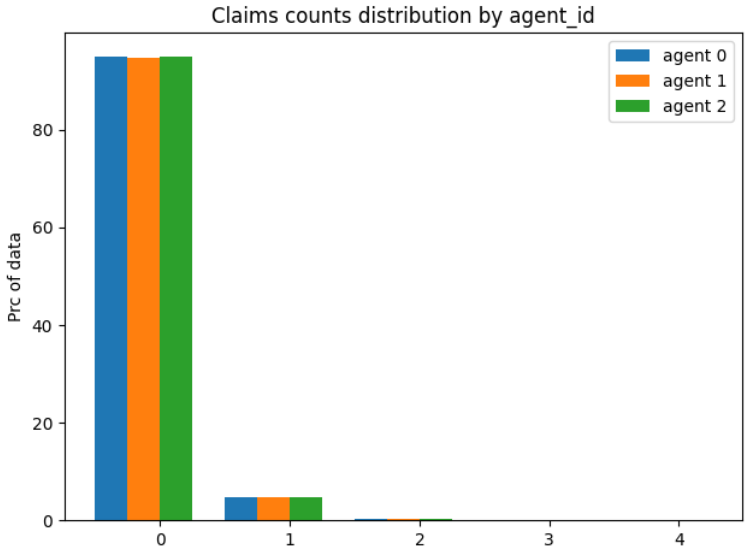
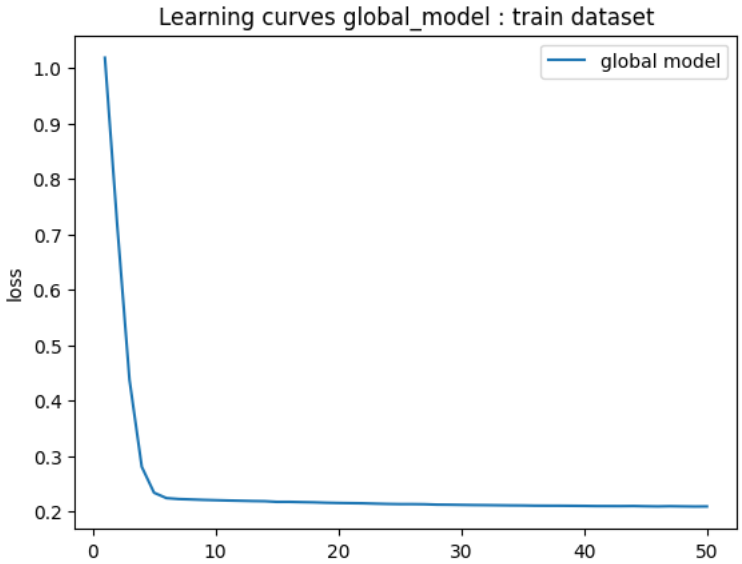
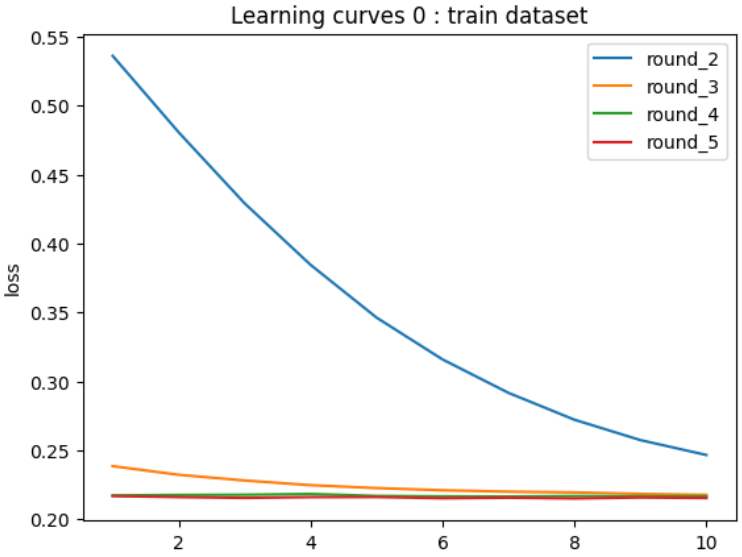
Run Results: num_agents: 5; num_rounds: 5; epochs: 10; epochs local and global: 50

