Appendix: Modelling frontier mortality using Bayesian Generalised Additive Models

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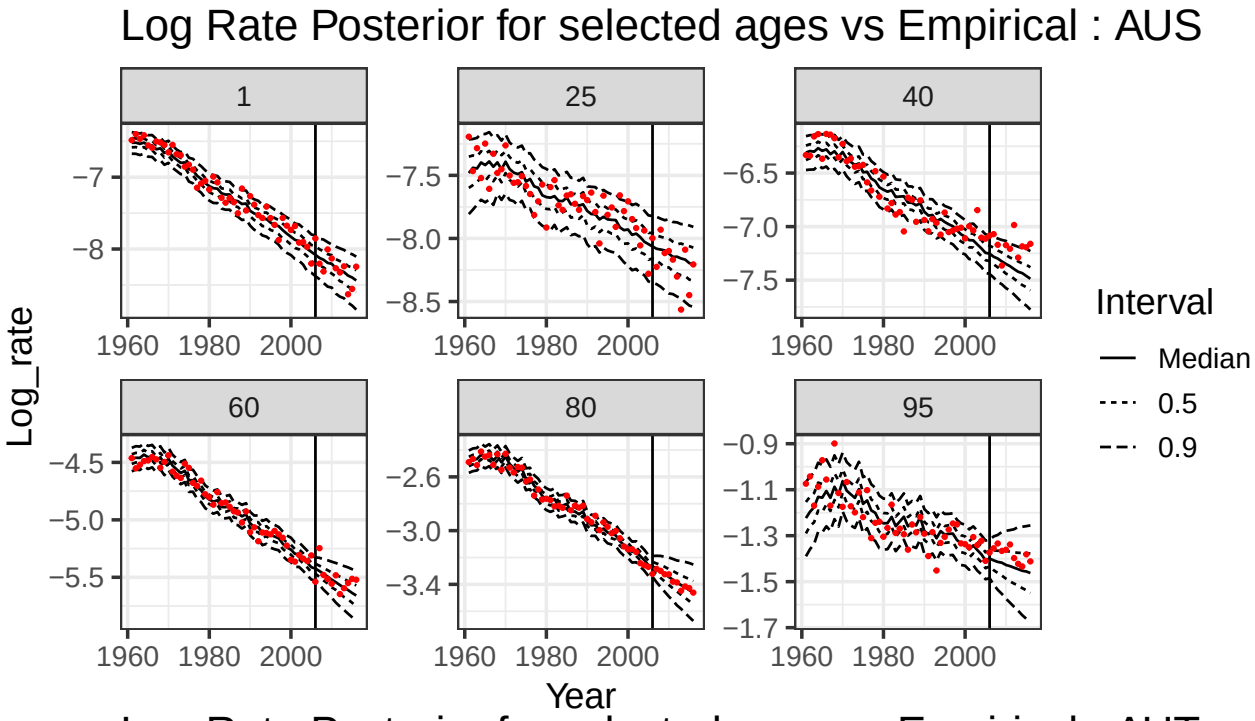
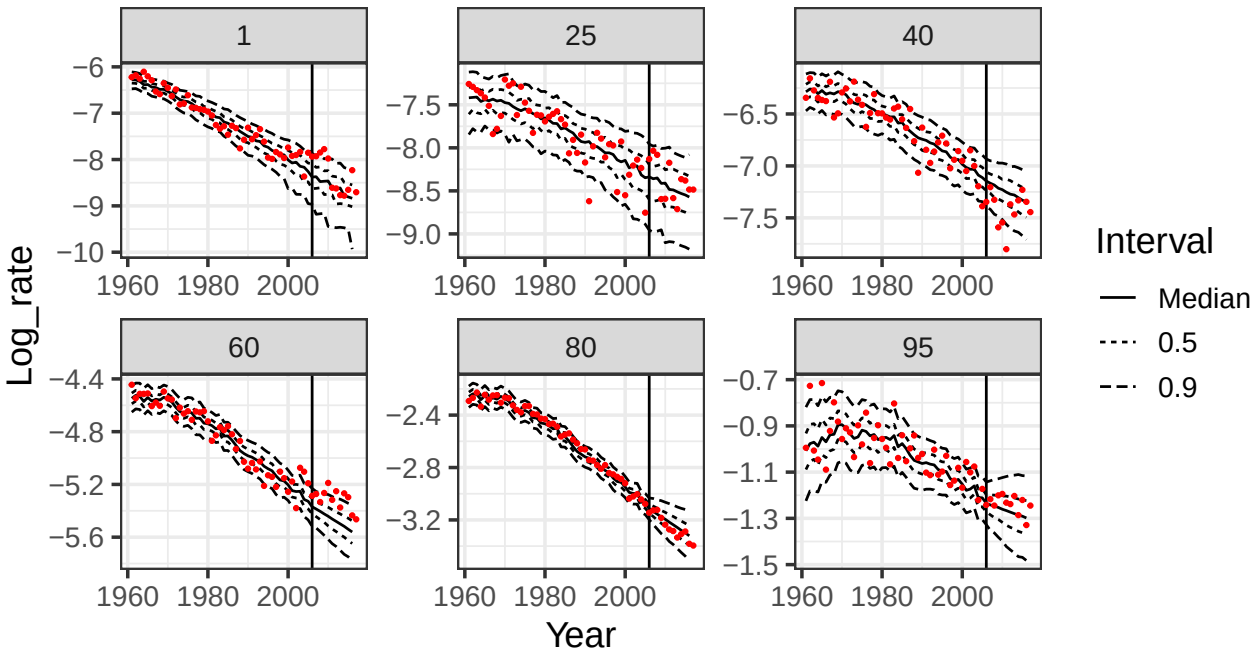
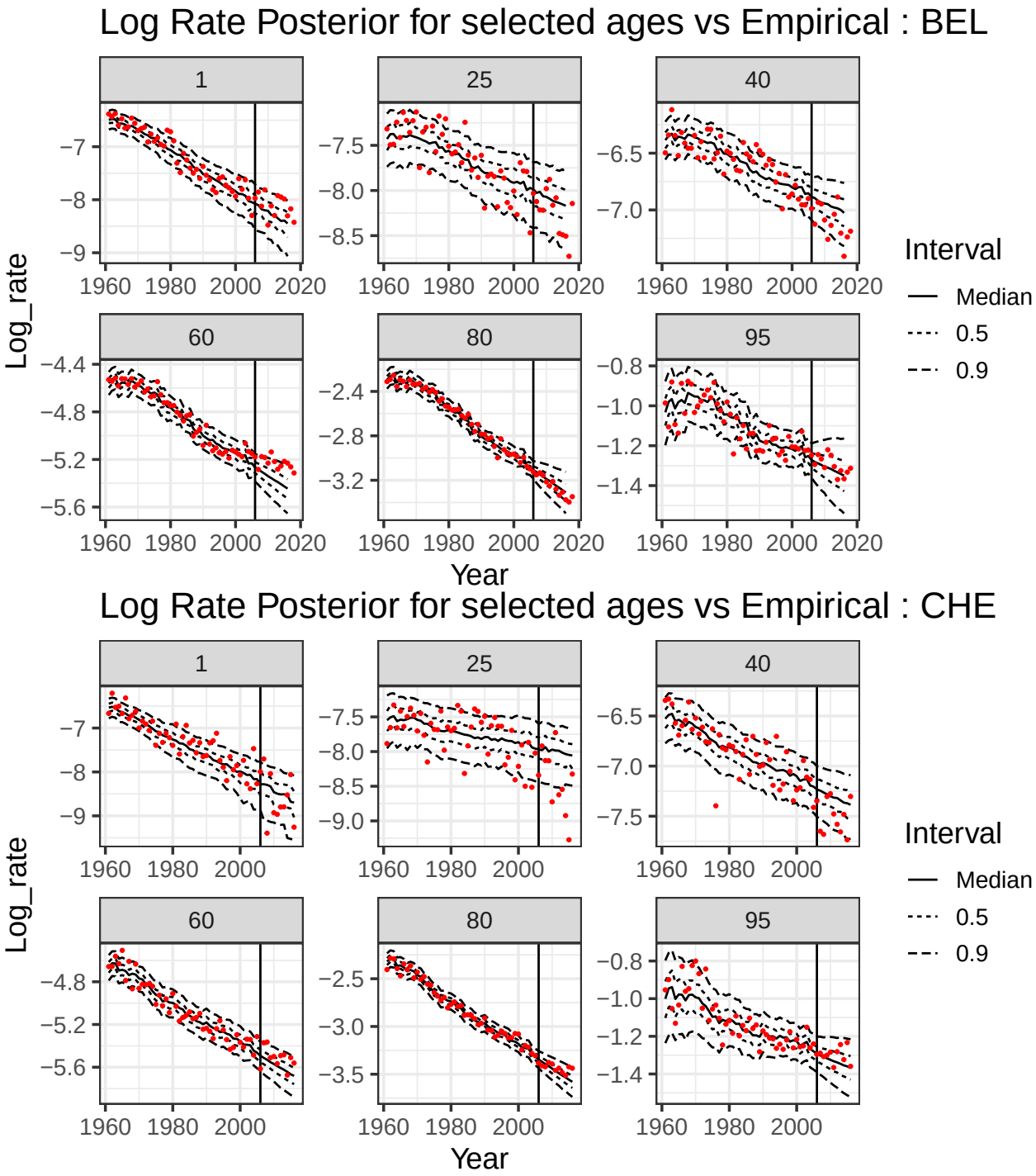
1 Country Forecast Plots - Independent Model






Log Rate Posterior for selected ages vs Empirical : BEL
1
25
40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9
Log Rate Posterior for selected ages vs Empirical : CHE
1
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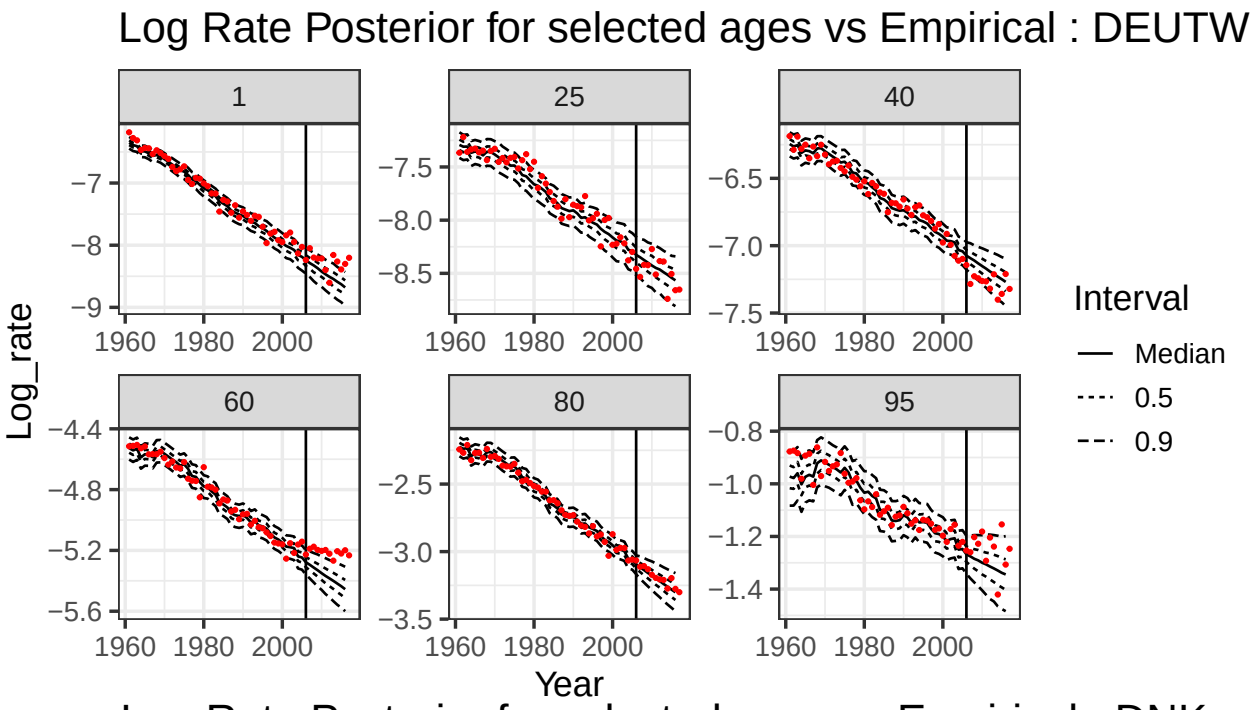
40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : DEUTW
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25
