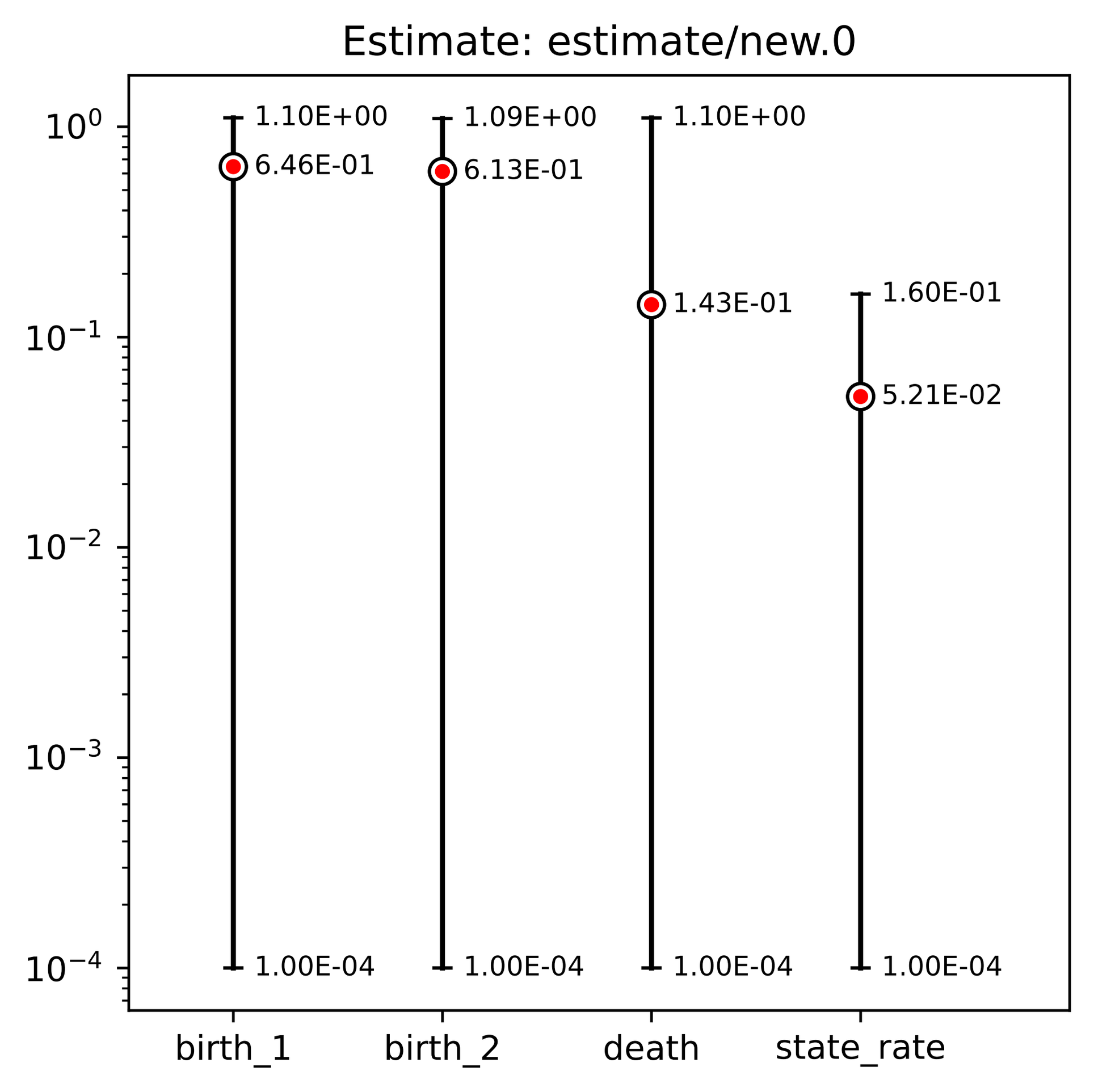
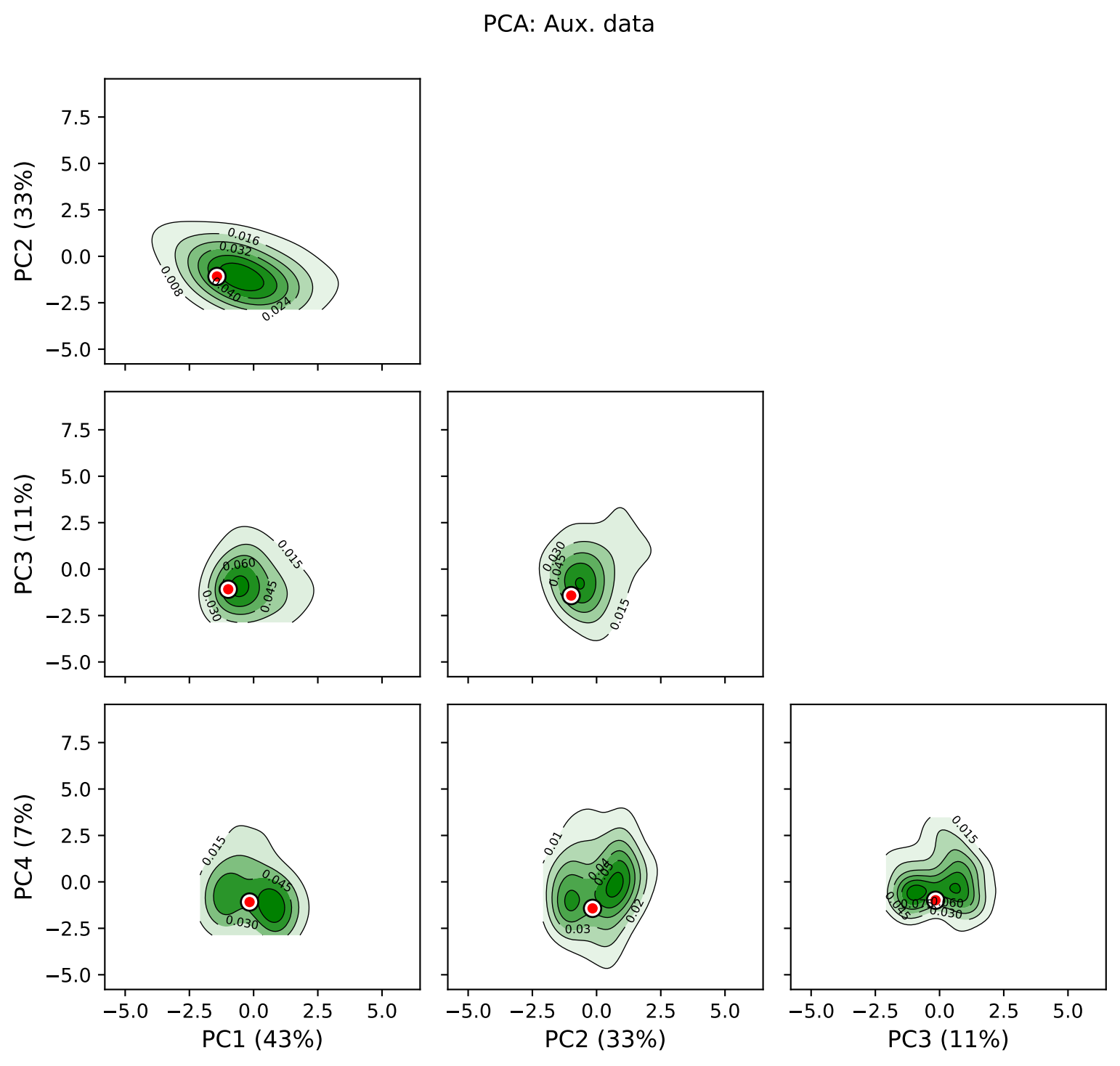