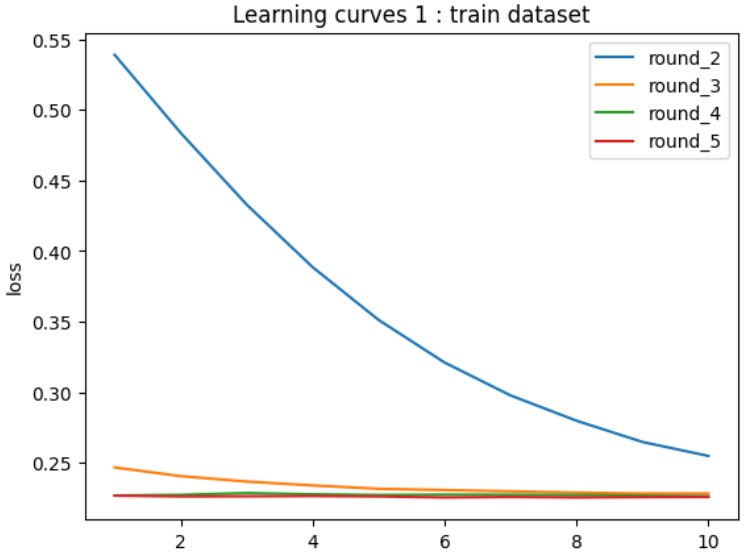
Input Data: Distribution of numbers of observed claims by FL participating parties.

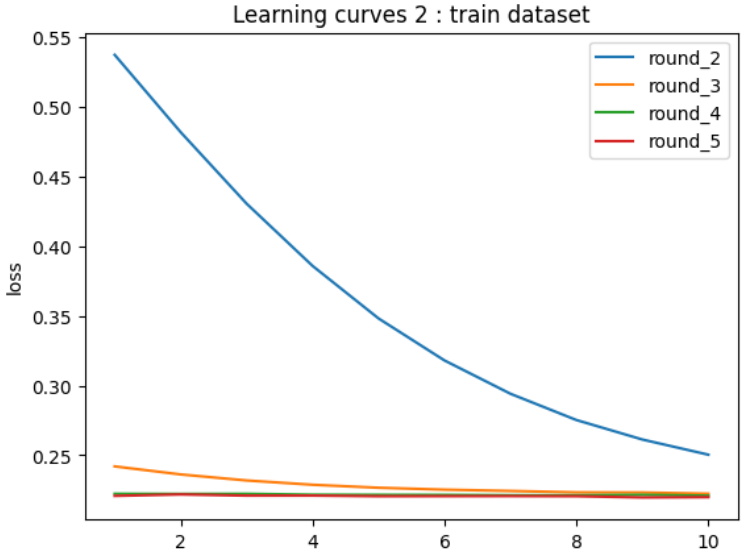


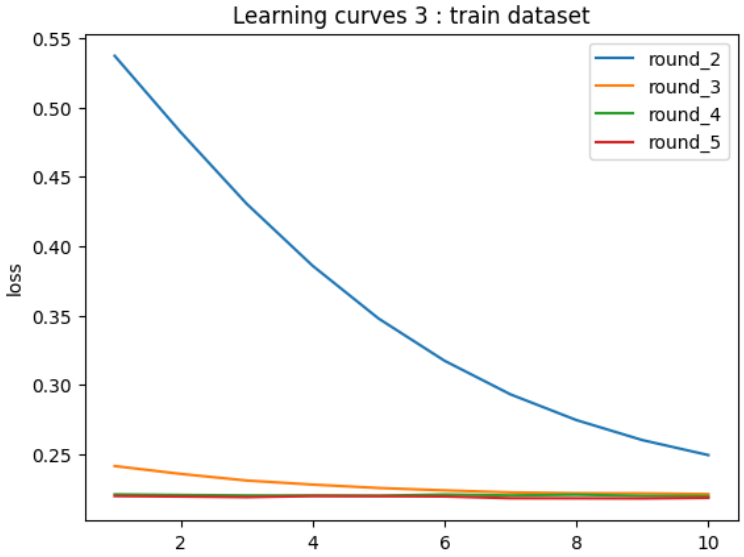
Model Training: Learning curves; Train dataset

