Predicting Credit Card Default Using Machine Learning- Executive Presentation

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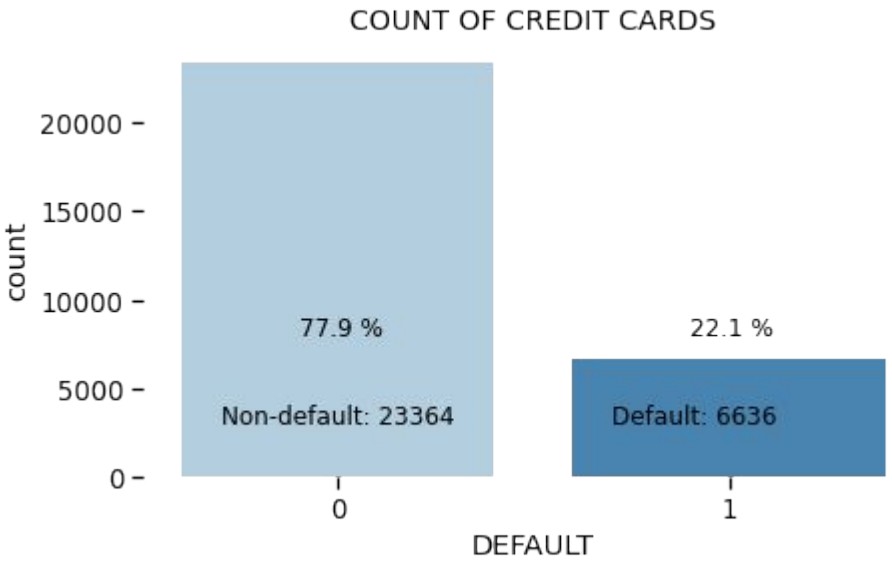
Data:01/28/2021

What is the noticeable about April-September 2005 Default of total number? What does it say about bank performance? How might this relate to payment data?

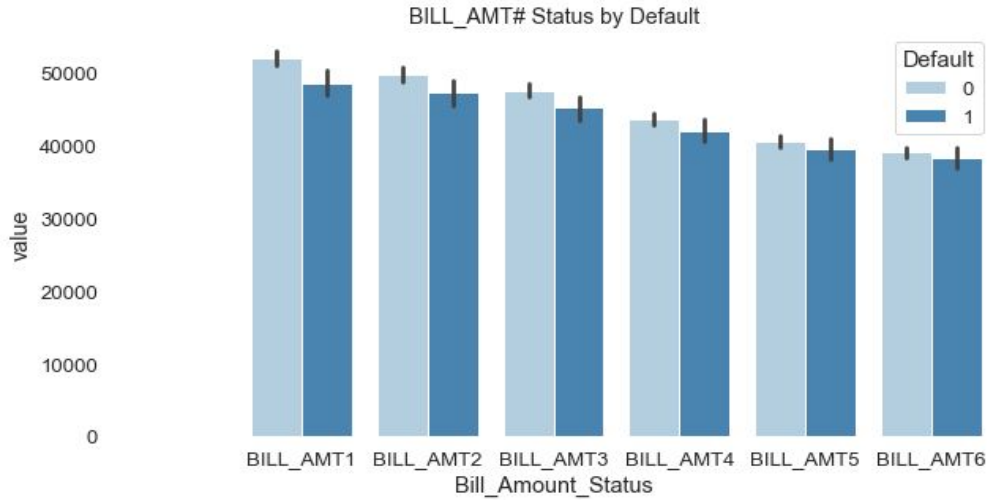


DEFAULT

From this sample of 30,000 credit card holders, there are 6,636 default credit cards; that is, the proportion of default in the data is 22,1%. Goal is reduce the default payment. Let's look at the relation with payment data.

