loan based on Occupation type



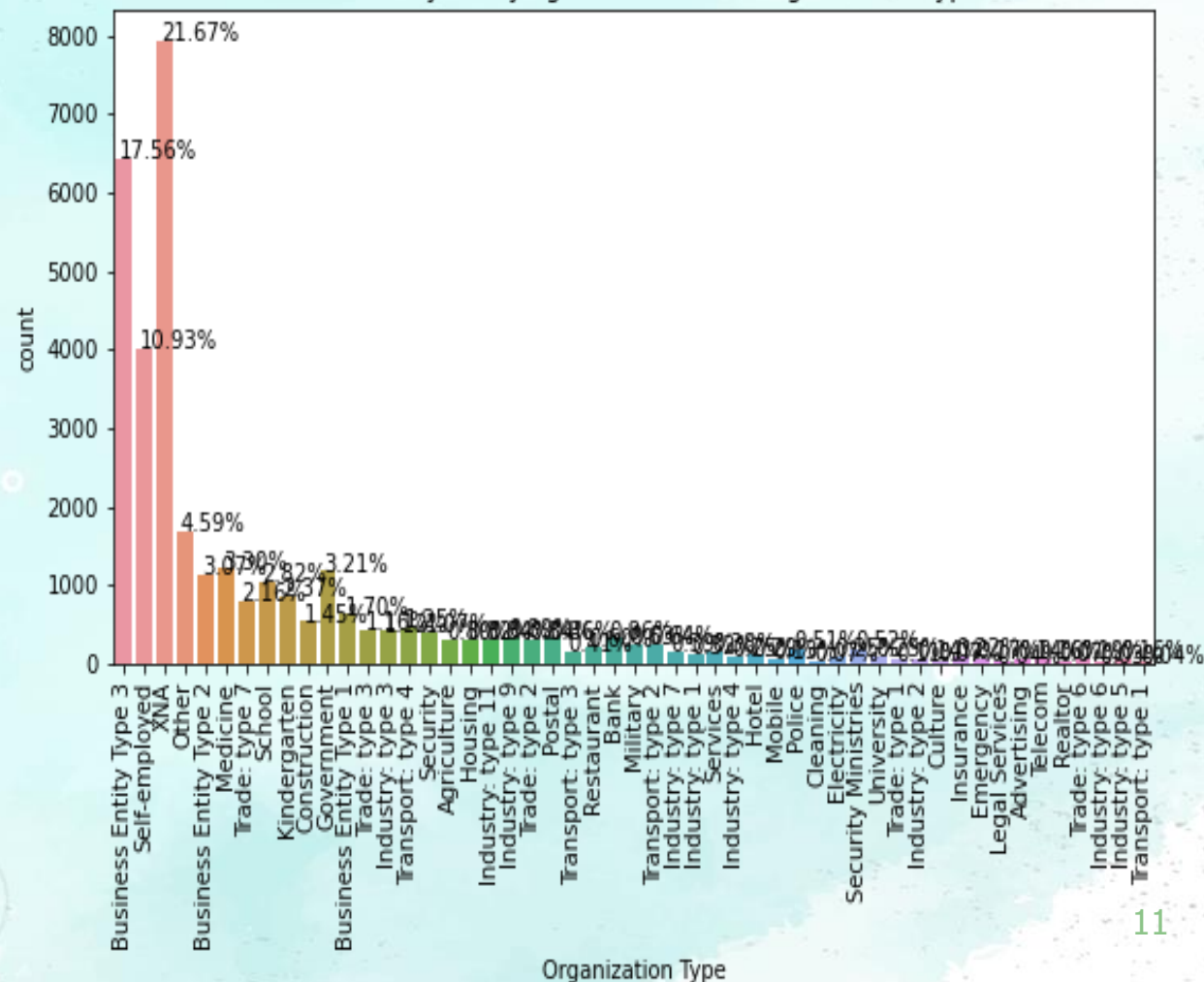
Organization Type

- Self employed have the most difficulty in repaying the loan