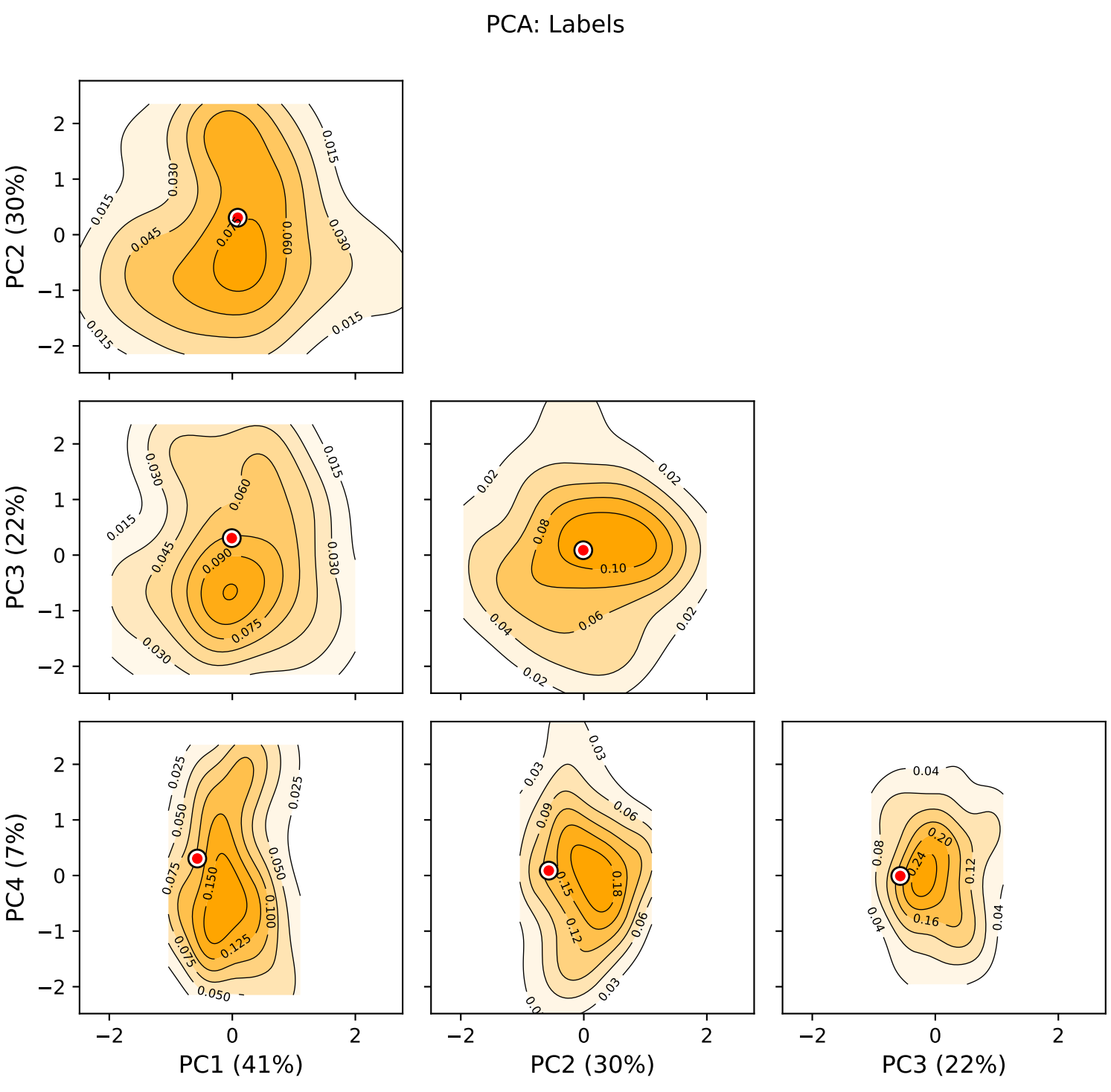
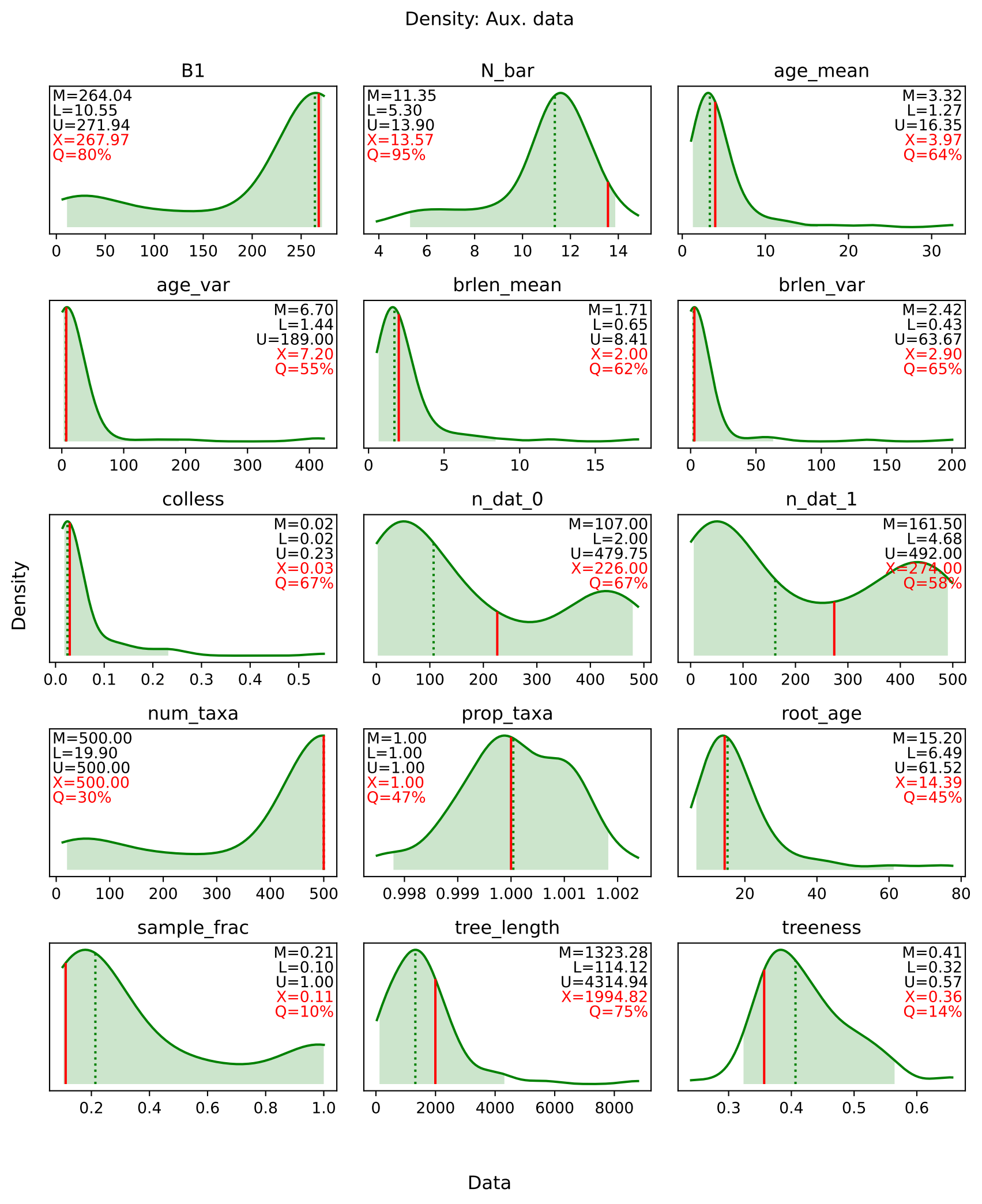