40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : DNK
1
25
40
60
80
95
Log_rate
Year
Interval
Median
0.5
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Log Rate Posterior for selected ages vs Empirical : ESP
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25
40
60
80
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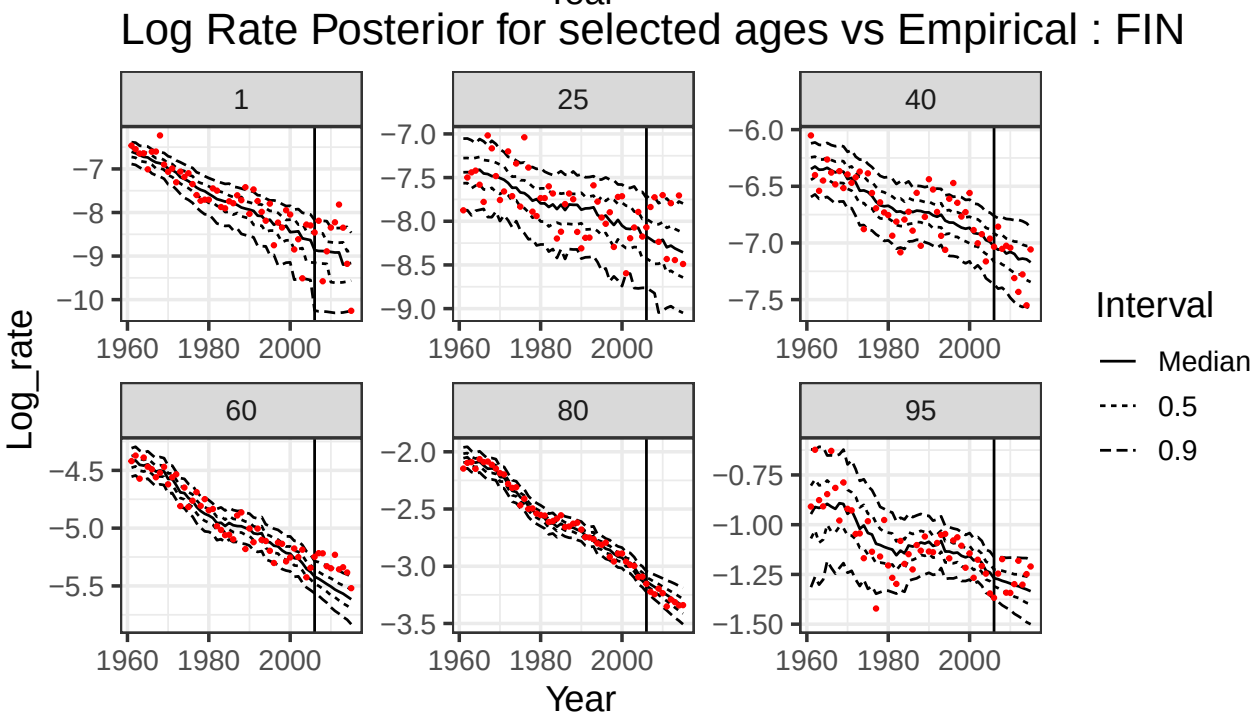
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : FIN
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95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : FRATNP
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40
60
80
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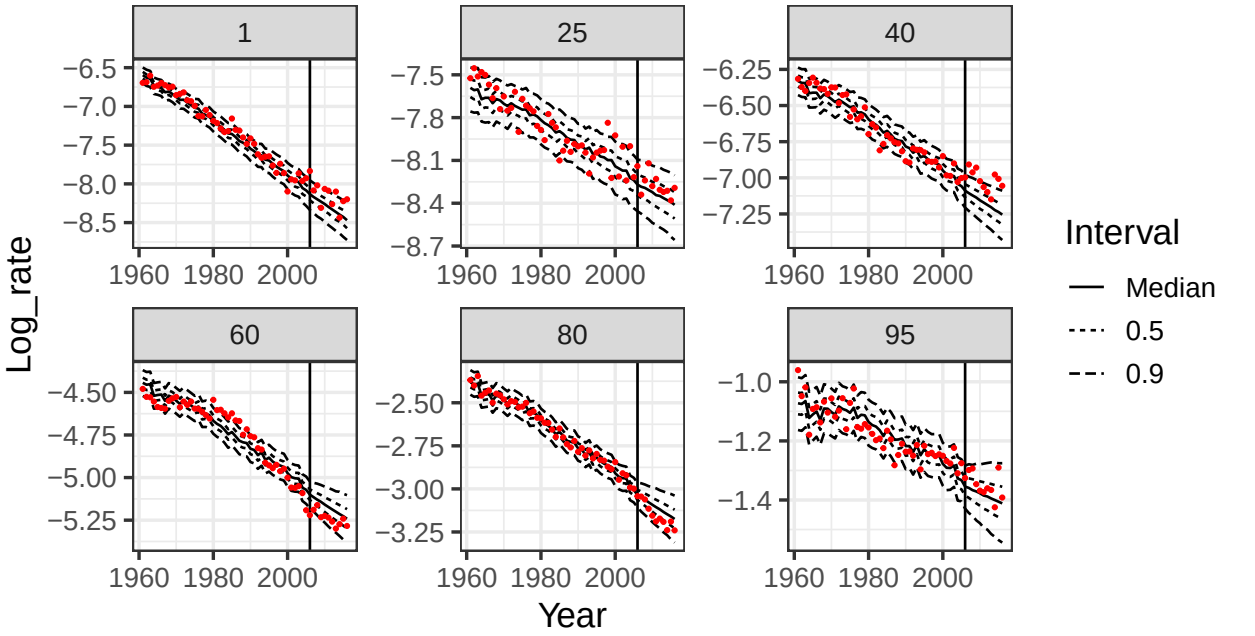