Difficulty in Paying Loan based on Organization Type



No-Difficulty in Paying Loan based on Organization Type

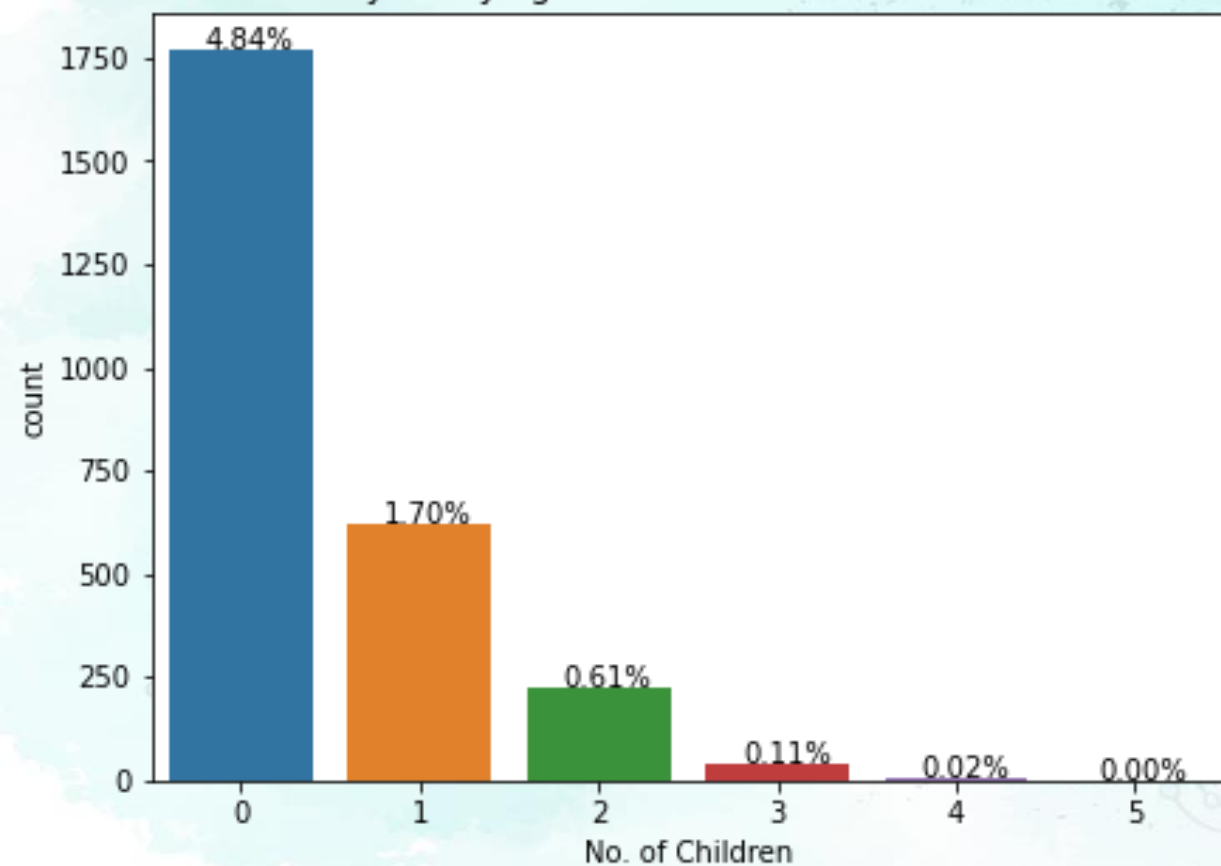


No. of Children

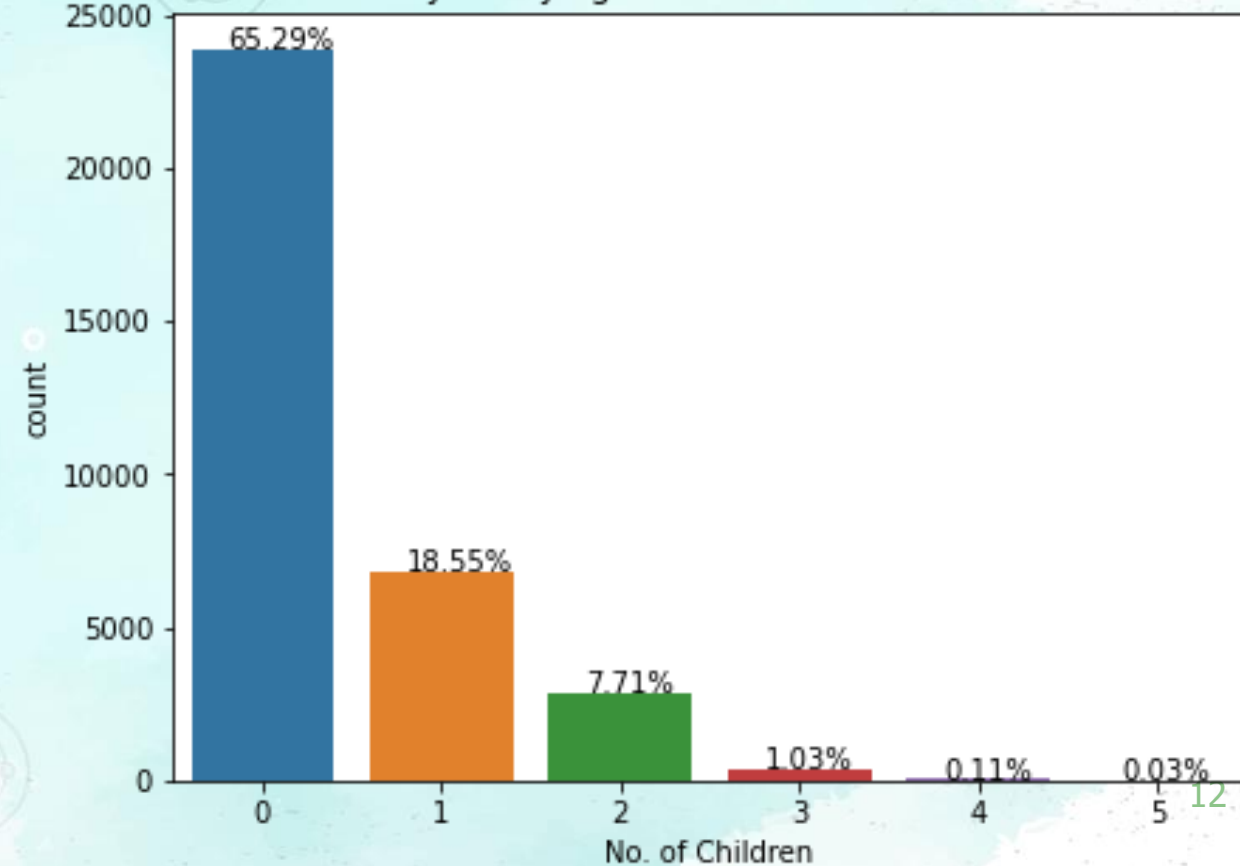
- **No relation between Defaulters and No. of Children**

No. of children	% contribution	% of type as defaulter
0	70.13	6.90
1	20.25	9.16
2	8.32	7.91
3	1.14	9.65

