Ozyegin University GLM

## HOMEWORK ASSIGNMENT I

- Work individually.
- Submit a code and a short explanation along the code
- Any type of plagiarism will not be tolerated and will lead to disciplinary actions.
- Due Date: 26th of October 2020, 13:00. Please submit your report through LMS. Only ONE submission per person.

## 1 Introduction

In this assignment, you are expected to predict the industry output of different firms. Please use firm.csv to construct your model and employ a test train split based approach to validate your model. Our performance indicator will be "Mean Square Error" over the test data. The explanation of the data is given below. If you have any questions, please send an email to: orsan.ozener@ozyegin.edu.tr

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The variables in the file are
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IND = industry code

YEAR = year, 1977 to 1984

EMP = firm employment

WAGE = wage

CAP = capital

INDOUTPT = industry output - TARGET VARIABLE

NI = log EMP

 $W = \log WAGE$ 

 $K = \log CAP$ 

YS = log IDOUTPT

REC = line number 1-1031

YEARM1 = lag of YEAR.

 ${\rm ID}={\rm firm}~{\rm id}~{\rm number}$ 

NL1 = lag 1 of N

NL2 = lag 2 of N

WL1 = lag 1 of W

WL2 = lag 2 of W

 $\mathrm{KL}1 = \mathrm{lag}\ 1$  of  $\mathrm{K}$ 

KL2 = lag 2 of K

YSL1 = lag 1 of YS

YSL2 = lag 2 of YS