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : GBRTEI
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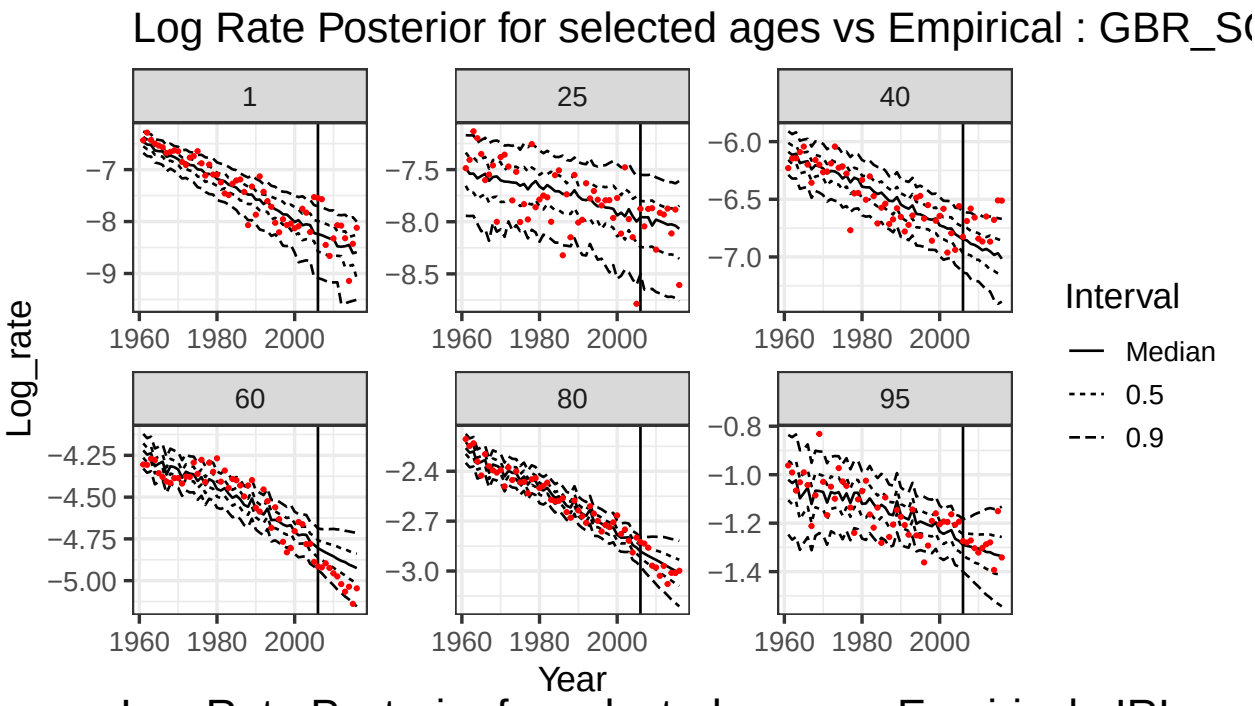
40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : GBR_S(
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40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : IRL
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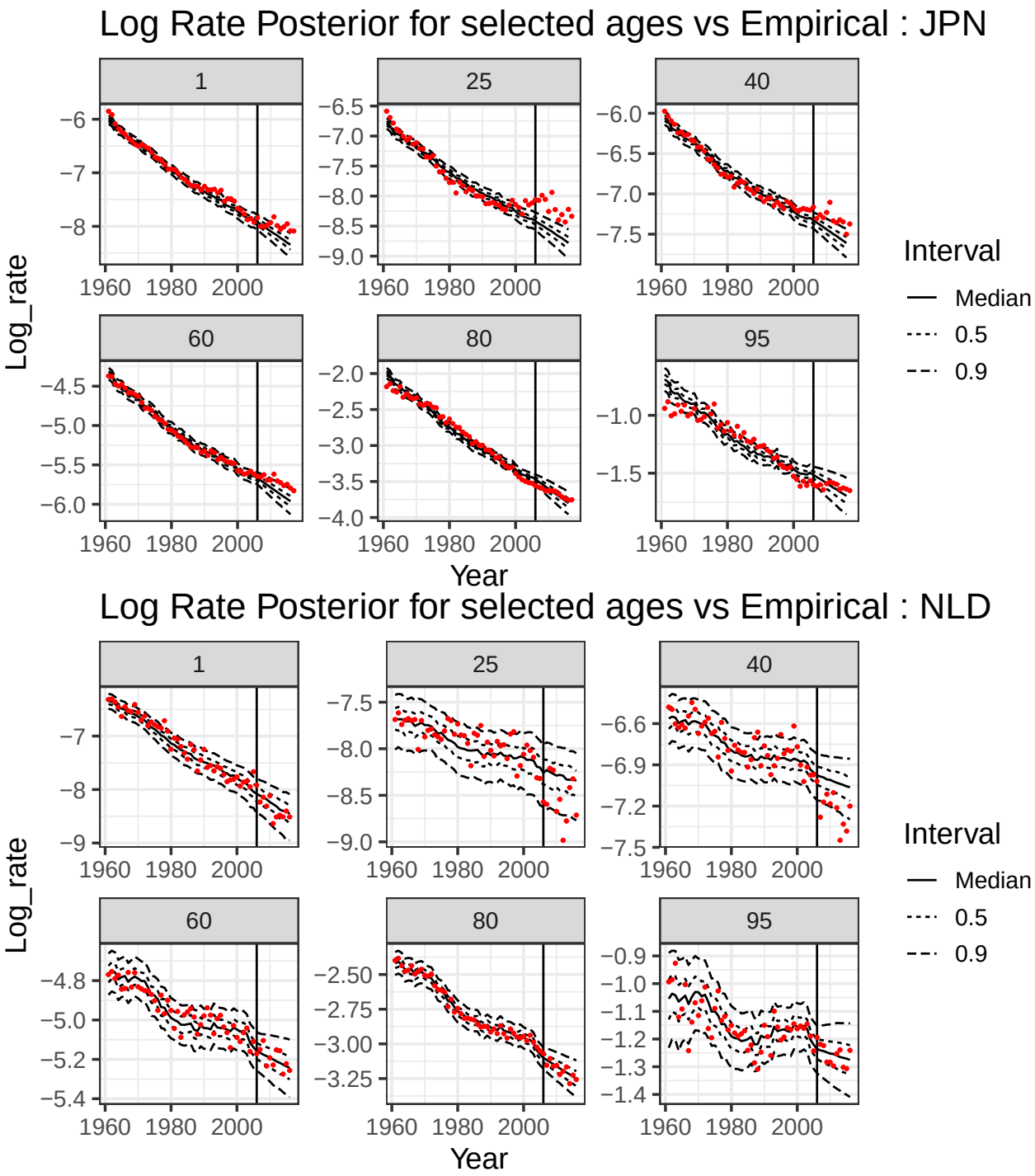
25
40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : JPN
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80
95
Log_rate
Year
Interval
Median
0.5
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Log Rate Posterior for selected ages vs Empirical : NLD
