Default of Credit Card Clients

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Outline

- Motivation
- Date set (24 attributes and 30,000 instances)
- Relationship between Default and attributes
- Graphs/Results
- Conclusions

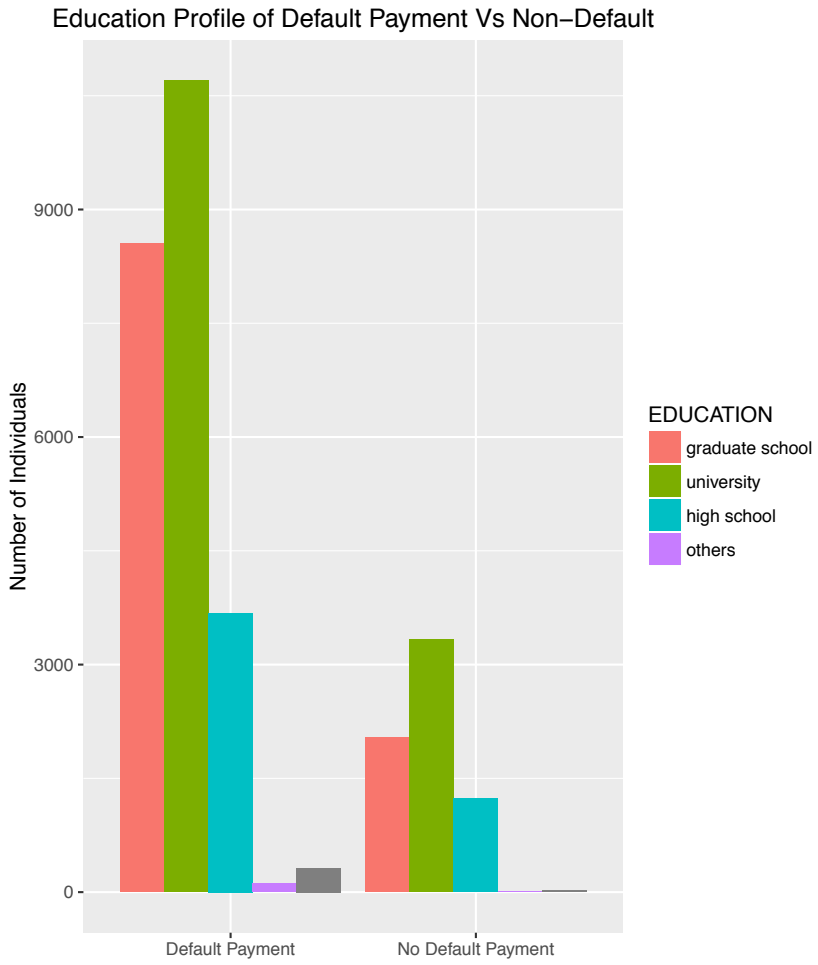
Motivation

- Find out the relationship between attributes and probability of default.
- Recognize the attributes which contribute in predicting the default payments of credit cards.

