Logistic Regression:

% forcasted\_total\_ratio = 0.1;

at month 3:

result\_PAI = 0.018358, result\_PEI = 0.002666, overlap\_cell\_number = 41.000000, overlap\_cell\_number\_ratio = 0.162055

at month 4:

result\_PAI = 0.011870, result\_PEI = 0.001744, overlap\_cell\_number = 42.000000, overlap\_cell\_number\_ratio = 0.166008

at month 5:

result\_PAI = 0.017613, result\_PEI = 0.002586, overlap\_cell\_number = 40.000000, overlap\_cell\_number\_ratio = 0.158103

at month 6:

result\_PAI = 0.015760, result\_PEI = 0.002350, overlap\_cell\_number = 42.000000, overlap\_cell\_number\_ratio = 0.166008

at month 7:

result\_PAI = 0.013692, result\_PEI = 0.002032, overlap\_cell\_number = 41.000000, overlap\_cell\_number\_ratio = 0.162055

at month 8:

result\_PAI = 0.013978, result\_PEI = 0.002065, overlap\_cell\_number = 41.000000, overlap\_cell\_number\_ratio = 0.162055

at month 9:

result\_PAI = 0.015238, result\_PEI = 0.002255, overlap\_cell\_number = 40.000000, overlap\_cell\_number\_ratio = 0.158103

at month 10:

result\_PAI = 0.019072, result\_PEI = 0.002811, overlap\_cell\_number = 41.000000, overlap\_cell\_number\_ratio = 0.162055

at month 11:

result\_PAI = 0.010082, result\_PEI = 0.001483, overlap\_cell\_number = 42.000000, overlap\_cell\_number\_ratio = 0.166008

at month 12:

result\_PAI = 0.019571, result\_PEI = 0.002926, overlap\_cell\_number = 41.000000, overlap\_cell\_number\_ratio = 0.162055

Gaussian process:

% forcasted\_total\_ratio = 0.005;

at month 3:

result\_PAI = 23.151485, result\_PEI = 0.863079, overlap\_cell\_number = 7.000000, overlap\_cell\_number\_ratio = 0.538462

at month 4:

result\_PAI = 22.570601, result\_PEI = 0.875132, overlap\_cell\_number = 8.000000, overlap\_cell\_number\_ratio = 0.615385

at month 5:

result\_PAI = 22.939356, result\_PEI = 0.861813, overlap\_cell\_number = 7.000000, overlap\_cell\_number\_ratio = 0.538462

at month 6:

result\_PAI = 21.803217, result\_PEI = 0.872465, overlap\_cell\_number = 8.000000, overlap\_cell\_number\_ratio = 0.615385

at month 7:

result\_PAI = 21.444872, result\_PEI = 0.865335, overlap\_cell\_number = 7.000000, overlap\_cell\_number\_ratio = 0.538462

at month 8:

result\_PAI = 23.184691, result\_PEI = 0.877398, overlap\_cell\_number = 8.000000, overlap\_cell\_number\_ratio = 0.615385

at month 9:

result\_PAI = 22.886068, result\_PEI = 0.876543, overlap\_cell\_number = 8.000000, overlap\_cell\_number\_ratio = 0.615385

at month 10:

result\_PAI = 23.171970, result\_PEI = 0.863210, overlap\_cell\_number = 7.000000, overlap\_cell\_number\_ratio = 0.538462

at month 11:

result\_PAI = 23.083072, result\_PEI = 0.863208, overlap\_cell\_number = 8.000000, overlap\_cell\_number\_ratio = 0.615385

at month 12:

result\_PAI = 22.823543, result\_PEI = 0.848122, overlap\_cell\_number = 7.000000, overlap\_cell\_number\_ratio = 0.538462

Predict by mean:

% forcasted\_total\_ratio = 0.005;

at month 3:

result\_PAI = 26.195477, result\_PEI = 0.976558, overlap\_cell\_number = 9.000000, overlap\_cell\_number\_ratio = 0.692308

at month 4:

result\_PAI = 25.424199, result\_PEI = 0.985774, overlap\_cell\_number = 9.000000, overlap\_cell\_number\_ratio = 0.692308

at month 5:

result\_PAI = 25.773816, result\_PEI = 0.968301, overlap\_cell\_number = 8.000000, overlap\_cell\_number\_ratio = 0.615385

at month 6:

result\_PAI = 24.416936, result\_PEI = 0.977054, overlap\_cell\_number = 8.000000, overlap\_cell\_number\_ratio = 0.615385

at month 7:

result\_PAI = 24.706015, result\_PEI = 0.996928, overlap\_cell\_number = 10.000000, overlap\_cell\_number\_ratio = 0.769231

at month 8:

result\_PAI = 25.966854, result\_PEI = 0.982686, overlap\_cell\_number = 9.000000, overlap\_cell\_number\_ratio = 0.692308

at month 9:

result\_PAI = 25.542141, result\_PEI = 0.978272, overlap\_cell\_number = 9.000000, overlap\_cell\_number\_ratio = 0.692308

at month 10:

result\_PAI = 26.181145, result\_PEI = 0.975309, overlap\_cell\_number = 9.000000, overlap\_cell\_number\_ratio = 0.692308

at month 11:

result\_PAI = 25.605812, result\_PEI = 0.957547, overlap\_cell\_number = 9.000000, overlap\_cell\_number\_ratio = 0.692308

at month 12:

result\_PAI = 26.617701, result\_PEI = 0.989113, overlap\_cell\_number = 10.000000, overlap\_cell\_number\_ratio = 0.769231