Difficulty in Paying Loan based on number of children



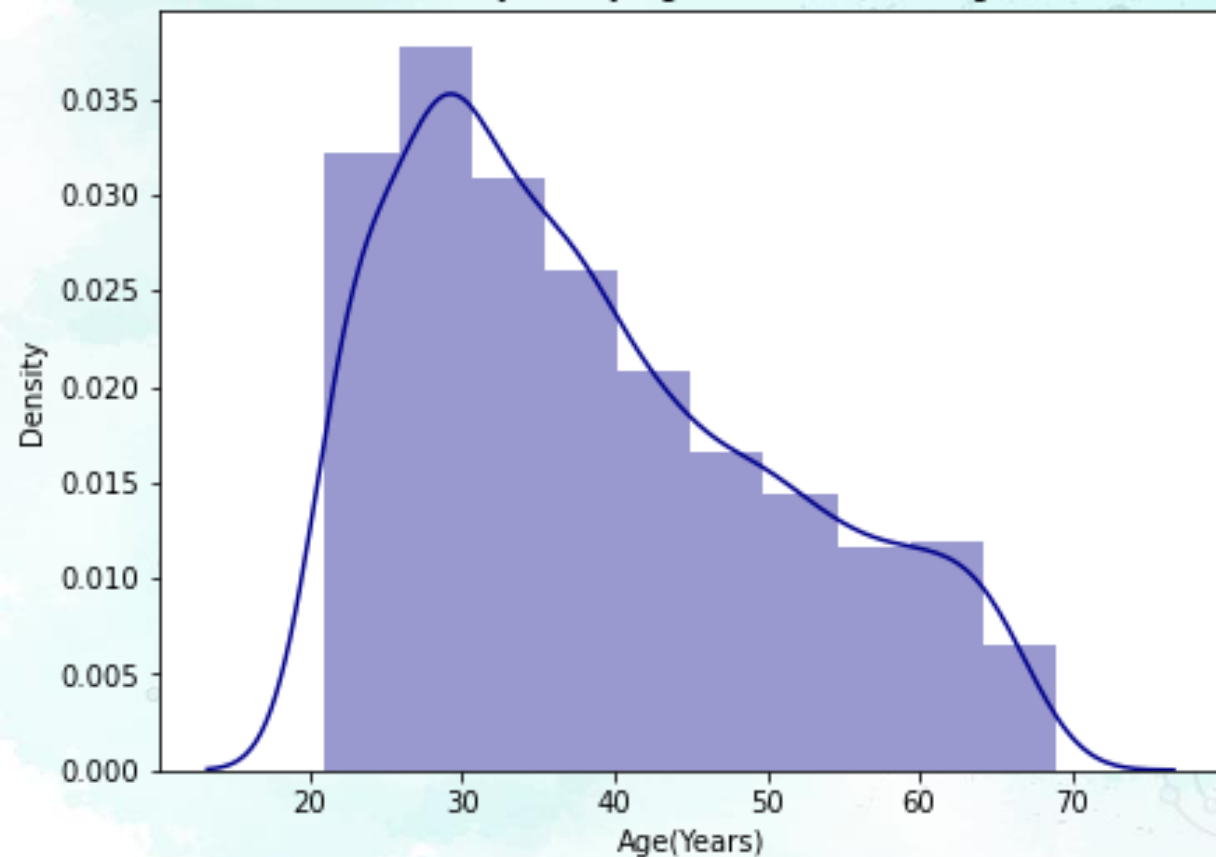
Non-Difficulty in Paying Loan based on number of children