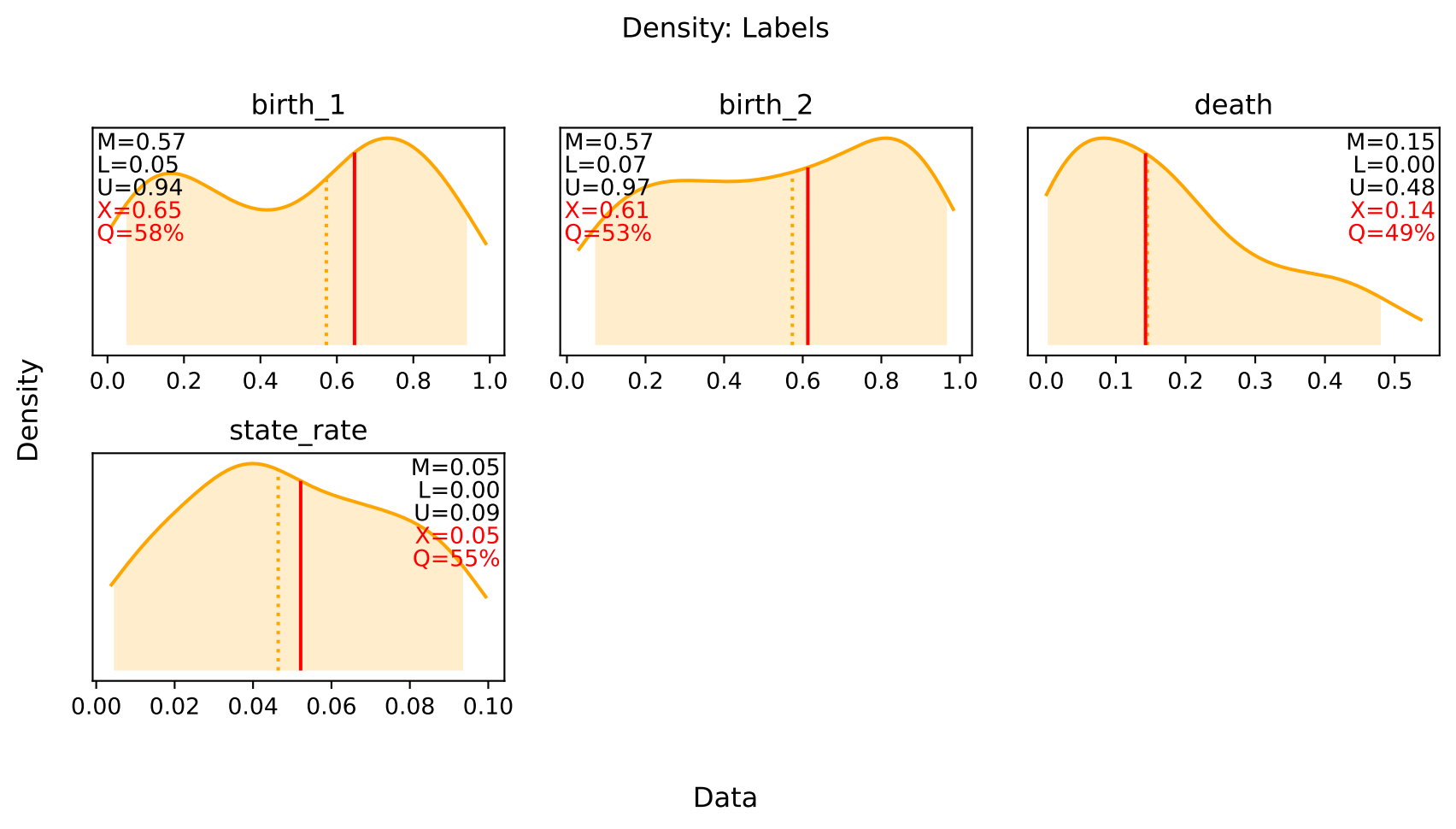
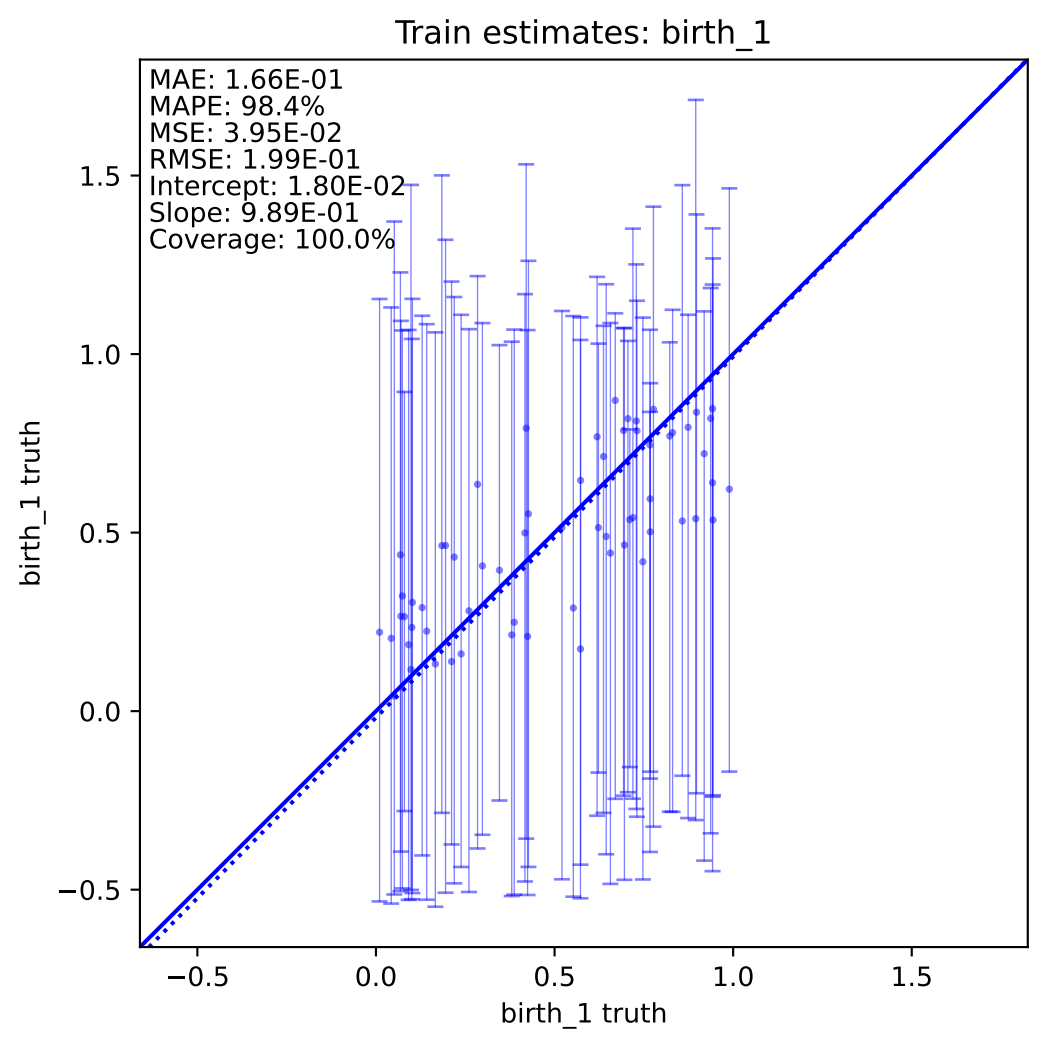