Data

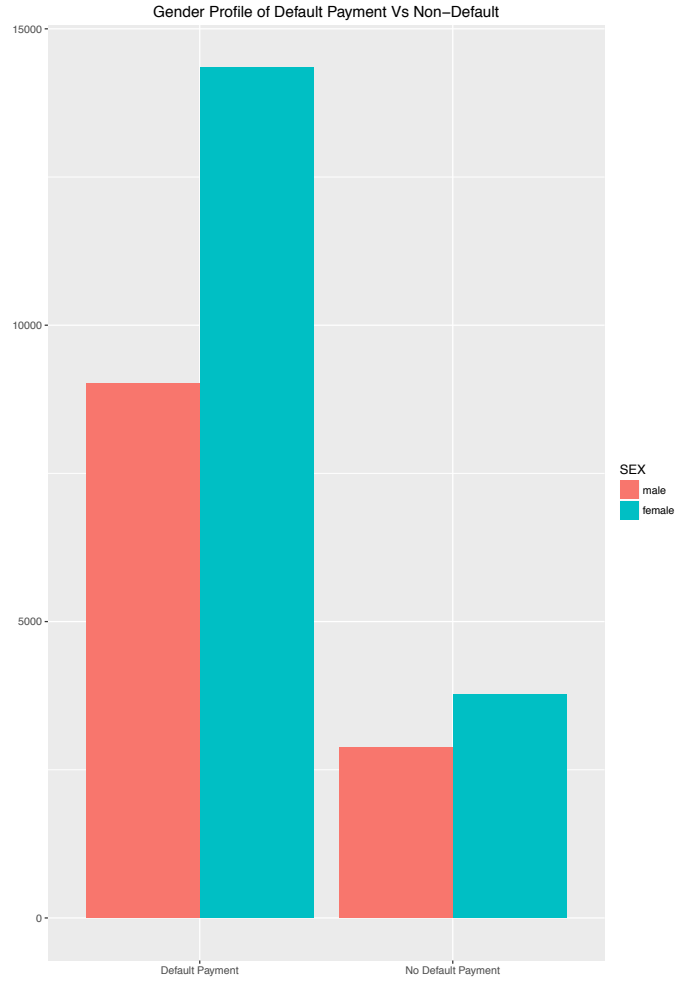
	ID	LIMIT_BAL	SEX	EDUCATION	MARRIAGE	AGE	PAY_0	PAY_2	PAY_3
1	1	20000	female	university	married	24	2	2	-
2	2	120000	female	university	single	26	-1	2	
3	3	90000	female	university	single	34	0	0	
4	4	50000	female	university	married	37	0	0	
5	5	50000	male	university	married	57	-1	0	-
6	6	50000	male	graduate school	single	37	0	0	
7	7	500000	male	graduate school	single	29	0	0	
8	8	100000	female	university	single	23	0	-1	-
9	9	140000	female	high school	married	28	0	0	
10	10	20000	male	high school	single	35	-2	-2	-
11	11	200000	female	high school	single	34	0	0	
12	12	260000	female	graduate school	single	51	-1	-1	-
13	13	630000	female	university	single	41	-1	0	-
14	14	70000	male	university	single	30	1	2	
15	15	250000	male	graduate school	single	29	0	0	