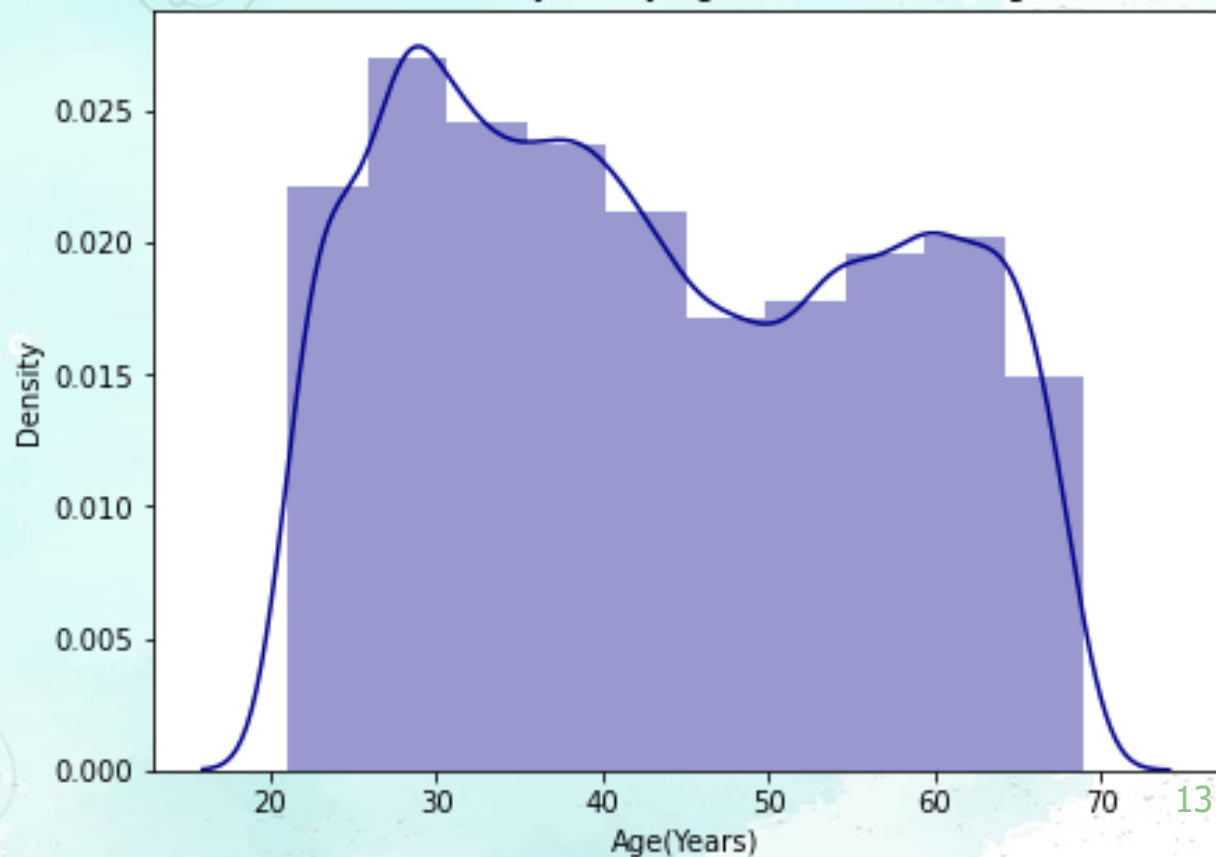
Age

- People between the range 45-70 years of age have the highest ease of repaying the loan