Estimate: estimate/new.0
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
1.10E+00
6.46E-01
1.00E-04
1.09E+00
6.13E-01
1.00E-04
1.10E+00
1.43E-01
1.00E-04
1.60E-01
5.21E-02
1.00E-04
birth_1
birth_2
death
state_rate

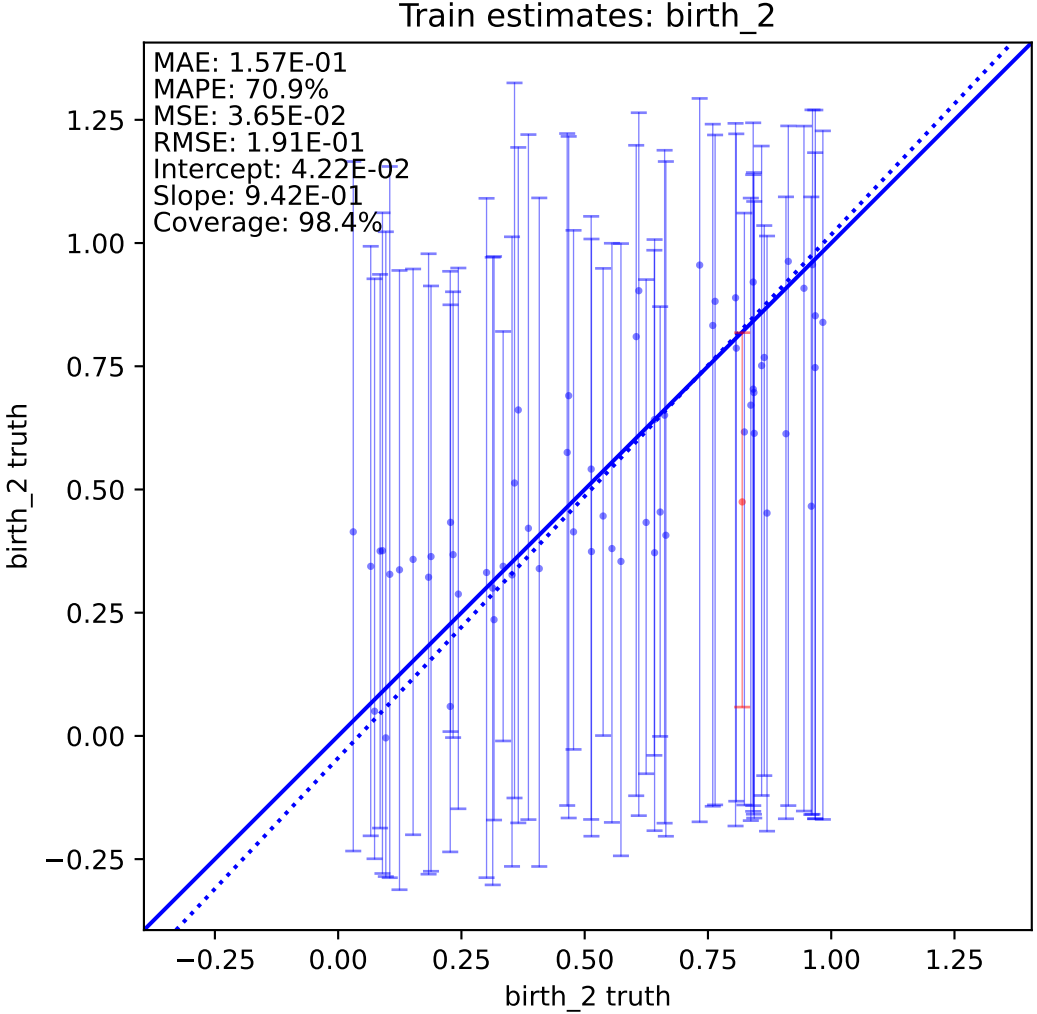

PCA: Aux. data
PC1 (43%)
PC2 (33%)
PC3 (11%)
PC4 (7%)

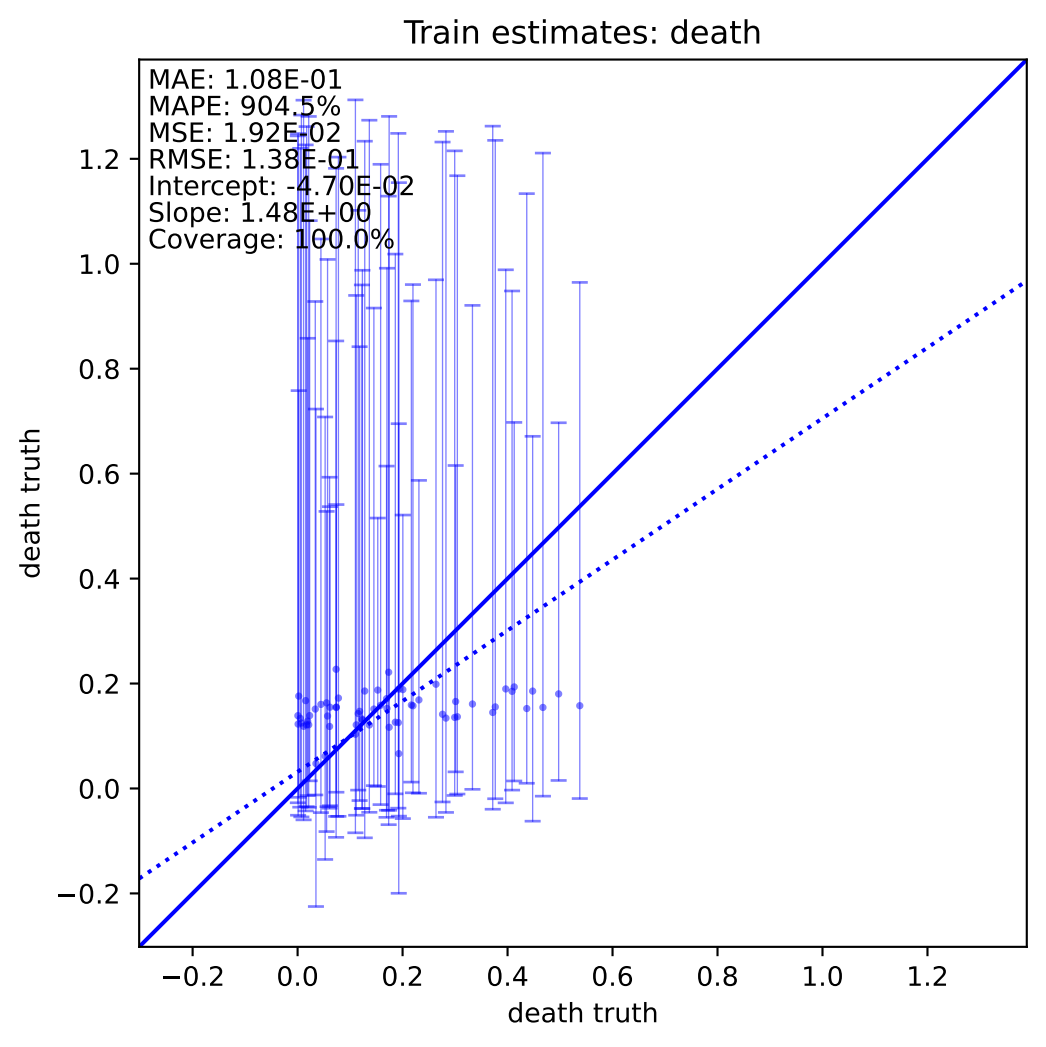

PCA: Labels
PC2 (30%)
PC3 (22%)
PC4 (7%)
PC1 (41%)
PC2 (30%)
PC3 (22%)