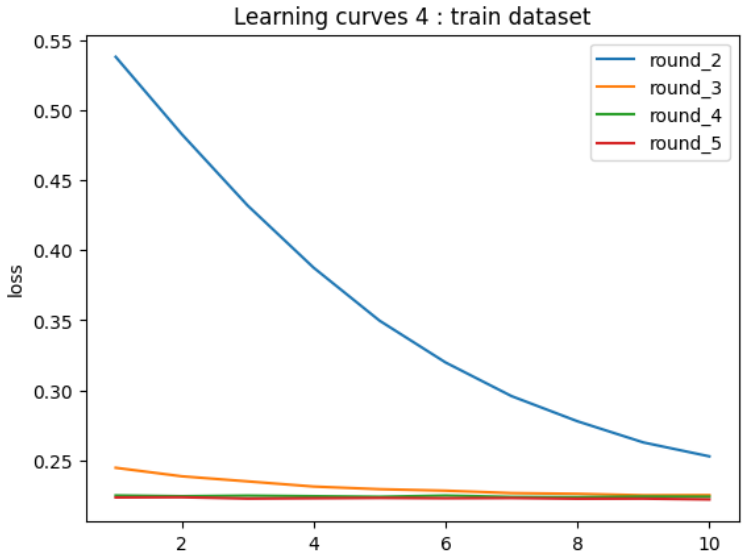



Learning curves 0 : train dataset
round_2
round_3
round_4
round_5
loss
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
2
4
6
8
10

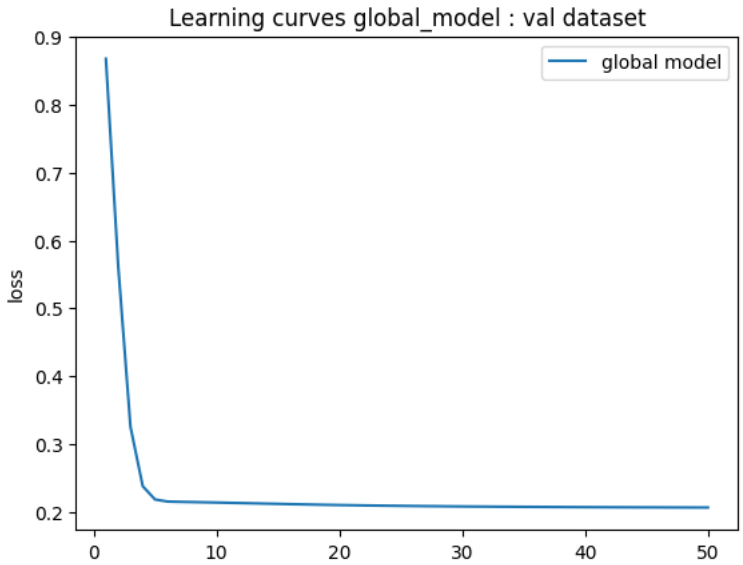

Learning curves 1 : train dataset
round_2
round_3
round_4
round_5
loss
0.55
0.50
0.45
0.40
0.35
0.30
0.25
2
4
6
8
10