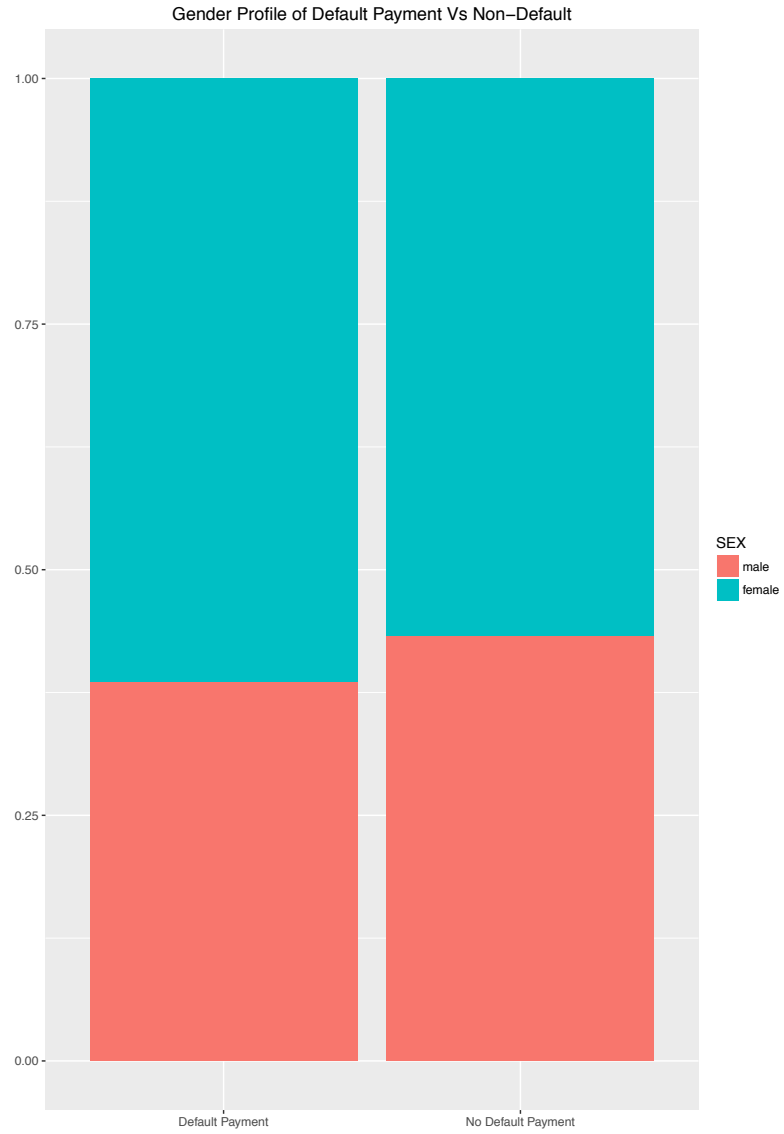
Showing 1 to 15 of 30,000 entries

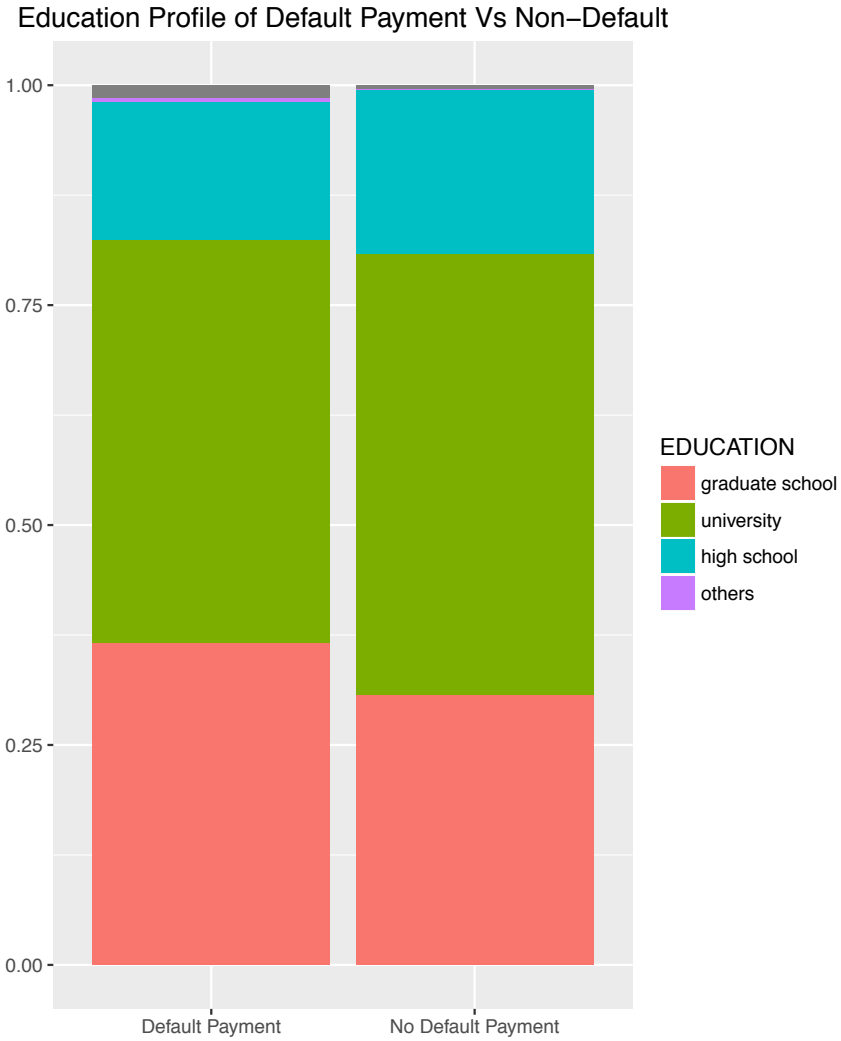

Education Profile of Default Payment Vs Non−Default
Number of Individuals
9000
6000
3000
0
Default Payment
No Default Payment
EDUCATION
graduate school
university
high school
others