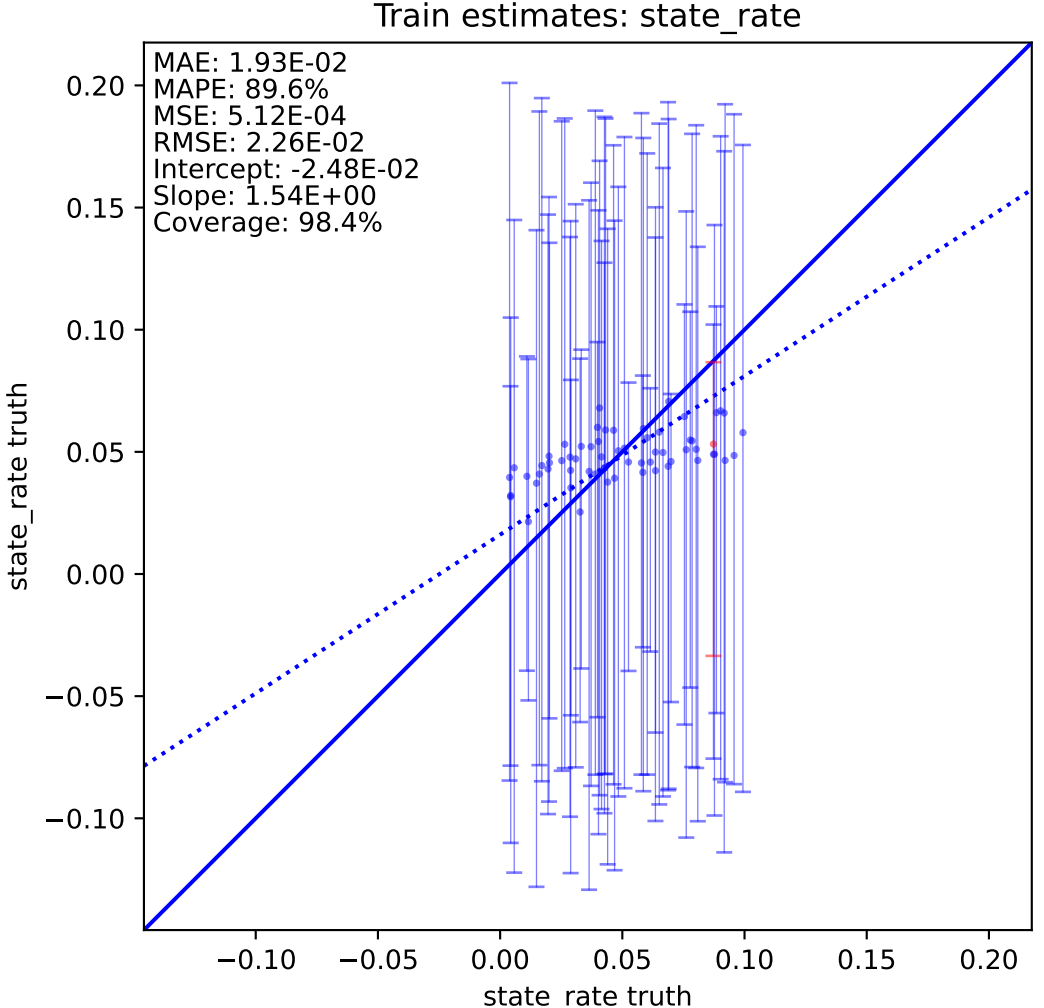

Density: Aux. data
B1
M=264.04
L=10.55
U=271.94
X=267.97
Q=80%
N_bar
M=11.35
L=5.30
U=13.90
X=13.57
Q=95%
age_mean
M=3.32
L=1.27
U=16.35
X=3.97
Q=64%
age_var
M=6.70
L=1.44
U=189.00
X=7.20
Q=55%
brlen_mean
M=1.71
L=0.65
U=8.41
X=2.00
Q=62%
brlen_var
M=2.42
L=0.43
U=63.67
X=2.90
Q=65%
colless
M=0.02
L=0.02
U=0.23
X=0.03
Q=67%
n_dat_0
M=107.00
L=2.00
U=479.75
X=226.00
Q=67%
n_dat_1
M=161.50
L=4.68
U=492.00
X=274.00
Q=58%
num_taxa
M=500.00
L=19.90
U=500.00
X=500.00
Q=30%
prop_taxa
M=1.00
L=1.00
U=1.00
X=1.00
Q=47%
root_age
M=15.20
L=6.49
U=61.52
X=14.39
Q=45%
sample_frac
M=0.21
L=0.10
U=1.00
X=0.11
Q=10%
tree_length
M=1323.28
L=114.12
U=4314.94
X=1994.82
Q=75%
treeness
M=0.41
L=0.32
U=0.57
X=0.36
Q=14%
Density
Data

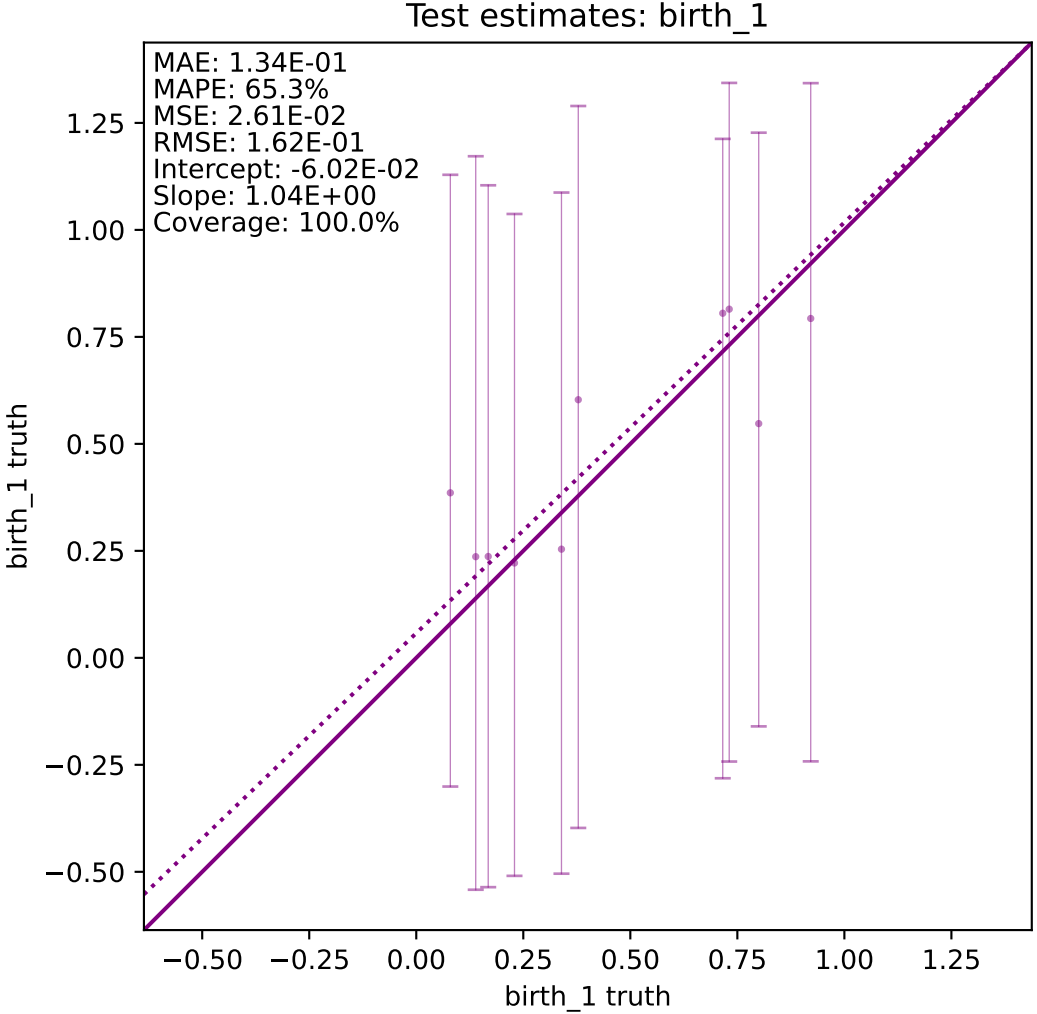

Density: Labels
birth_1
M=0.57
L=0.05
U=0.94
X=0.65
Q=58%
0.0
0.2
0.4
0.6
0.8
1.0
birth_2
M=0.57
L=0.07
U=0.97
X=0.61
Q=53%
0.0
0.2
0.4
0.6
0.8
1.0
death
M=0.15
L=0.00
U=0.48
X=0.14
Q=49%
0.0
0.1
0.2
0.3
0.4
0.5
state_rate
M=0.05
L=0.00
U=0.09
X=0.05
Q=55%
0.00
0.02
0.04
0.06
0.08
0.10
Density
Data