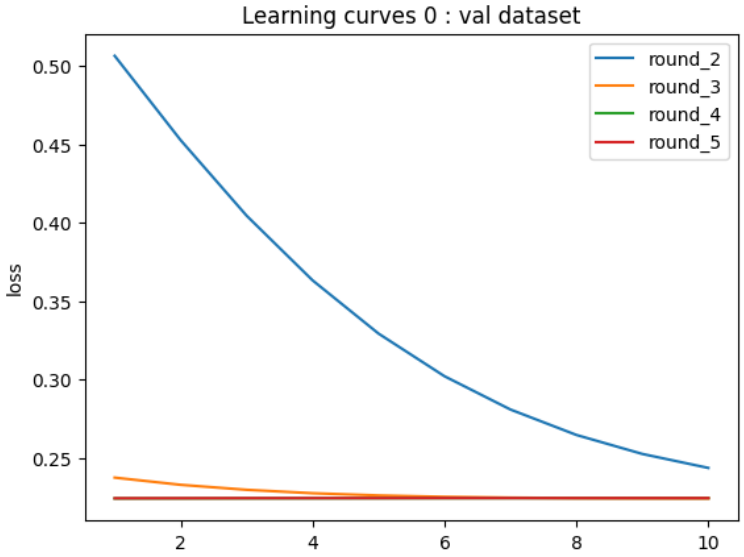

Learning curves 2 : train dataset
round_2
round_3
round_4
round_5
loss
0.55
0.50
0.45
0.40
0.35
0.30
0.25
2
4
6
8
10