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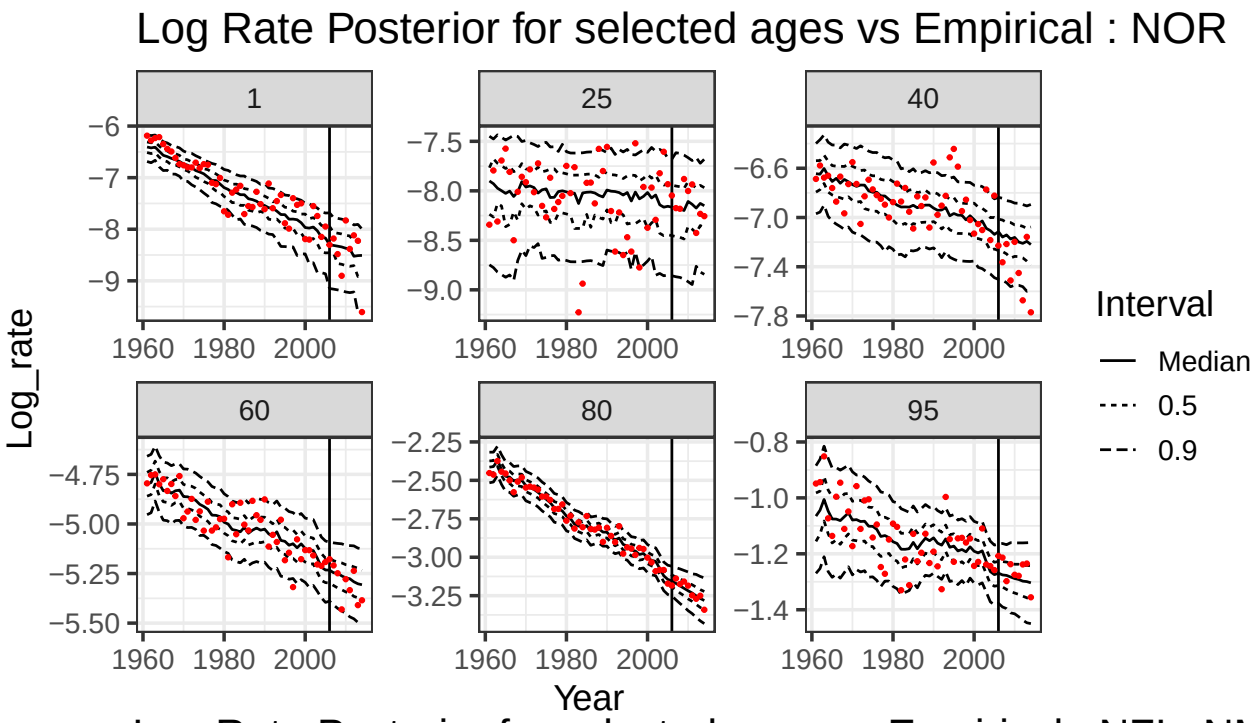
40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : NOR
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60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : NZL_NM
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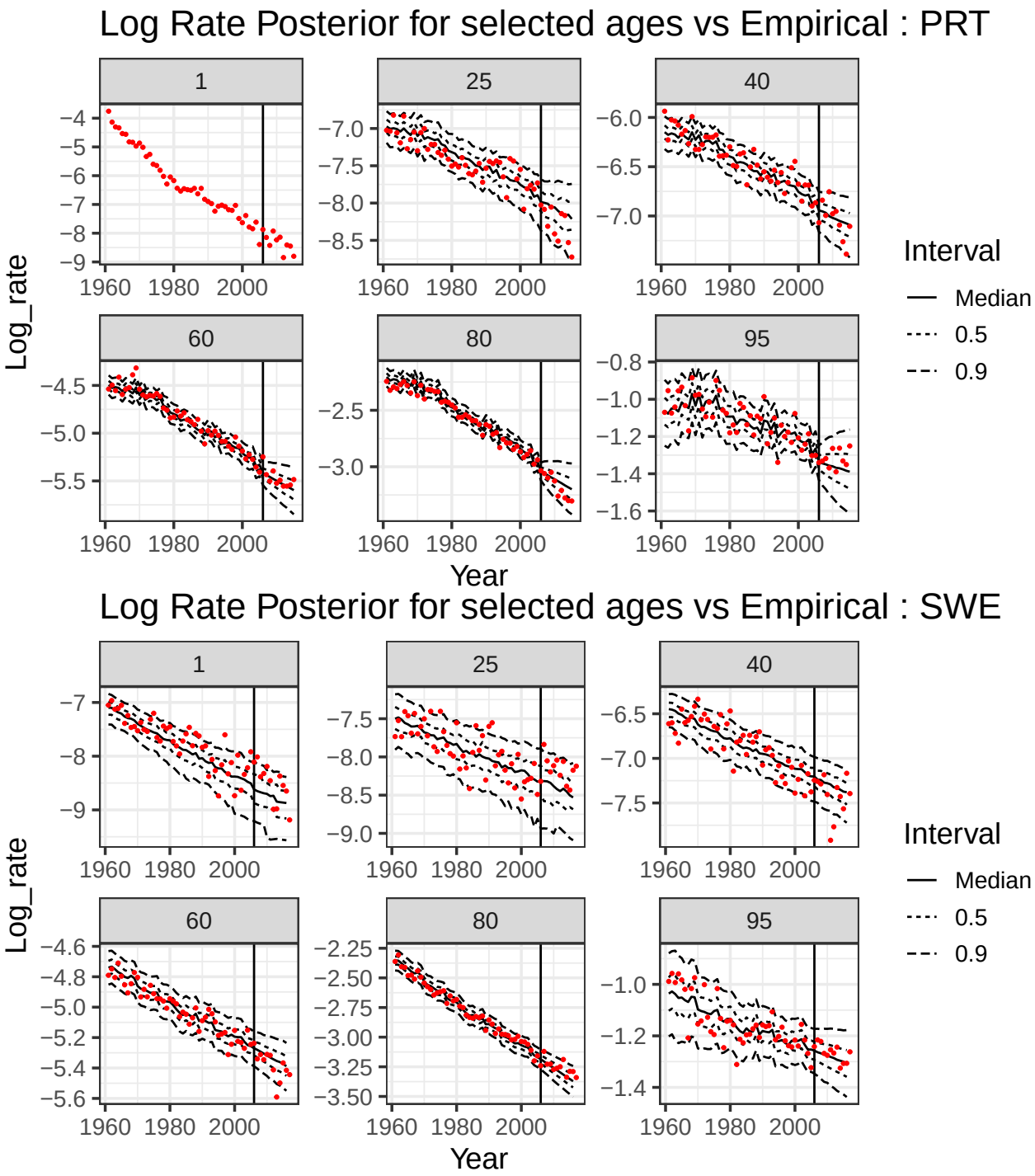
25
40
60
80
95
Log_rate
Year
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : PRT
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25
40
60
80
95
Log_rate
Year
1960
1980
2000
Interval
Median
0.5
0.9
Log Rate Posterior for selected ages vs Empirical : SWE