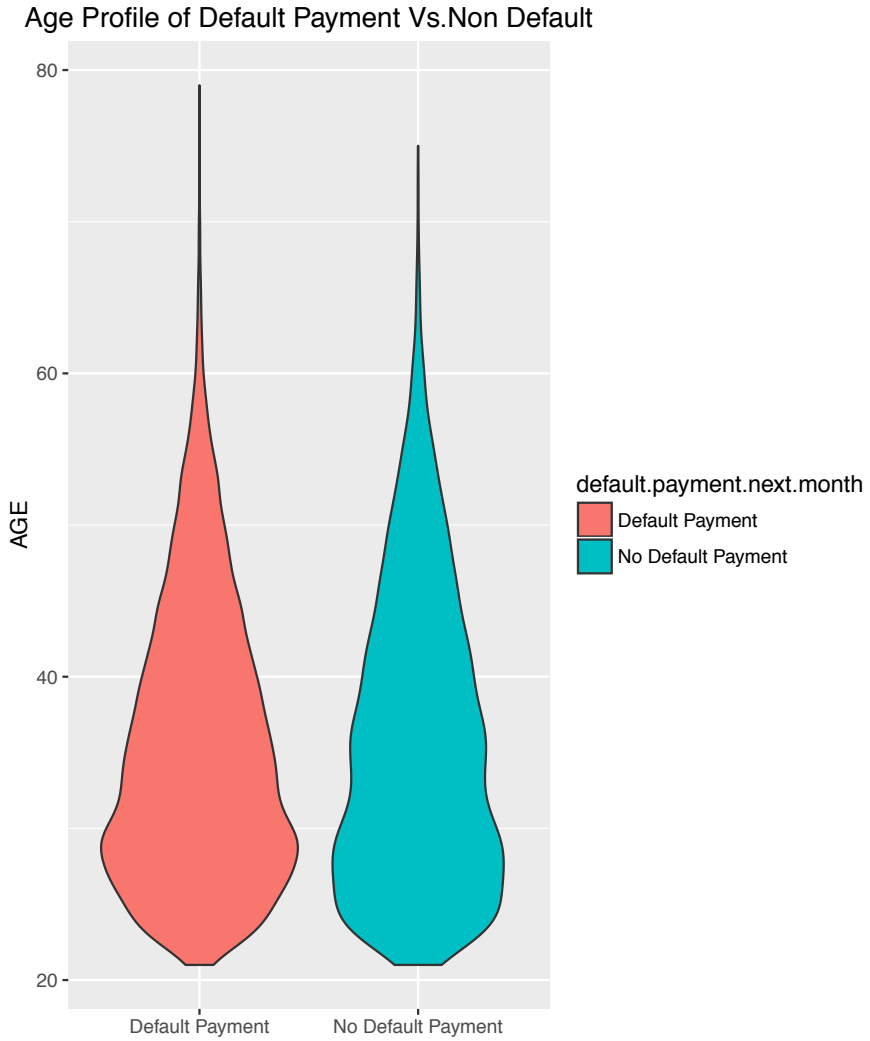
Gender Table

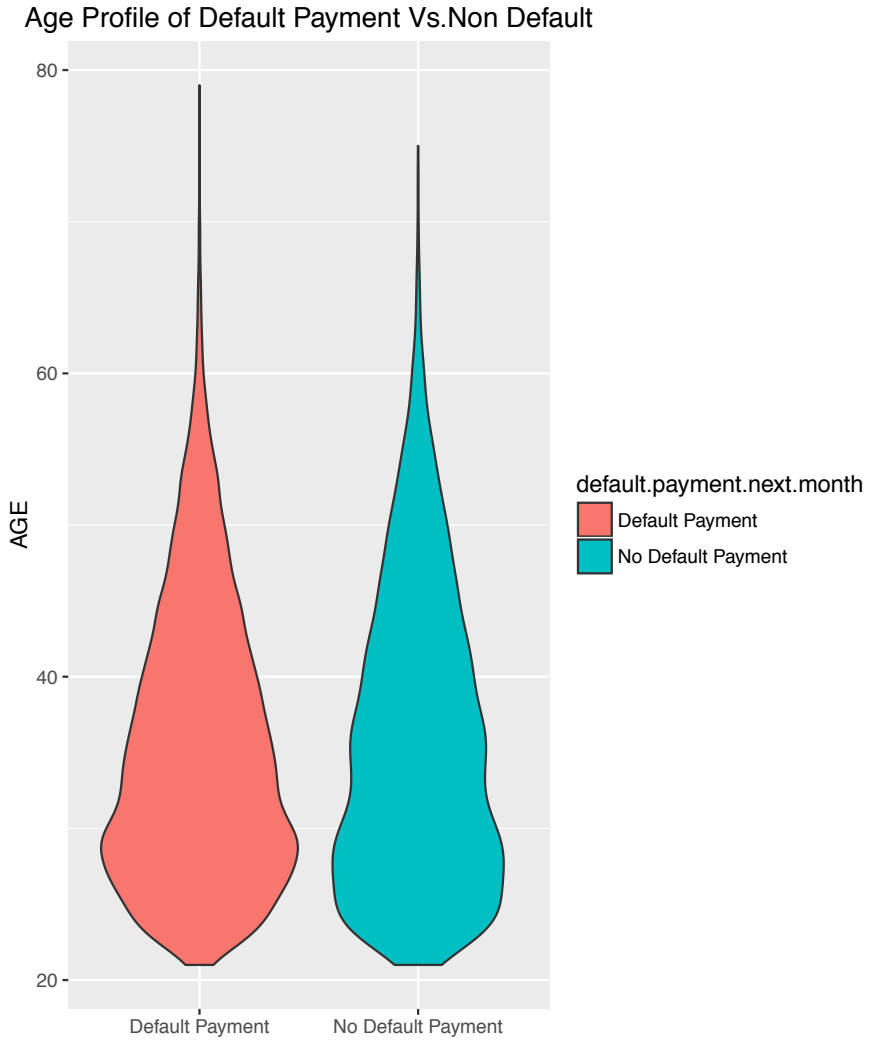
Default Status	Yes	No
Male	9015	2873
Female	14349	3763