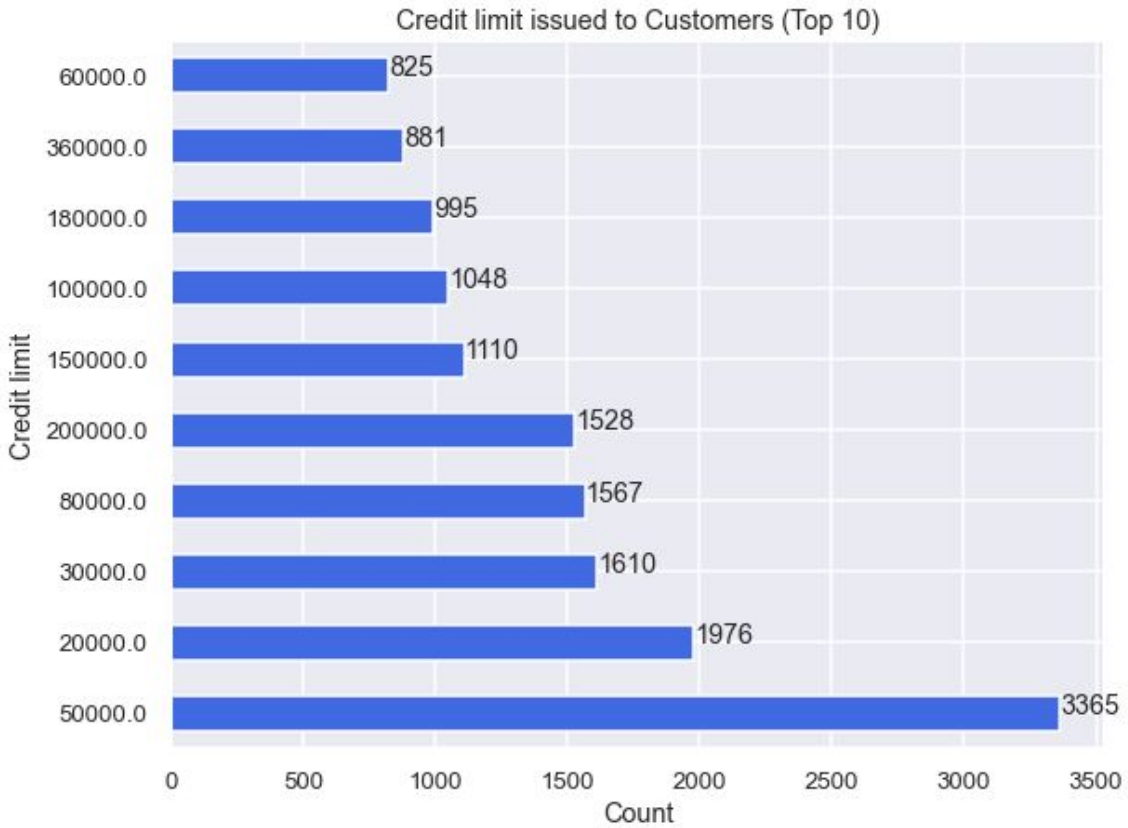
Observation the Default- Bill Amount data reveals that units… Are there any difference between unit-economics when comparing total bill amount for monthly data?

DEFAULT	Bill Amt1	Bill Amt2	Bill Amt3	Bill Amt4	Bill Amt5	Bill Amt6
0	$ 1,214,693,126.00	$ 1,160,998,167.00	$ 1,110,569,554.00	$ 1,018,131,265.00	$ 945,453,325.00	$ 911,783,566.00
1	$ 321,806,801.00	$ 313,774,088.00	$ 299,825,090.00	$ 278,957,204.00	$ 262,388,704.00	$ 253,869,246.00