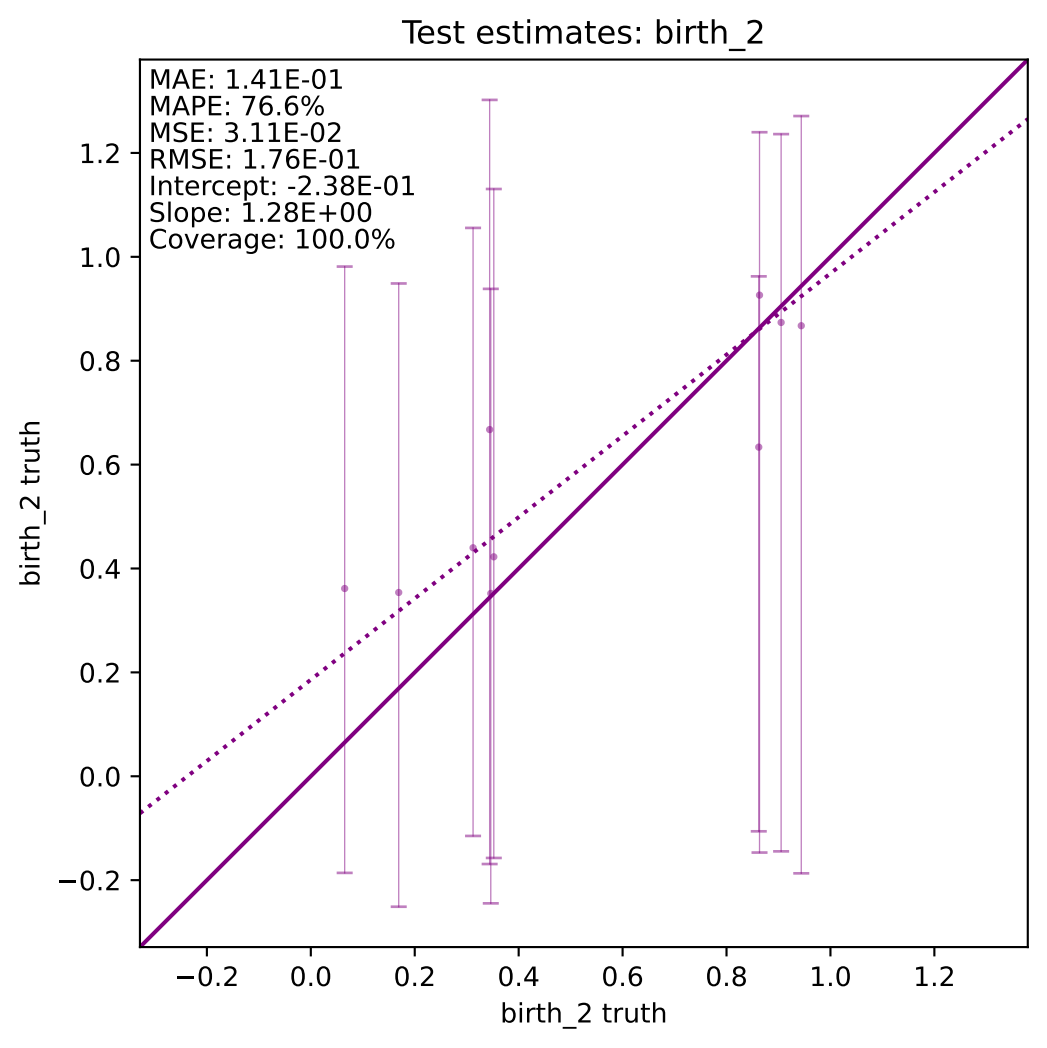

Train estimates: birth_1
MAE: 1.66E-01
MAPE: 98.4%
MSE: 3.95E-02
RMSE: 1.99E-01
Intercept: 1.80E-02
Slope: 9.89E-01
Coverage: 100.0%
birth_1 truth
birth_1 truth
1.5
1.0
0.5
0.0
−0.5
−0.5
0.0
0.5
1.0
1.5

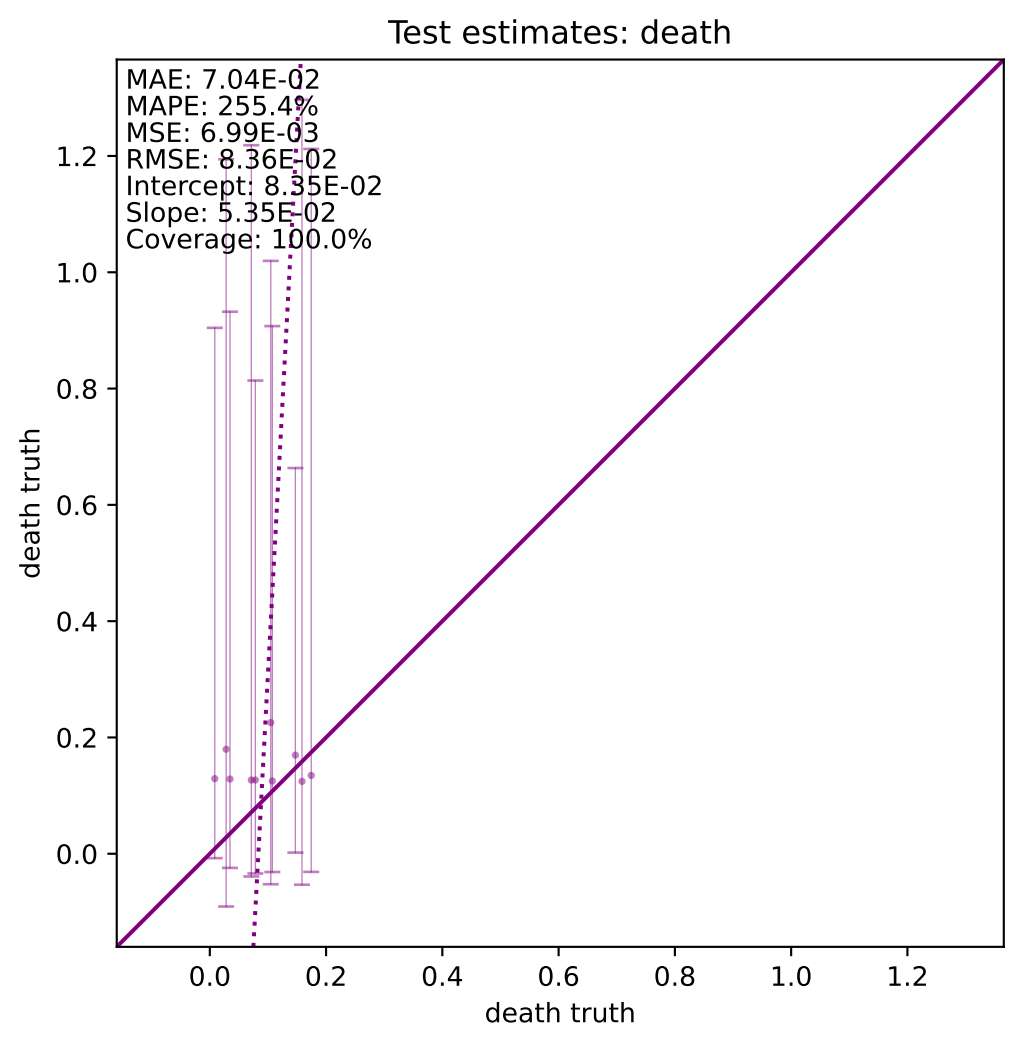

Train estimates: birth_2
MAE: 1.57E-01
MAPE: 70.9%
MSE: 3.65E-02
RMSE: 1.91E-01
Intercept: 4.22E-02
Slope: 9.42E-01
Coverage: 98.4%
birth_2 truth
birth_2 truth
1.25
1.00
0.75
0.50
0.25
0.00
−0.25
−0.25
0.00
0.25
0.50
0.75
1.00
1.25