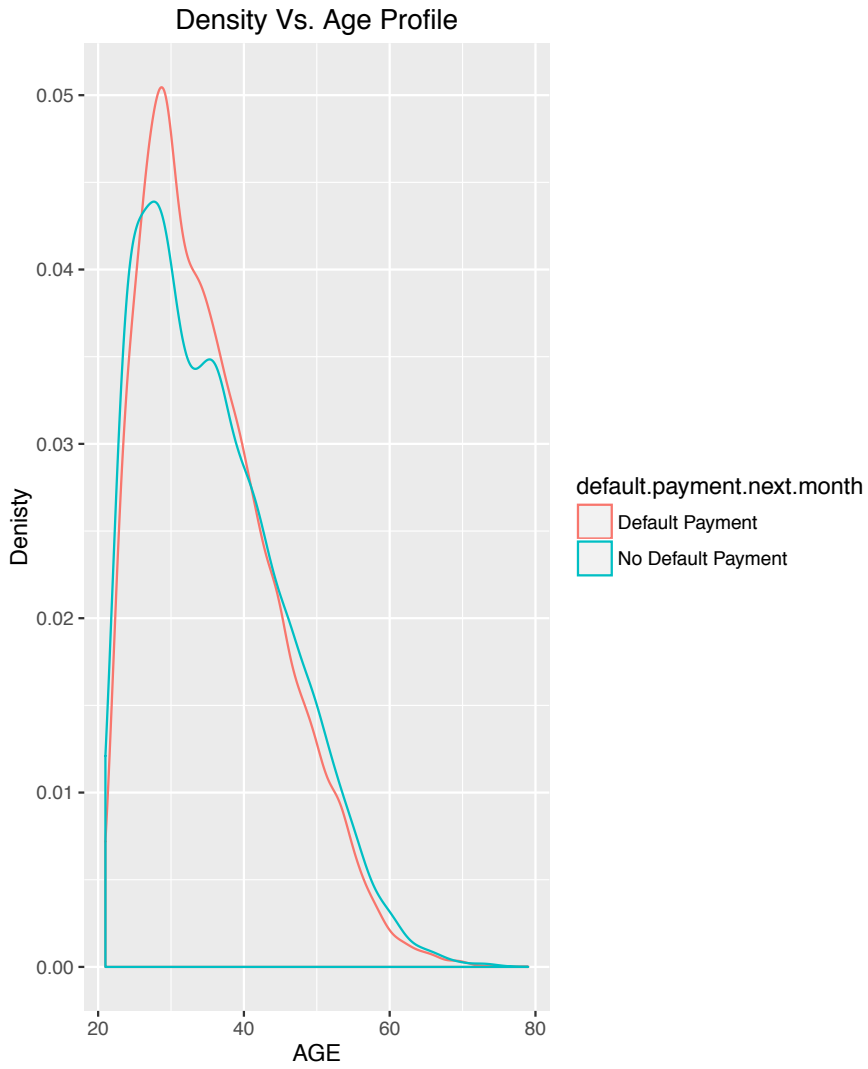

Gender Profile of Default Payment Vs Non−Default
15000
10000
5000
0
Default Payment
No Default Payment
SEX
male
female