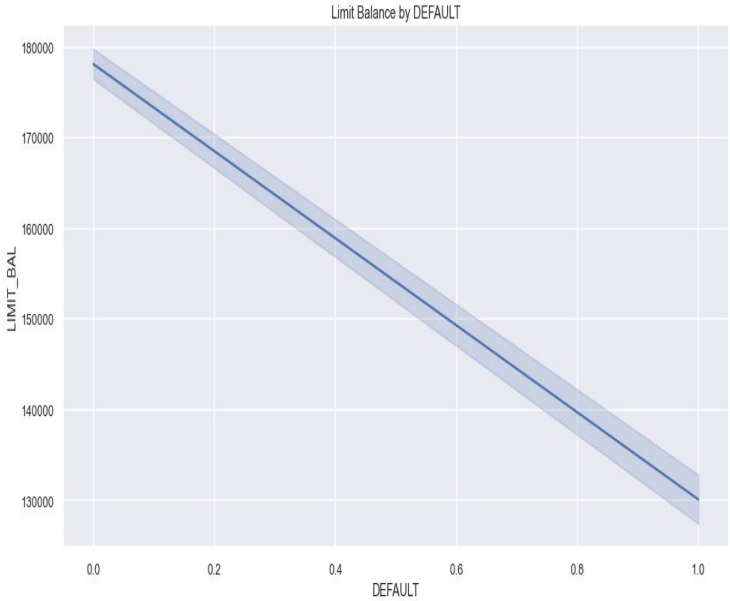


'BILL_AMT#' shows similar trends like default and non default bill amount decrease follow each month. Highest Bill Amount above 1 M and lowest one approximately -2T from September 2005.

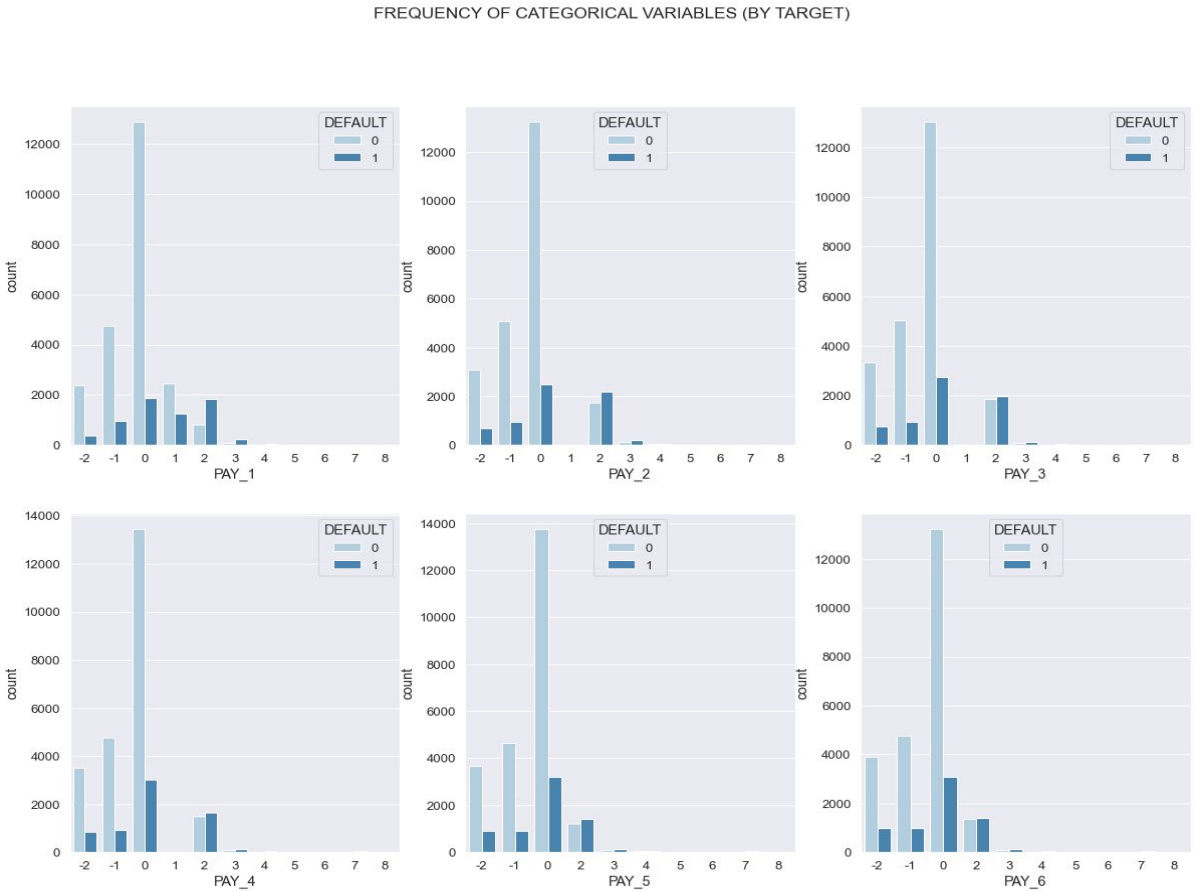
There are more customer who has 50000 NT dollars as the limit which is almost twice than the number of customers having limit as 20000 dollars. Credit limit has negative relation with default.