Difficulty in Paying Loan based on Age

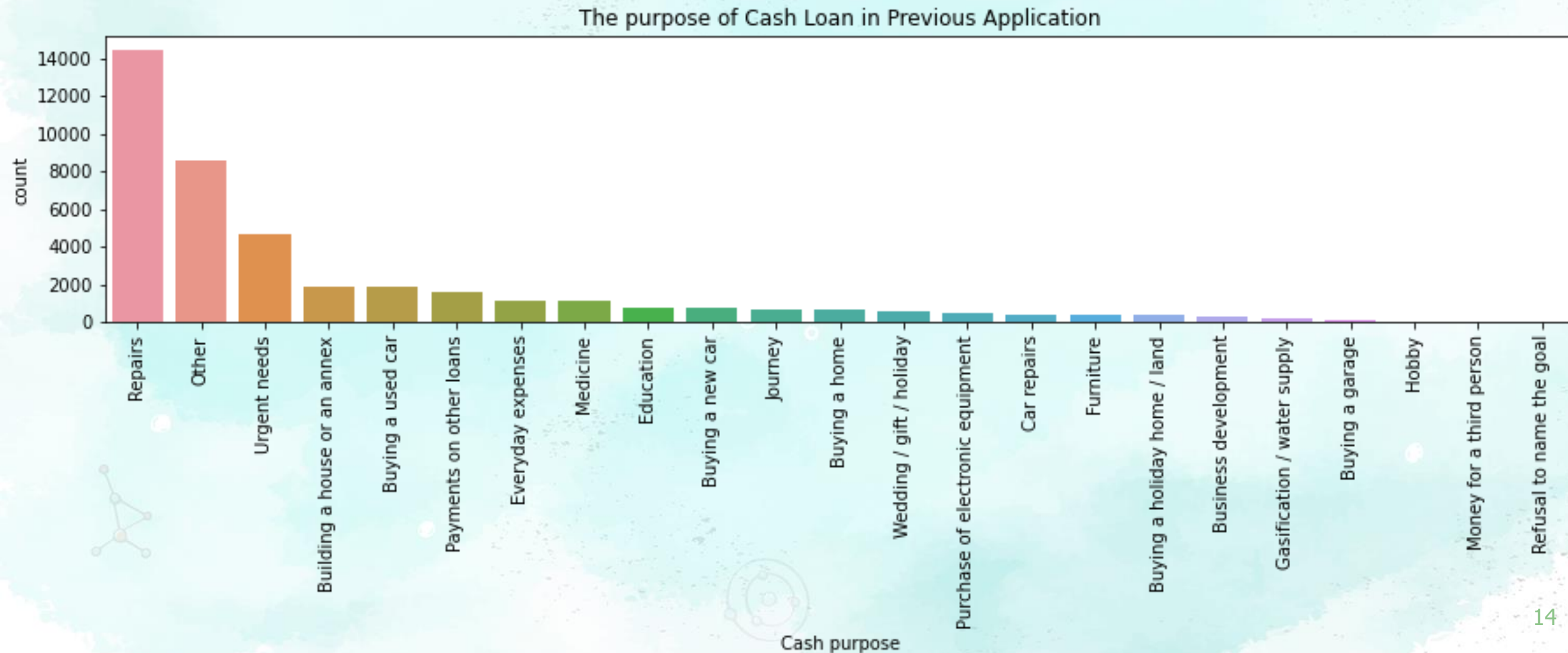


Non-Difficulty in Paying Loan based on Age



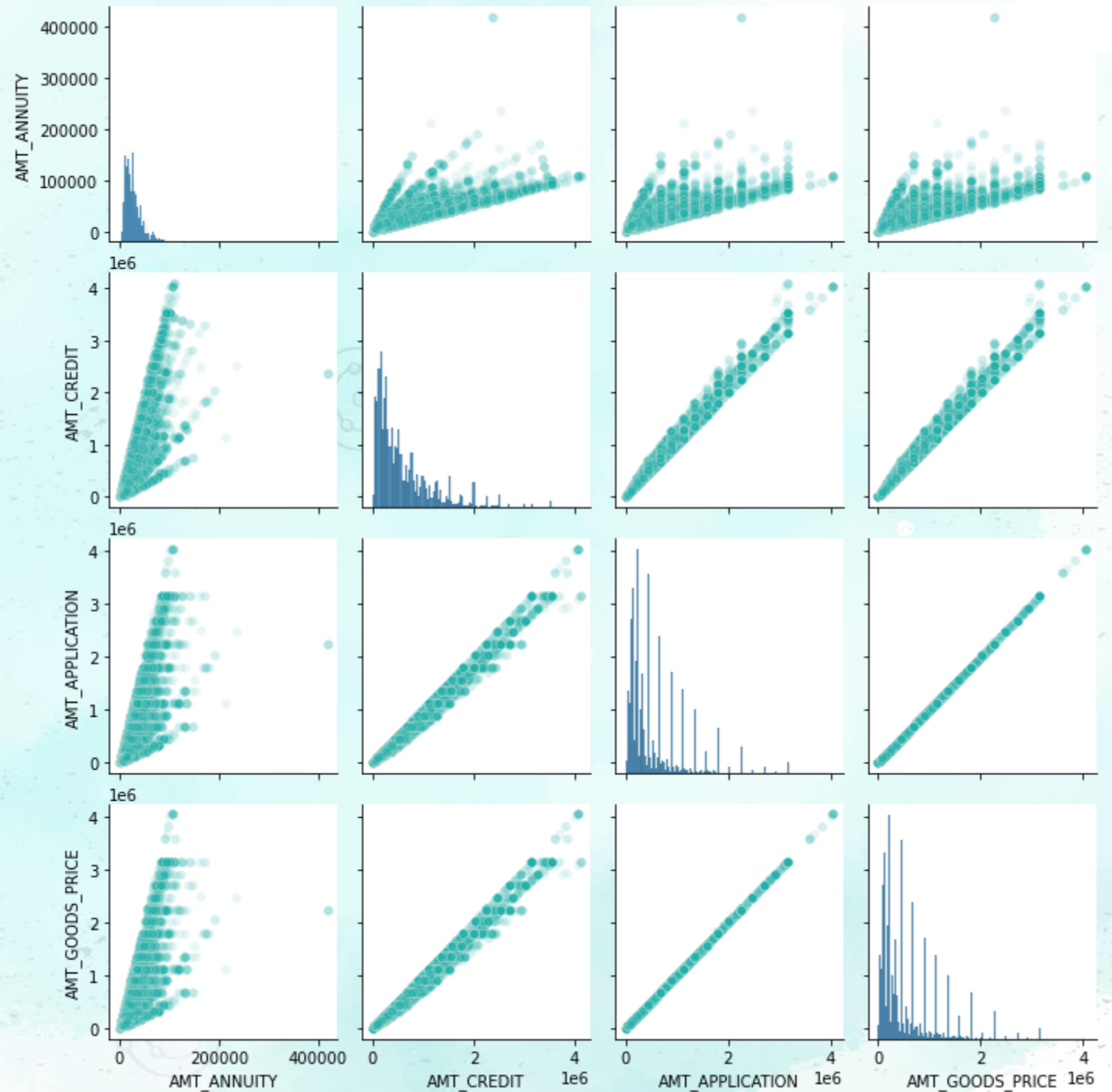
Reason for loan

- Repairs were the most common reason for previous loans