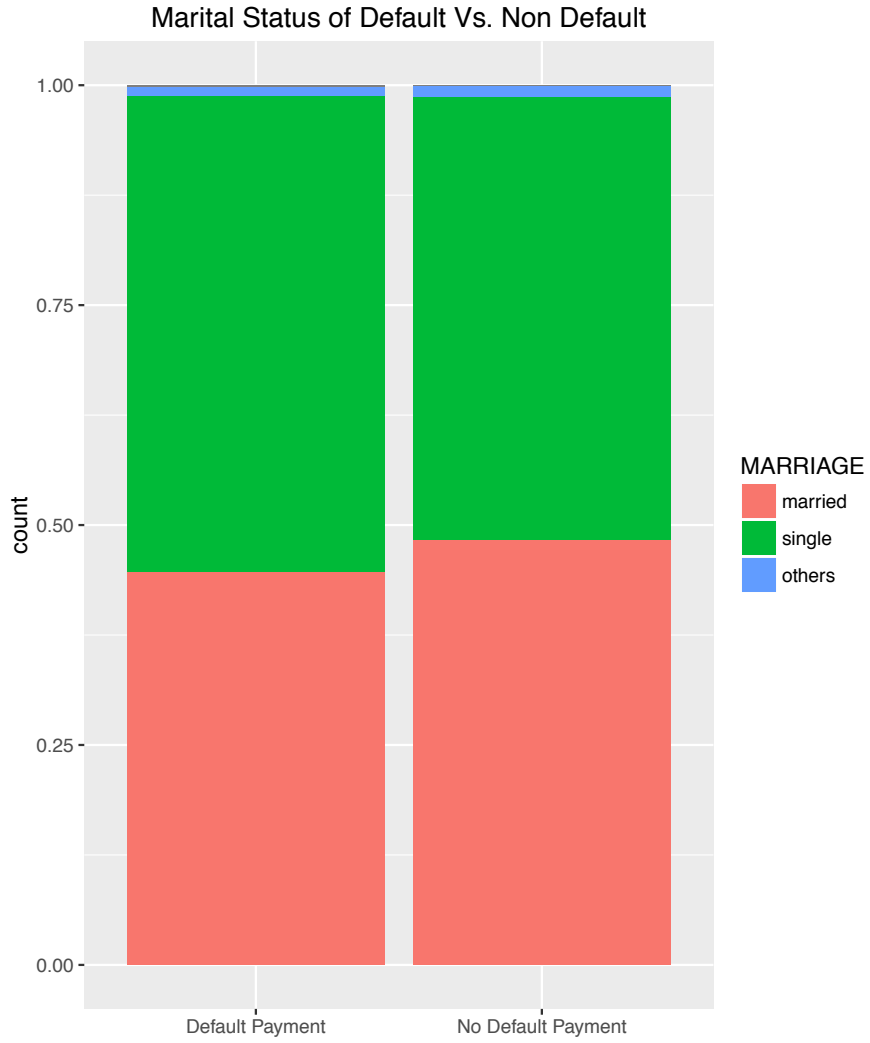

Gender Profile of Default Payment Vs Non−Default
1.00
0.75
0.50
0.25
0.00
Default Payment
No Default Payment
SEX
male
female


Education Profile of Default Payment Vs Non−Default
1.00
0.75
0.50
0.25
0.00
Default Payment
No Default Payment
EDUCATION
graduate school
university
high school
others

