

Financial Risk Management Team Assignment 3

Team 4: Jiani Zhou, Howard Geeng, Xiaoyang Li, Devet Valecha, Jiameng Ma

## Part 2. Prediction

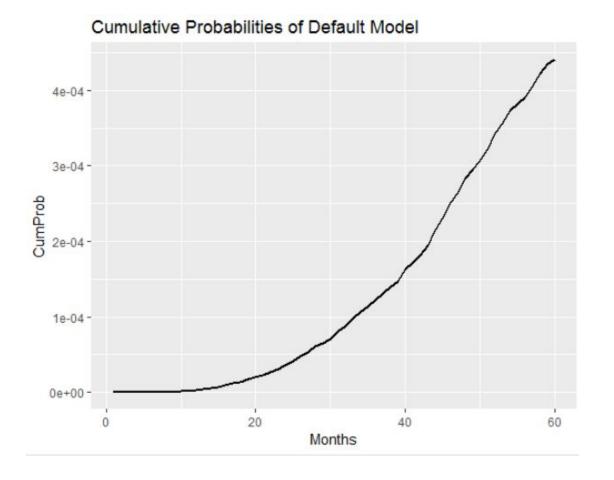
- For the default model-
  - the variables chosen were: CSCORE B, pneg, spread, cvr, DTI
  - starting by modelling with all variables, and the deleted the statistically insignificant ones.
  - Then checked the variables by trial and error to minimise AIC and kept the ones which deliver the lowest AIC
- For the prepaid model-
  - the variables chosen were: CSCORE\_B, pneq, OLTV, ue, cvr, DTI
  - starting by modelling with all variables, and the deleted the statistically insignificant ones.
  - Then checked the variables by trial and error to minimise AIC and kept the ones which deliver the lowest AIC
  - Also considered concordance as a measure of performance- chose the model which had a small trade off for AIC for higher concordance
  - Although the AIC of model 3 still higher than the AIC of model 2, model 2 contains PROP\_TYP and OCC\_STAT which are not numerical variables so we eliminated those two



## Cumulative Default Probability

We picked model 6 to be our default model.

(For DTI, we removed the NA values)





## Cumulative Prepayment Probability

We picked model 3 to be our prepayment model.

(Although the AIC of model 3 still higher than the AIC of model 2, model 2 contains PROP\_TYP and OCC\_STAT which are not numerical variables so we eliminated those two.)