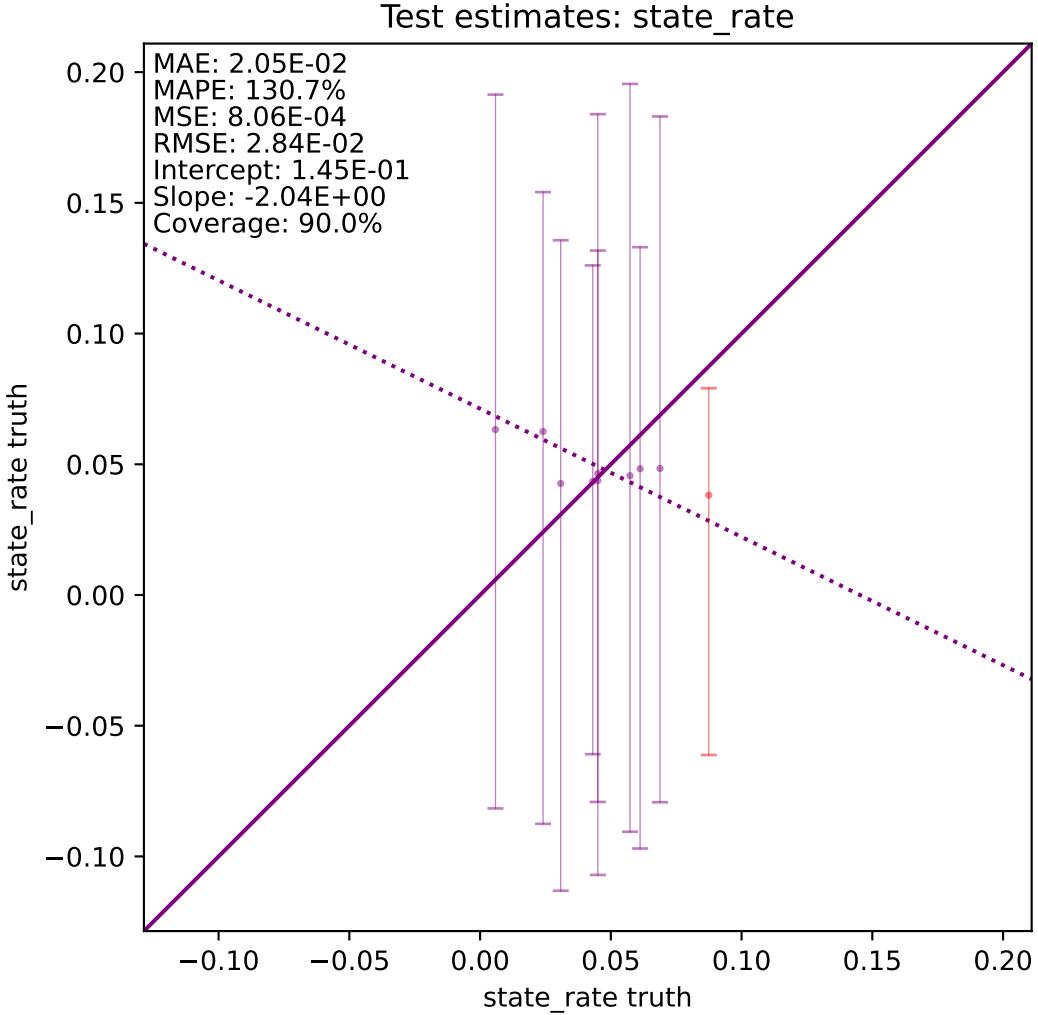

Train estimates: death
MAE: 1.08E-01
MAPE: 904.5%
MSE: 1.92E-02
RMSE: 1.38E-01
Intercept: -4.70E-02
Slope: 1.48E+00
Coverage: 100.0%
death truth
death truth
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
1.2

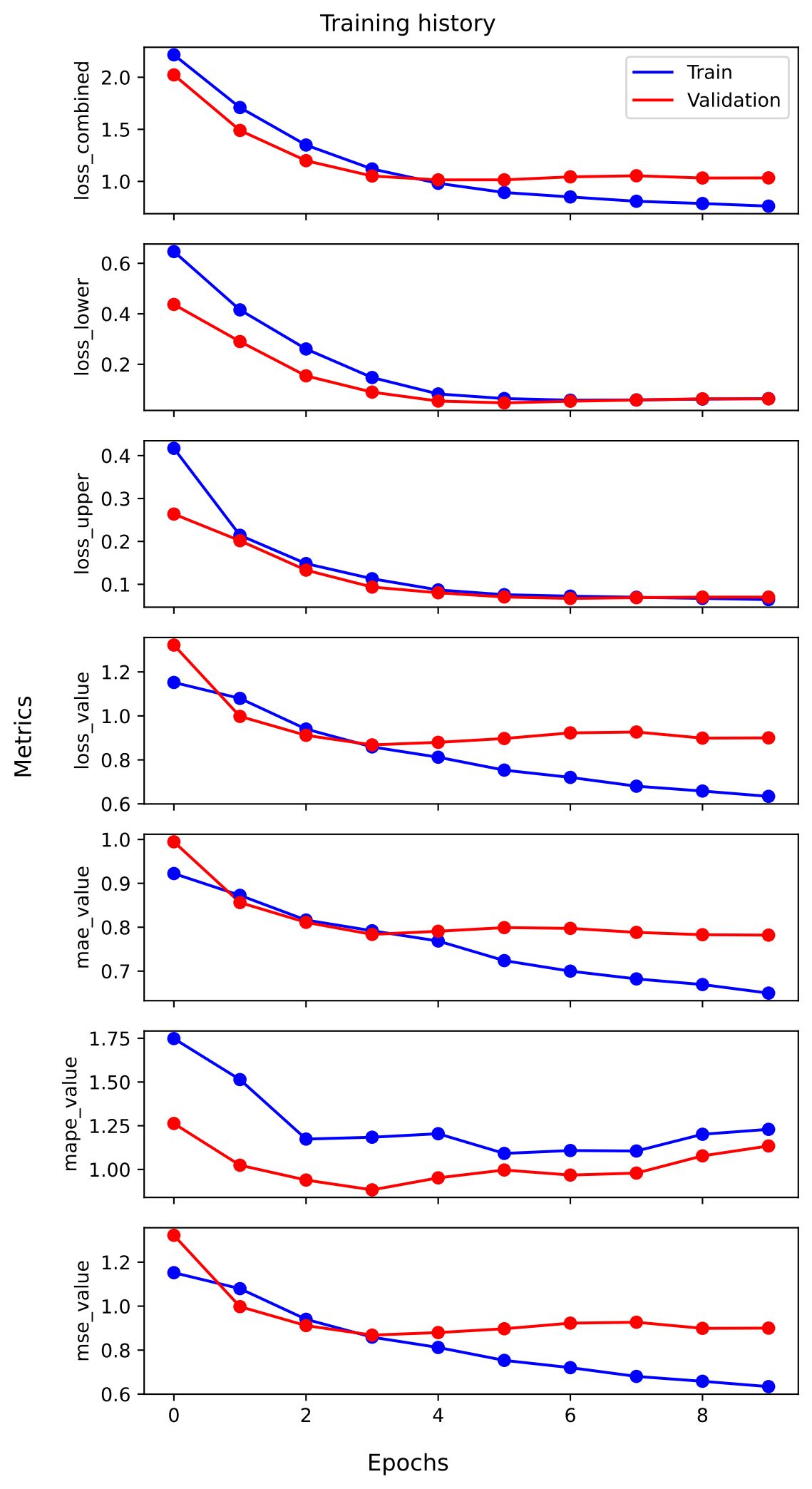

Train estimates: state_rate
MAE: 1.93E-02
MAPE: 89.6%
MSE: 5.12E-04
RMSE: 2.26E-02
Intercept: -2.48E-02
Slope: 1.54E+00
Coverage: 98.4%
state_rate truth
state_rate truth
0.20
0.15
0.10
0.05
0.00
−0.05
−0.10
−0.10
−0.05
0.00
0.05
0.10
0.15
0.20