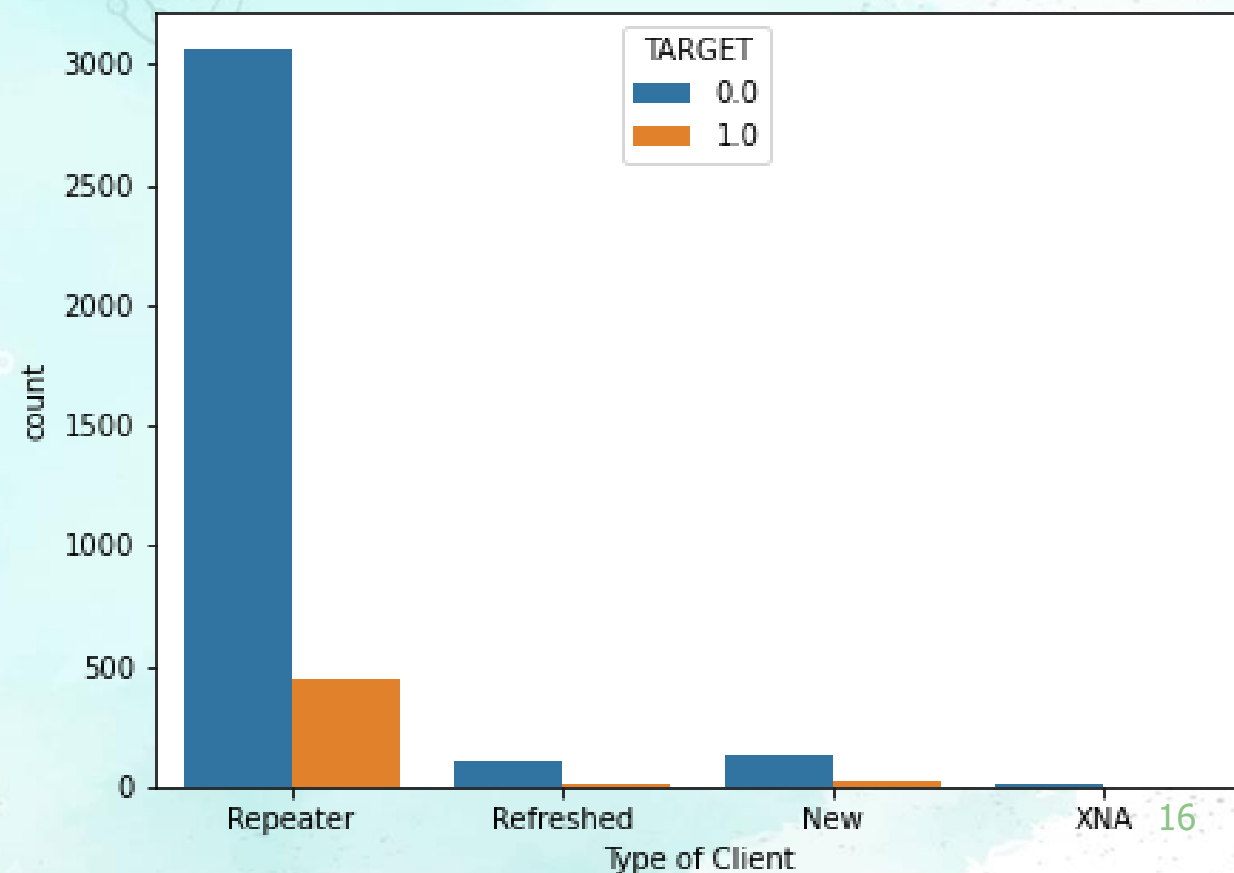
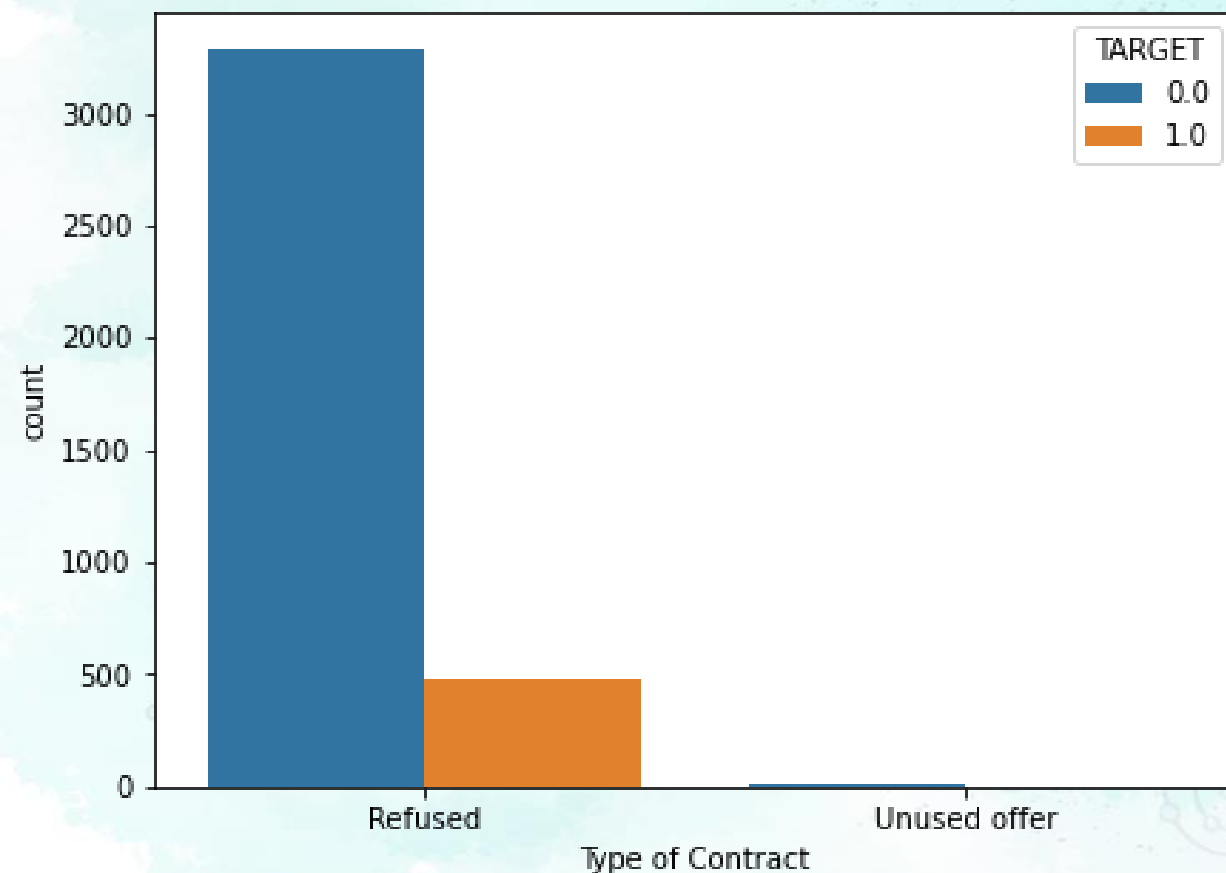
Price Relation

- Amount of Credit is in good relation with Amount of Goods Price.
- But, amount of Annuity is lower as compared to Amount of Goods Price.



History of Current Non-Defaulters

- Majority of Clients who were refused earlier are Current Non-Defaulters
- Majority of Repeaters are Current Non-Defaulters



Previous Refusals

- Majority of Repeaters are Refused
- Majority of previously Refused current Non-Defaulters were Targets