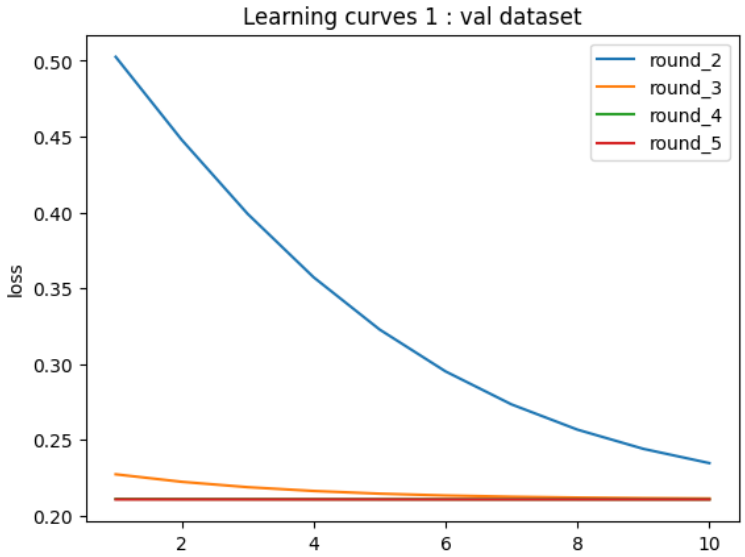


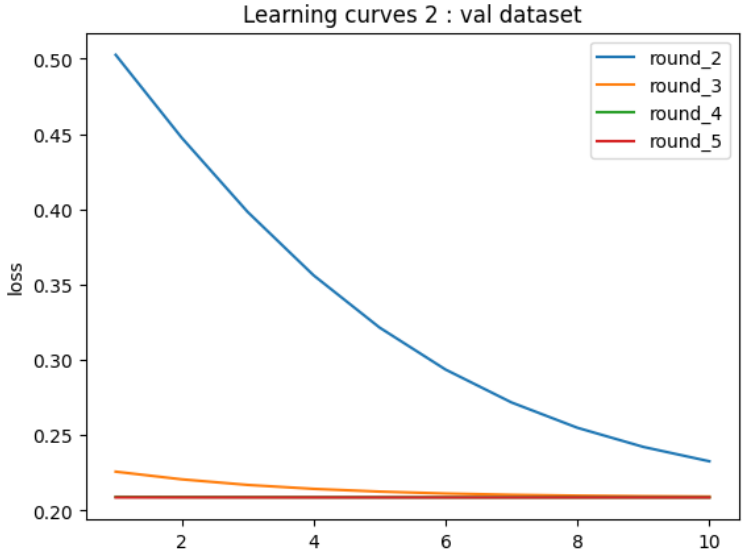


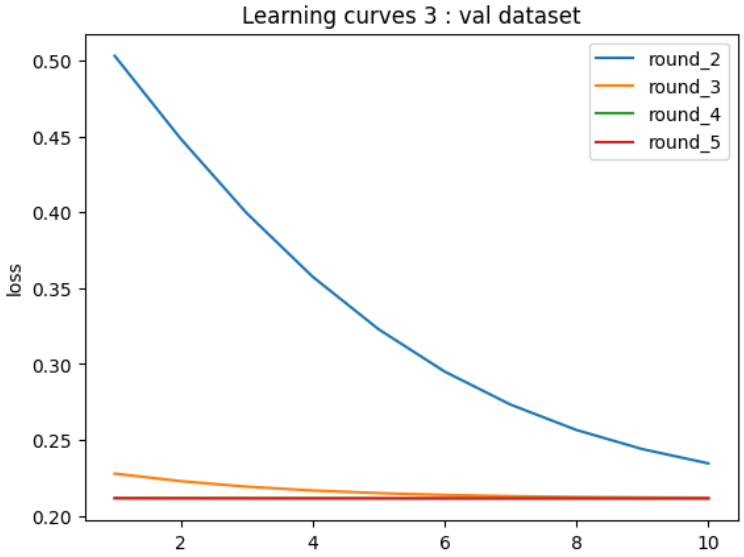
Model Training: Learning curves; Validation dataset

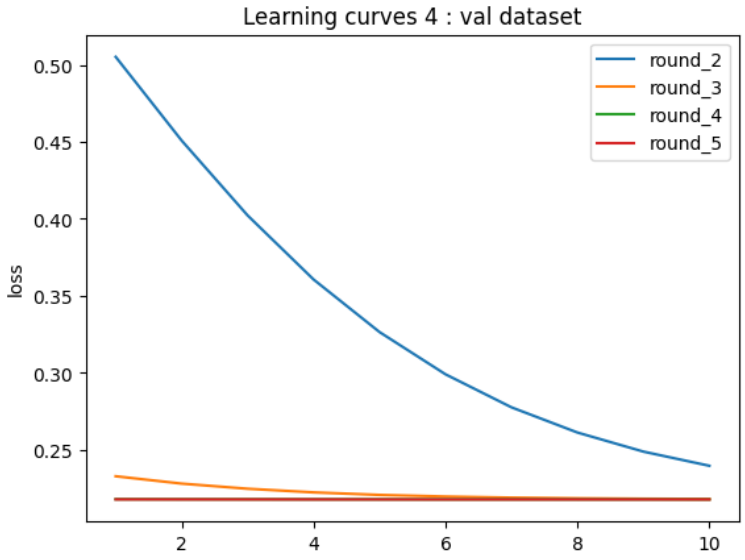



Learning curves 0 : val dataset
round_2
round_3
round_4
round_5
loss
0.50
0.45
0.40
0.35
0.30
0.25
2
4
6
8
10


Learning curves 1 : val dataset
round_2
round_3
round_4
round_5
loss
0.50
0.45
0.40
0.35
0.30
0.25
0.20
2
4
6
8
10


Learning curves 2 : val dataset
round_2
round_3
round_4
round_5
loss
0.50
0.45
0.40
0.35
0.30
0.25
0.20
2
4
6
8
10