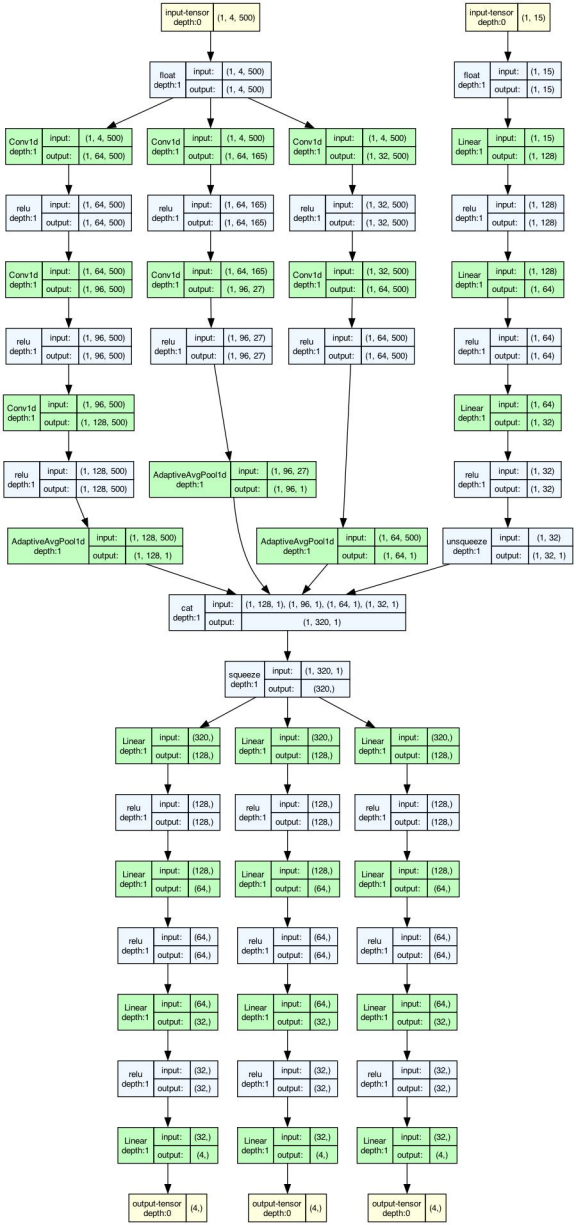

Test estimates: birth_1
MAE: 1.34E-01
MAPE: 65.3%
MSE: 2.61E-02
RMSE: 1.62E-01
Intercept: -6.02E-02
Slope: 1.04E+00
Coverage: 100.0%
birth_1 truth
birth_1 truth
1.25
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
1.25


Test estimates: birth_2
MAE: 1.41E-01
MAPE: 76.6%
MSE: 3.11E-02
RMSE: 1.76E-01
Intercept: -2.38E-01
Slope: 1.28E+00
Coverage: 100.0%
birth_2 truth
birth_2 truth
1.2
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
1.2


Test estimates: death
MAE: 7.04E-02
MAPE: 255.4%
MSE: 6.99E-03
RMSE: 8.36E-02
Intercept: 8.35E-02
Slope: 5.35E-02
Coverage: 100.0%
death truth
death truth
0.0
0.2
0.4
0.6
0.8
1.0
1.2


Test estimates: state_rate
MAE: 2.05E-02
MAPE: 130.7%
MSE: 8.06E-04
RMSE: 2.84E-02
Intercept: 1.45E-01
Slope: -2.04E+00
Coverage: 90.0%
state_rate truth
state_rate truth
0.20
0.15
0.10
0.05
0.00
−0.05
−0.10
−0.10
−0.05
0.00
0.05
0.10
0.15
0.20


Training history
Train
Validation
loss_combined
loss_lower
loss_upper
loss_value
mae_value
mape_value
mse_value
Metrics
Epochs
0
2
4
6
8


input-tensor depth:0 (1, 4, 500)
input-tensor depth:0 (1, 15)
float depth:1 input: (1, 4, 500) output: (1, 4, 500)
float depth:1 input: (1, 15) output: (1, 15)
Conv1d depth:1 input: (1, 4, 500) output: (1, 64, 500)
Conv1d depth:1 input: (1, 4, 500) output: (1, 64, 165)
Conv1d depth:1 input: (1, 4, 500) output: (1, 32, 500)
Linear depth:1 input: (1, 15) output: (1, 128)
relu depth:1 input: (1, 64, 500) output: (1, 64, 500)
relu depth:1 input: (1, 64, 165) output: (1, 64, 165)
relu depth:1 input: (1, 32, 500) output: (1, 32, 500)
relu depth:1 input: (1, 128) output: (1, 128)
Conv1d depth:1 input: (1, 64, 500) output: (1, 96, 500)
Conv1d depth:1 input: (1, 64, 165) output: (1, 96, 27)
Conv1d depth:1 input: (1, 32, 500) output: (1, 64, 500)
Linear depth:1 input: (1, 128) output: (1, 64)
relu depth:1 input: (1, 96, 500) output: (1, 96, 500)
relu depth:1 input: (1, 96, 27) output: (1, 96, 27)
relu depth:1 input: (1, 64, 500) output: (1, 64, 500)
relu depth:1 input: (1, 64) output: (1, 64)
Conv1d depth:1 input: (1, 96, 500) output: (1, 128, 500)
Linear depth:1 input: (1, 64) output: (1, 32)
relu depth:1 input: (1, 128, 500) output: (1, 128, 500)
AdaptiveAvgPool1d depth:1 input: (1, 96, 27) output: (1, 96, 1)
relu depth:1 input: (1, 32) output: (1, 32)
AdaptiveAvgPool1d depth:1 input: (1, 128, 500) output: (1, 128, 1)
AdaptiveAvgPool1d depth:1 input: (1, 64, 500) output: (1, 64, 1)
unsqueeze depth:1 input: (1, 32) output: (1, 32, 1)
cat depth:1 input: (1, 128, 1), (1, 96, 1), (1, 64, 1), (1, 32, 1) output: (1, 320, 1)
squeeze depth:1 input: (1, 320, 1) output: (320,)
Linear depth:1 input: (320,) output: (128,)
Linear depth:1 input: (320,) output: (128,)
Linear depth:1 input: (320,) output: (128,)
relu depth:1 input: (128,) output: (128,)
relu depth:1 input: (128,) output: (128,)
relu depth:1 input: (128,) output: (128,)
Linear depth:1 input: (128,) output: (64,)
Linear depth:1 input: (128,) output: (64,)
Linear depth:1 input: (128,) output: (64,)
relu depth:1 input: (64,) output: (64,)
relu depth:1 input: (64,) output: (64,)
relu depth:1 input: (64,) output: (64,)
Linear depth:1 input: (64,) output: (32,)
Linear depth:1 input: (64,) output: (32,)
Linear depth:1 input: (64,) output: (32,)
relu depth:1 input: (32,) output: (32,)
relu depth:1 input: (32,) output: (32,)
relu depth:1 input: (32,) output: (32,)
Linear depth:1 input: (32,) output: (4,)
Linear depth:1 input: (32,) output: (4,)
Linear depth:1 input: (32,) output: (4,)
output-tensor depth:0 (4,)
output-tensor depth:0 (4,)
output-tensor depth:0 (4,)