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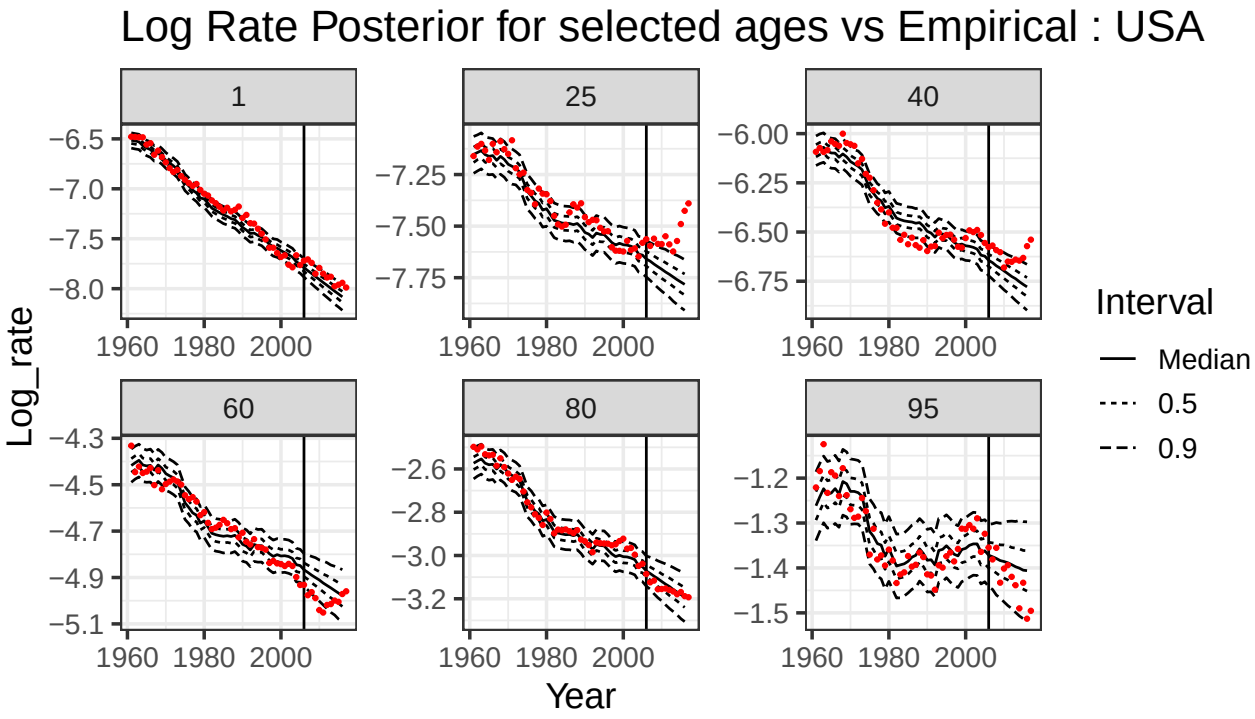
40
60
80
95
Log_rate
Year
1960
1980
2000
Interval
Median
0.5
0.9


Log Rate Posterior for selected ages vs Empirical : USA
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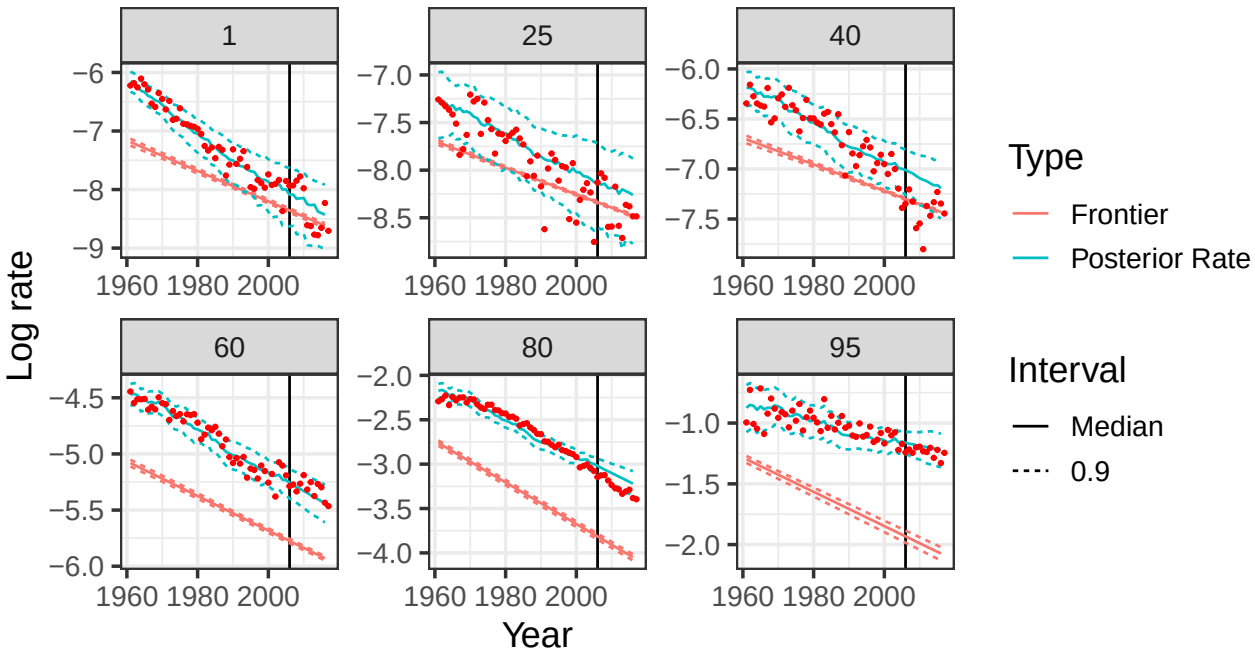
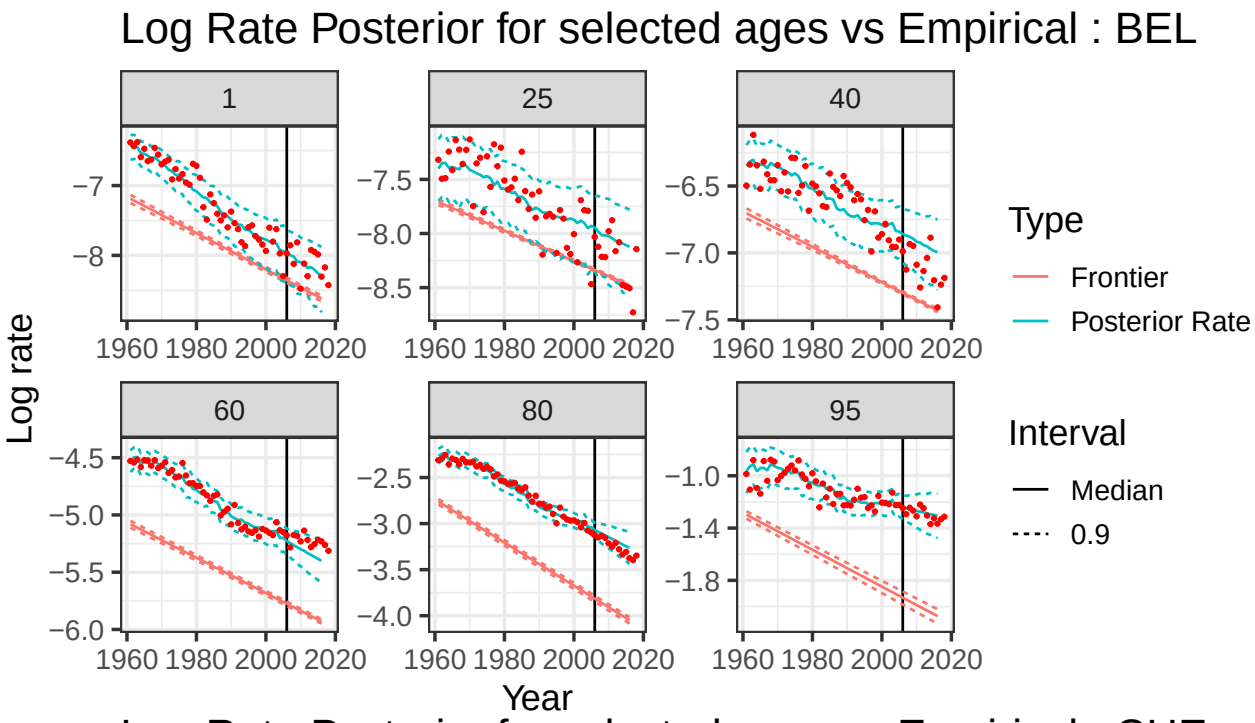
25
40
60
80
95
Log_rate
Year
1960 1980 2000
Interval
Median
0.5
0.9

2 Country Forecast Plots - Linear Model




Log Rate Posterior for selected ages vs Empirical : BEL
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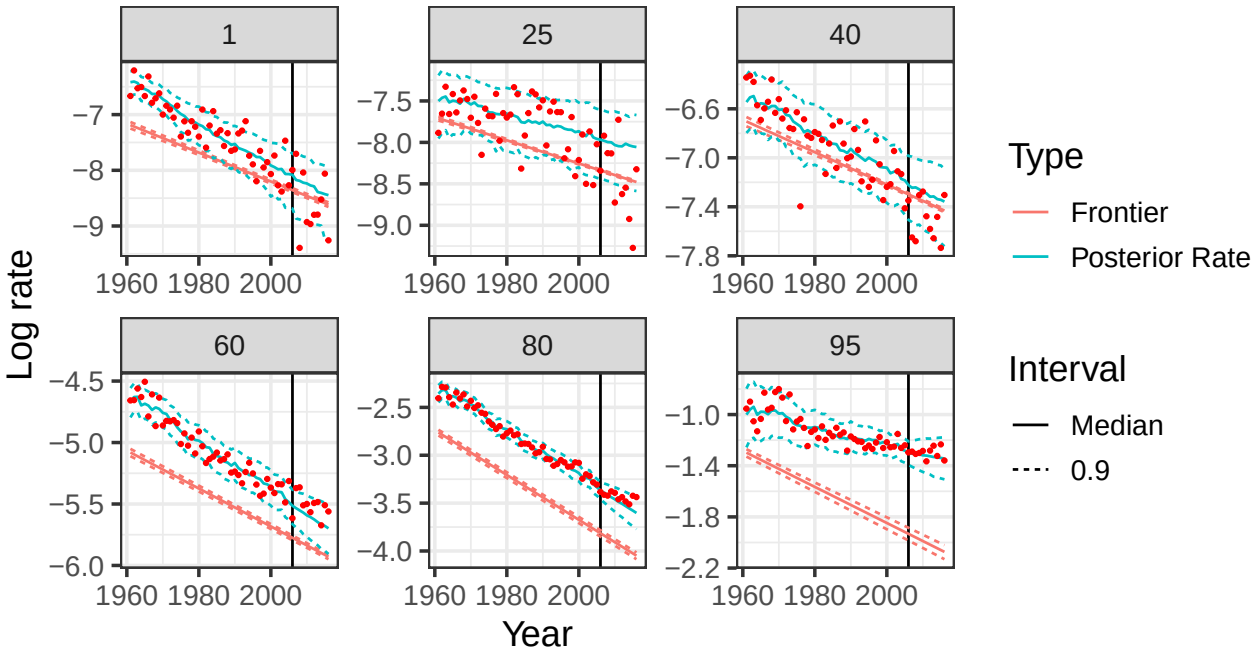
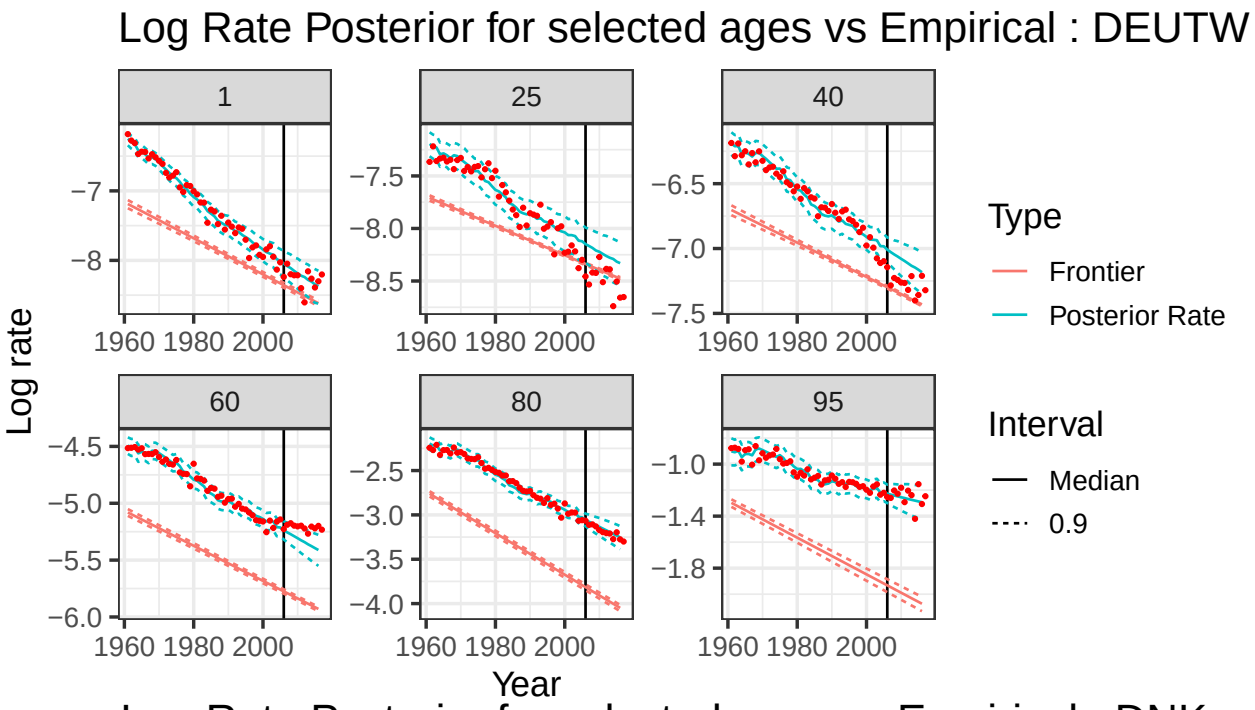
25
40
60
80
95
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : CHE