Test statistics for FL model

Mean Poisson Deviance : 0.3237269689667244

Mean Squared Error : 0.05685399397658247

R^2 : -0.004553387838802436

Test statistics for global model

Mean Poisson Deviance : 0.3095656560718433

Mean Squared Error : 0.05601988763248561

R^2 : 0.010184439623687869

Test statistics for agent_no 0

Mean Poisson Deviance : 0.32398917470492766

Mean Squared Error : 0.05684807527085227

R^2 : -0.0044488102097384186

Test statistics for agent_no 1

Mean Poisson Deviance : 0.32365479185147206

Mean Squared Error : 0.056867329194047536

R^2 : -0.004789007835660053

Test statistics for agent_no 2

Mean Poisson Deviance : 0.32376905644838955

Mean Squared Error : 0.056854401287183776

R^2 : -0.0045605846110226

Test statistics for agent_no 3

Mean Poisson Deviance : 0.3239493116788586

Mean Squared Error : 0.05685227691825754

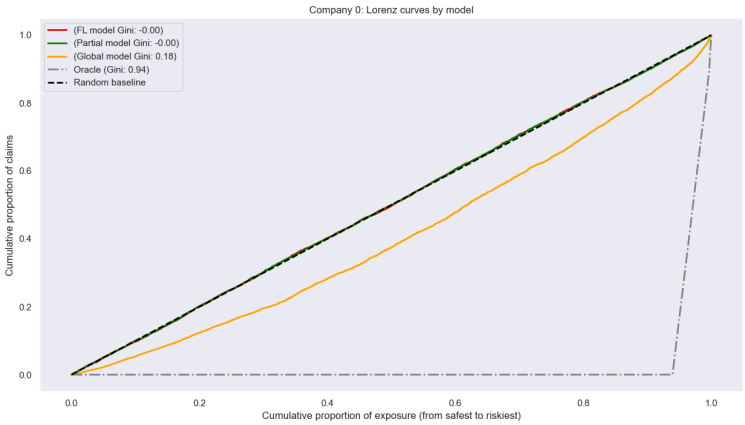
R^2 : -0.004523049130177537

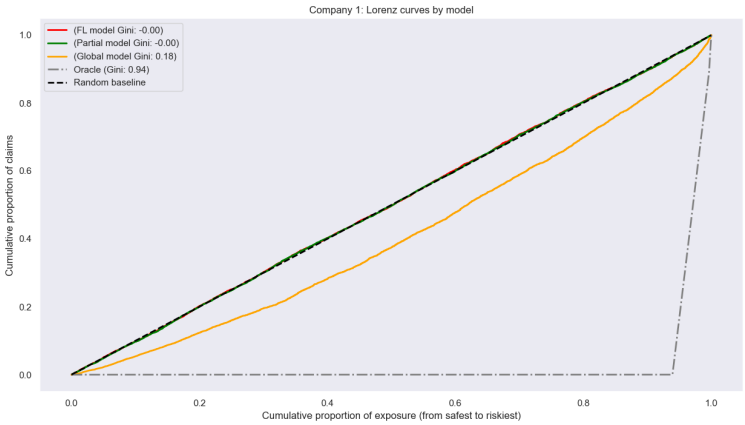
Test statistics for agent_no 4

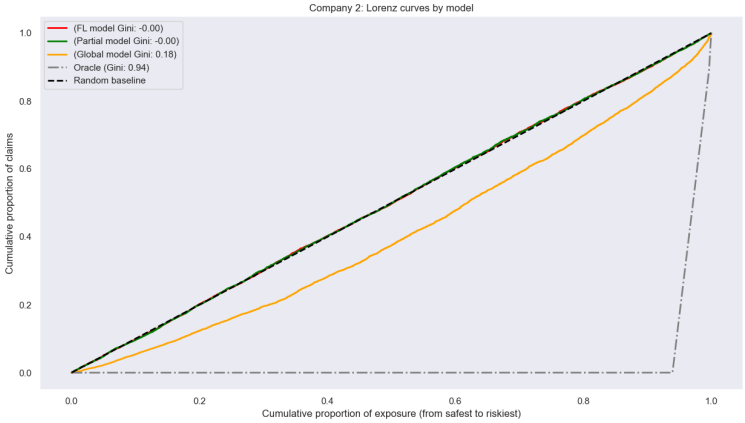
Mean Poisson Deviance : 0.3236145820743307