What is happening with Credit Limit? Are there any particularly large fluctuations which the executives should focus on?



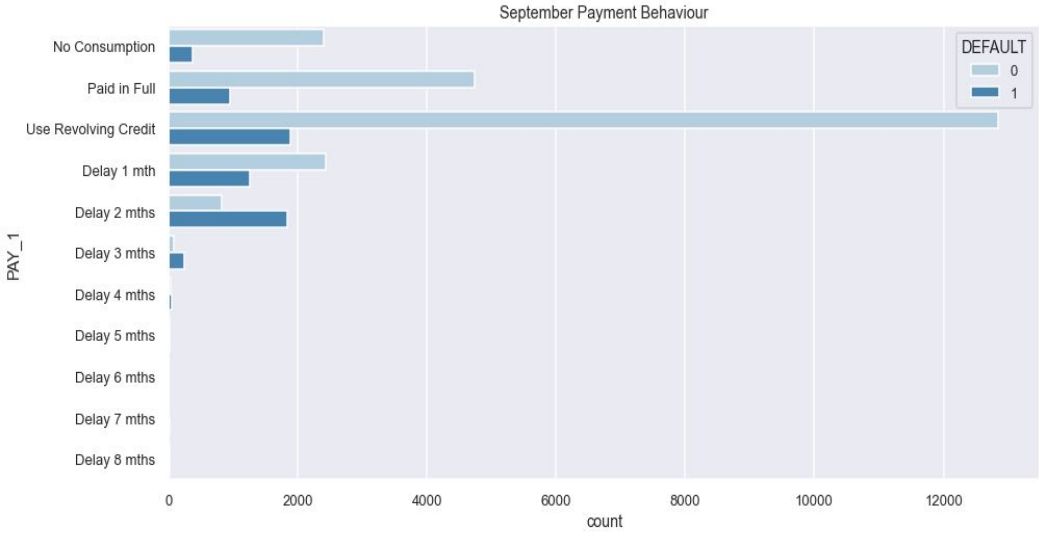
What is happening with Payment Status? Are there any particularly large fluctuations that the executives should focus on?



It seems that PAY_1 (Repayment status in September) and PAY_2 (Repayment status in August) have more discriminatory power the repayment status in other months.Each month, paid minimum only(0) has a lower chance default, but late 2 month(2) and after repayment tend to default.

Pay 1	Status	DEFAULT	NONDEFAULT
-2	Paid duly	365	2394
-1	Paid in Full	954	4732
0	Use Revolving Credit	1888	12849
1	Delay 1 mth	1252	2436
2	Delay 2 mth	1844	823
3	Delay 3 mth	244	78
4	Delay 4 mth	52	24
5	Delay 5 mth	13	13
6	Delay 6 mth	6	5
7	Delay 7 mth	7	2
8	Delay 8 mth	11	8

Those Using Revolving Credit (paid only minimum) and those delayed for 2 months have the highest Default Count. When payment is delayed more than 2 months, the chances of default goes higher than 50%.



PAY_# has the highest correlation values than other variable. Also Education and Age has a positive correlation. **LIMIT of credit balance** has highest negative correlation.