1
25
40
60
80
95
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : DEUTW
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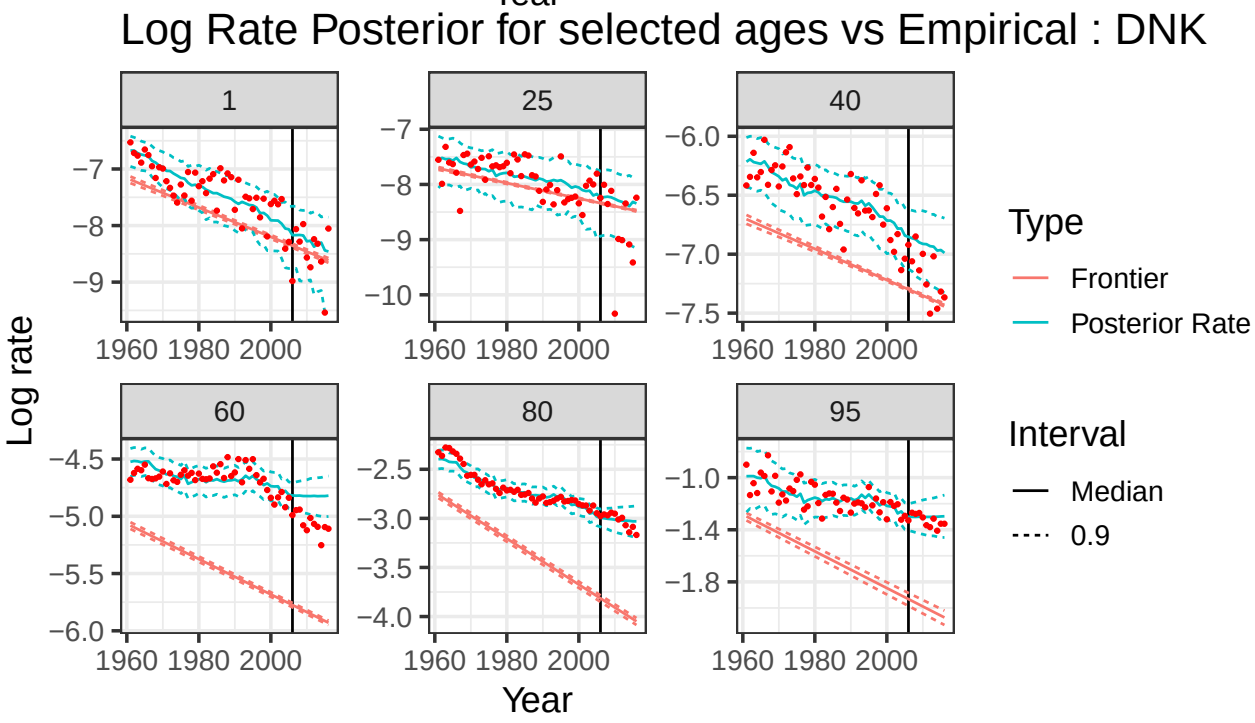
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : DNK
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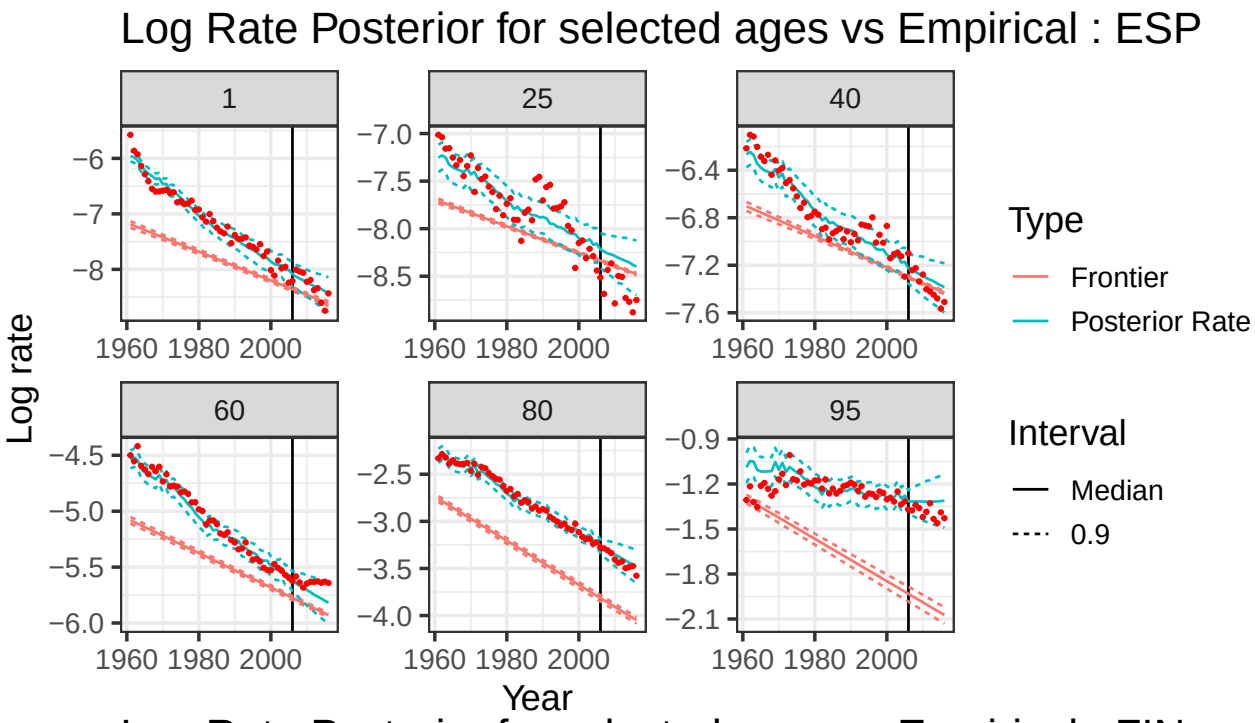
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : ESP
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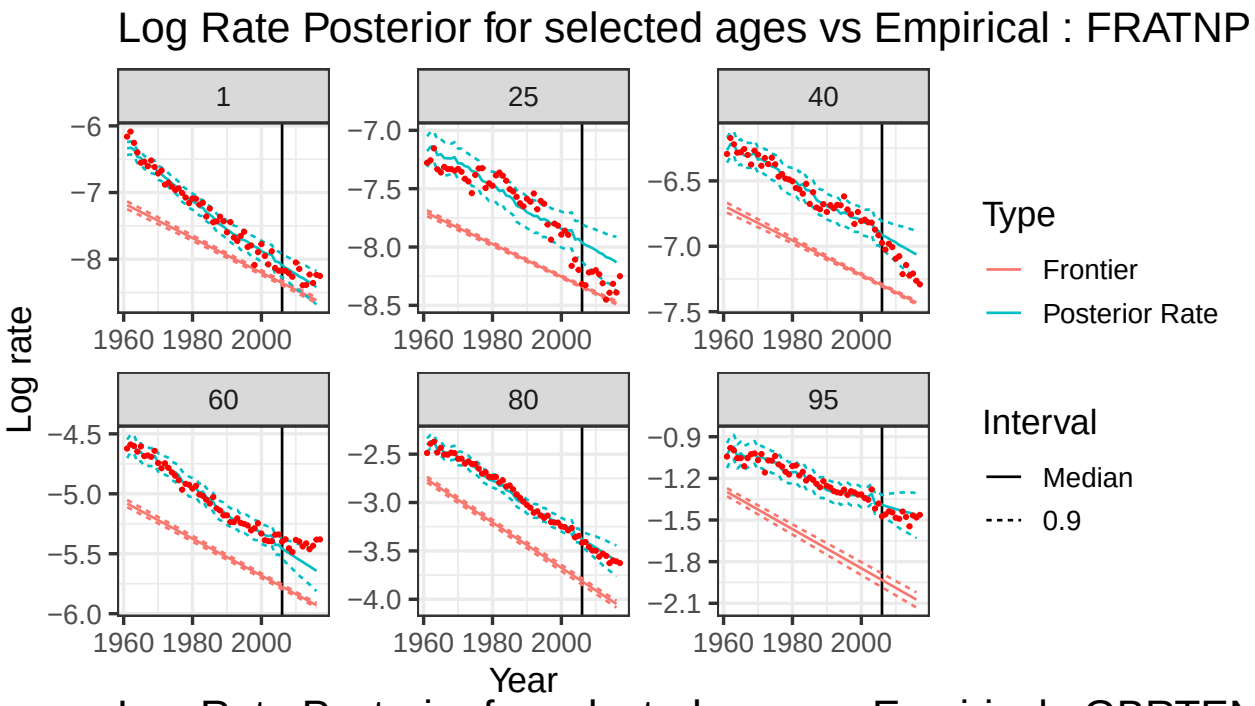
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : FIN
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : FRATNP
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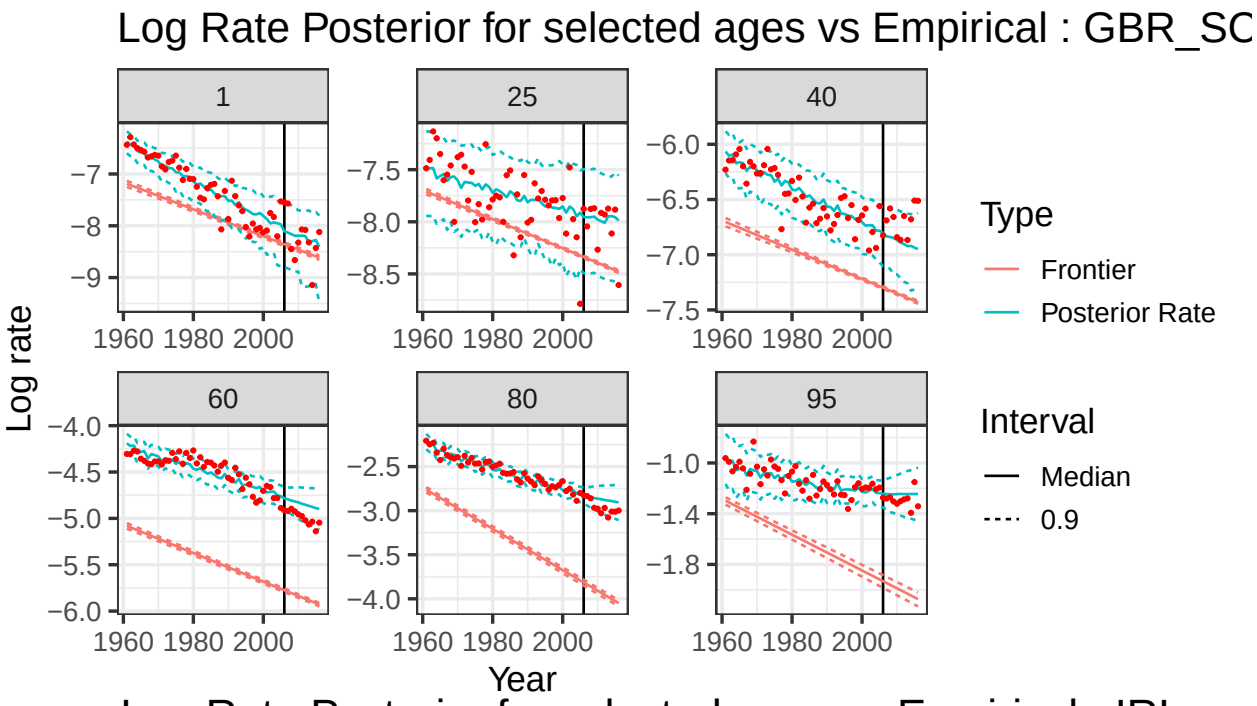