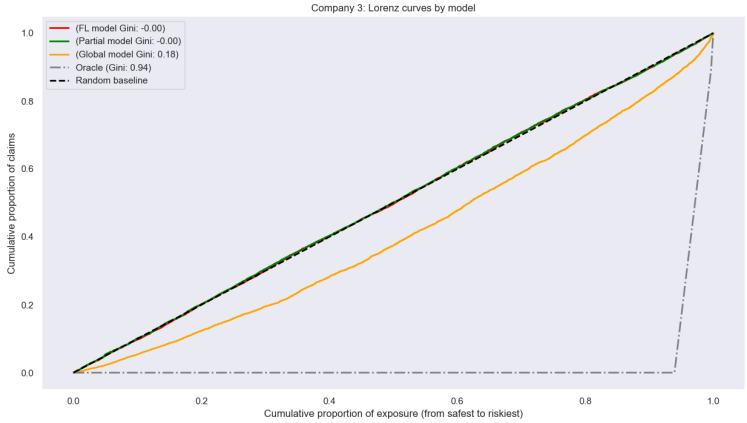
Mean Squared Error : 0.05685574421050686

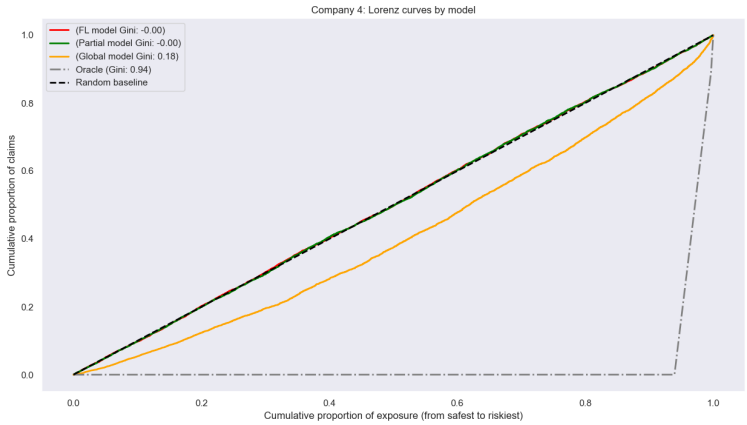
R^2 : -0.00458431272719273

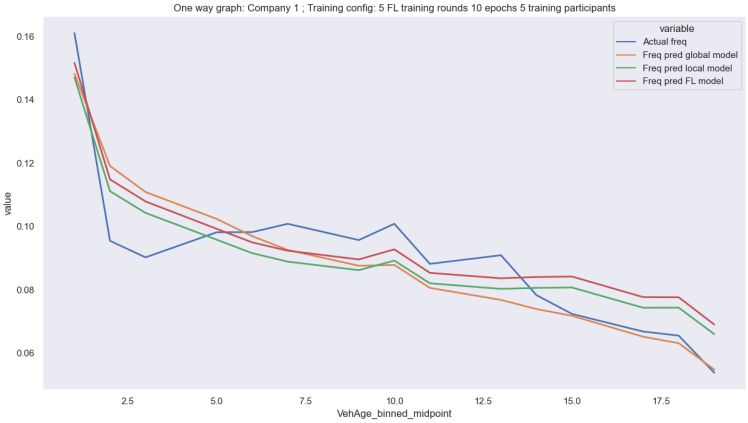

Company 0: Lorenz curves by model
(FL model Gini: -0.00)
(Partial model Gini: -0.00)
(Global model Gini: 0.18)
Oracle (Gini: 0.94)
Random baseline
Cumulative proportion of claims
Cumulative proportion of exposure (from safest to riskiest)
0.0
0.2
0.4
0.6
0.8
1.0