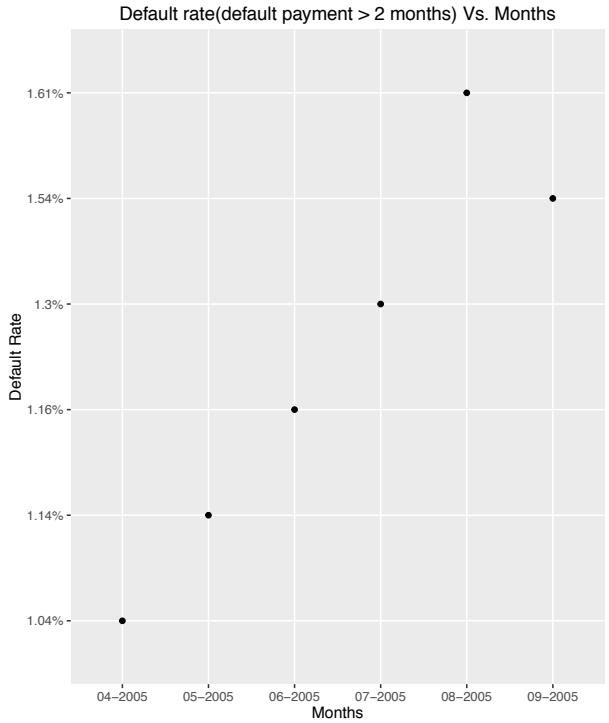

Age Profile of Default Payment Vs.Non Default
AGE
80
60
40
20
Default Payment
No Default Payment
default.payment.next.month
Default Payment
No Default Payment

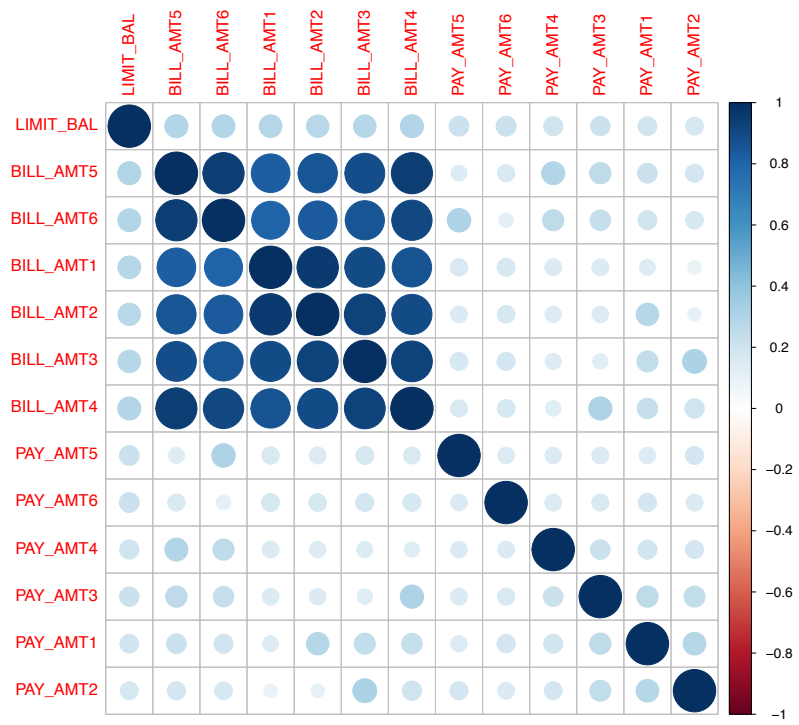

Age Profile of Default Payment Vs.Non Default
AGE
80
60
40
20
Default Payment
No Default Payment
default.payment.next.month
Default Payment
No Default Payment


Density Vs. Age Profile
0.05
0.04
0.03
0.02
0.01
0.00
Denisty
20
40
60
80
AGE
default.payment.next.month
Default Payment
No Default Payment


Marital Status of Default Vs. Non Default
1.00
0.75
0.50
0.25
0.00
count
Default Payment
No Default Payment
MARRIAGE
married
single
others

Default Rate: # (Payment Due > 2 months) / Total)* 100




LIMIT_BAL
BILL_AMT5
BILL_AMT6
BILL_AMT1
BILL_AMT2
BILL_AMT3
BILL_AMT4
PAY_AMT5
PAY_AMT6
PAY_AMT4
PAY_AMT3
PAY_AMT1
PAY_AMT2
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1

Conclusion

- Single Status Individuals have higher percentage of default than married.
- Age group 25-30 shows increase in default rate as verified from violin and density profile.
- Default rate increases during the data collection from April 2005 to September 2005.