25
40
60
80
95
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : GBRTEN
1
25
40
60
80
95
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : GBR_SC
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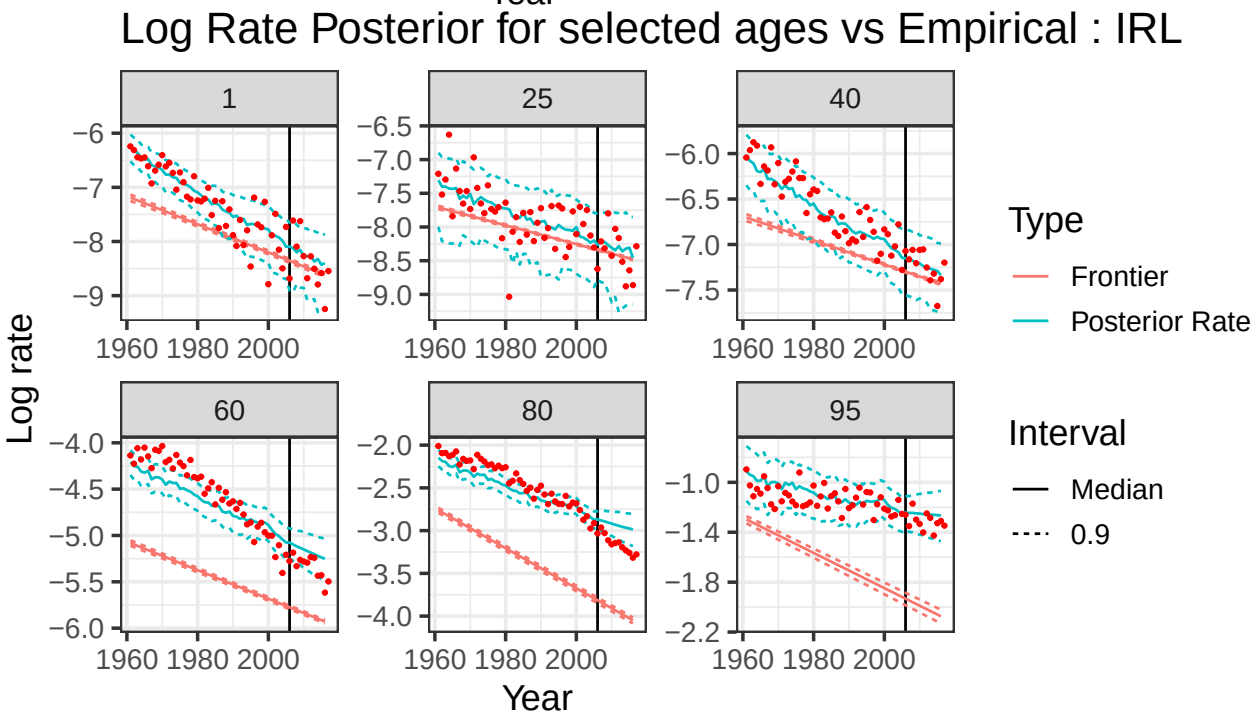
25
40
60
80
95
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : IRL
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25
40
60
80
95
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : JPN
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : NLD
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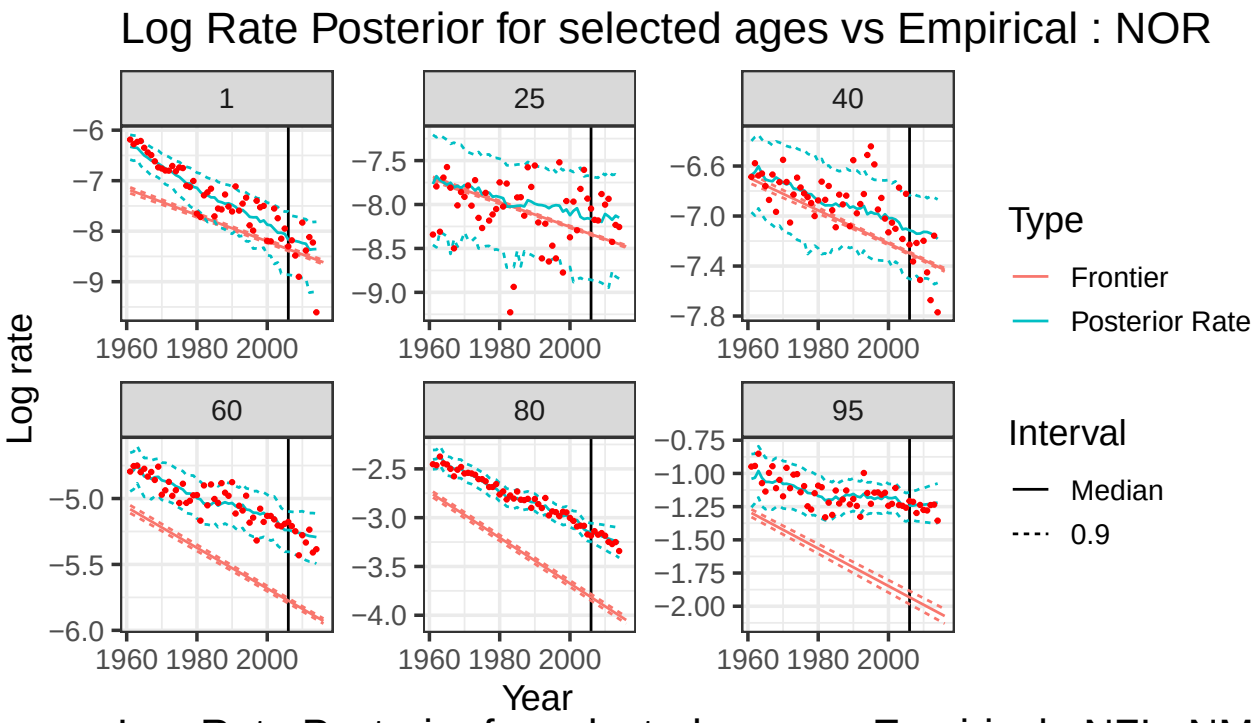
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : NOR