Company 1: Lorenz curves by model
(FL model Gini: -0.00)
(Partial model Gini: -0.00)
(Global model Gini: 0.18)
Oracle (Gini: 0.94)
Random baseline
Cumulative proportion of claims
Cumulative proportion of exposure (from safest to riskiest)
0.0
0.2
0.4
0.6
0.8
1.0


Company 2: Lorenz curves by model
(FL model Gini: -0.00)
(Partial model Gini: -0.00)
(Global model Gini: 0.18)
Oracle (Gini: 0.94)
Random baseline
Cumulative proportion of claims
Cumulative proportion of exposure (from safest to riskiest)
0.0
0.2
0.4
0.6
0.8
1.0

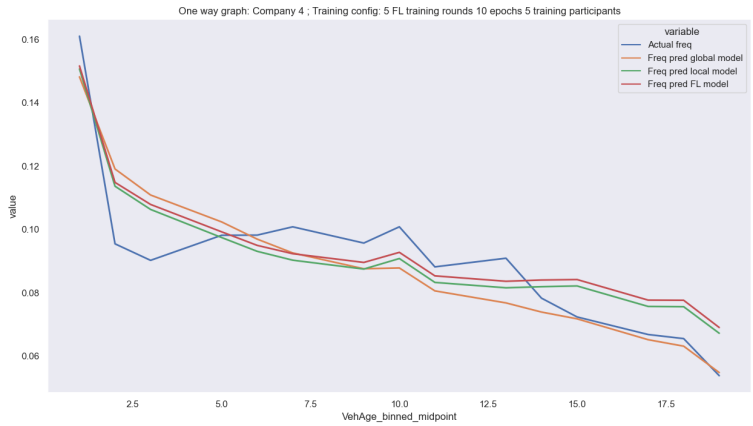

Company 3: Lorenz curves by model
(FL model Gini: -0.00)
(Partial model Gini: -0.00)
(Global model Gini: 0.18)
Oracle (Gini: 0.94)
Random baseline
Cumulative proportion of claims
Cumulative proportion of exposure (from safest to riskiest)


Company 4: Lorenz curves by model
(FL model Gini: -0.00)
(Partial model Gini: -0.00)
(Global model Gini: 0.18)
Oracle (Gini: 0.94)
Random baseline
Cumulative proportion of claims
Cumulative proportion of exposure (from safest to riskiest)


One way graph: Company 1 ; Training config: 5 FL training rounds 10 epochs 5 training participants
variable
Actual freq
Freq pred global model
Freq pred local model
Freq pred FL model
value
VehAge_binned_midpoint


One way graph: Company 2 ; Training config: 5 FL training rounds 10 epochs 5 training participants
variable
Actual freq
Freq pred global model
Freq pred local model
Freq pred FL model
value
0.16
0.14
0.12
0.10
0.08
0.06
2.5
5.0
7.5
10.0
12.5
15.0
17.5
VehAge_binned_midpoint


One way graph: Company 3 ; Training config: 5 FL training rounds 10 epochs 5 training participants
variable
Actual freq
Freq pred global model
Freq pred local model
Freq pred FL model
value
0.16
0.14
0.12
0.10
0.08
0.06
2.5
5.0
7.5
10.0
12.5
15.0
17.5
VehAge_binned_midpoint


One way graph: Company 4 ; Training config: 5 FL training rounds 10 epochs 5 training participants
variable
Actual freq
Freq pred global model
Freq pred local model
Freq pred FL model
value
0.16
0.14
0.12
0.10
0.08
0.06
2.5
5.0
7.5
10.0
12.5
15.0
17.5
VehAge_binned_midpoint


One way graph: Company 5 ; Training config: 5 FL training rounds 10 epochs 5 training participants
variable
Actual freq
Freq pred global model
Freq pred local model
Freq pred FL model
value
0.16
0.14
0.12
0.10
0.08
0.06
2.5
5.0
7.5
10.0
12.5
15.0
17.5
VehAge_binned_midpoint