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25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : NZL_NM
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : PRT
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Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
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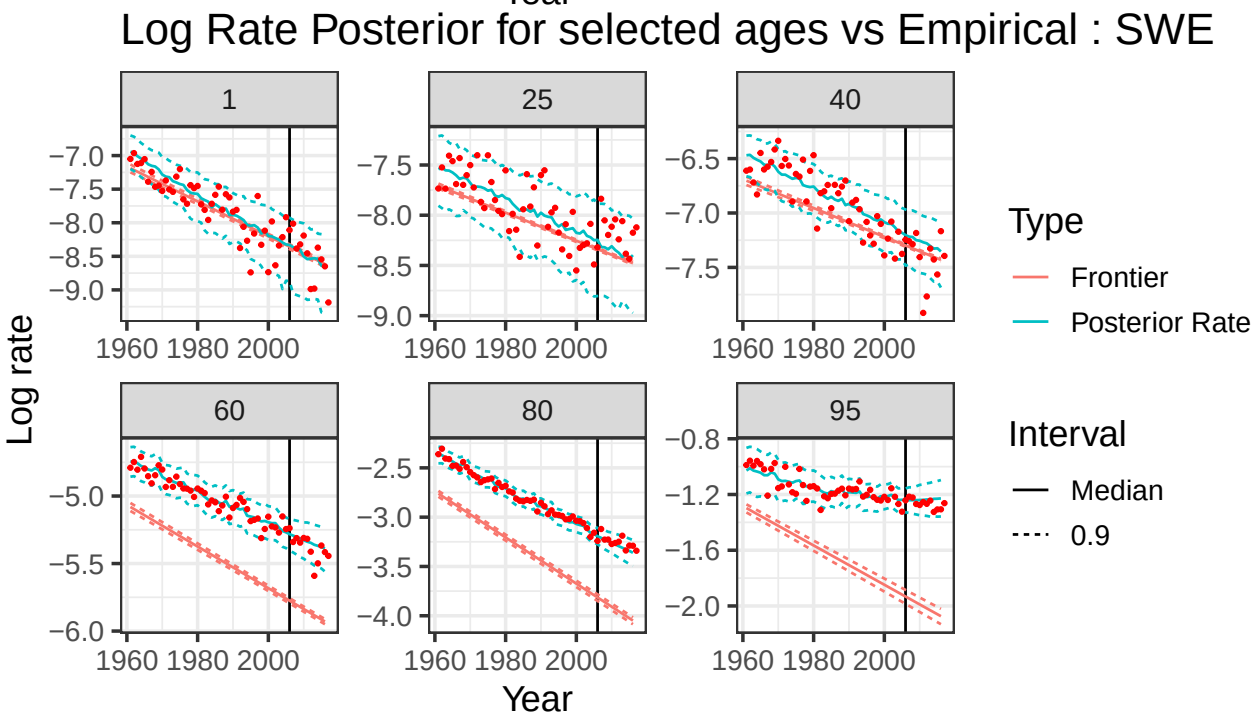
Log Rate Posterior for selected ages vs Empirical : SWE
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25
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60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : USA
1
25
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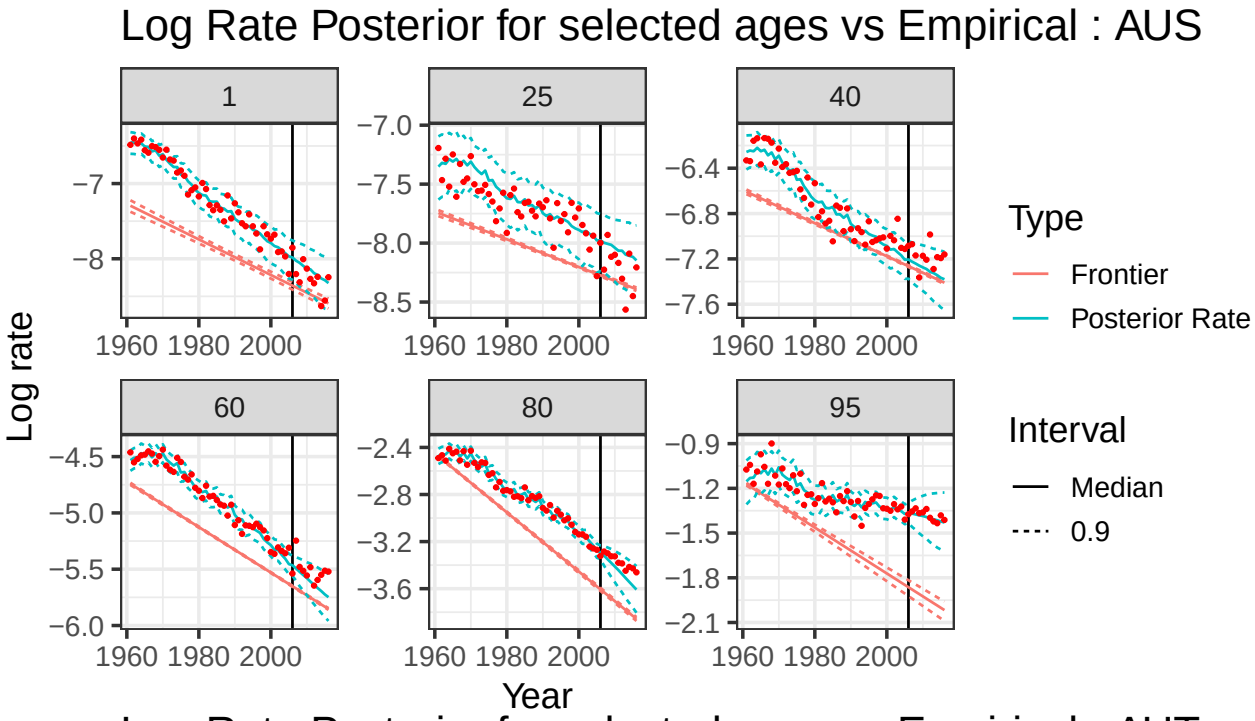
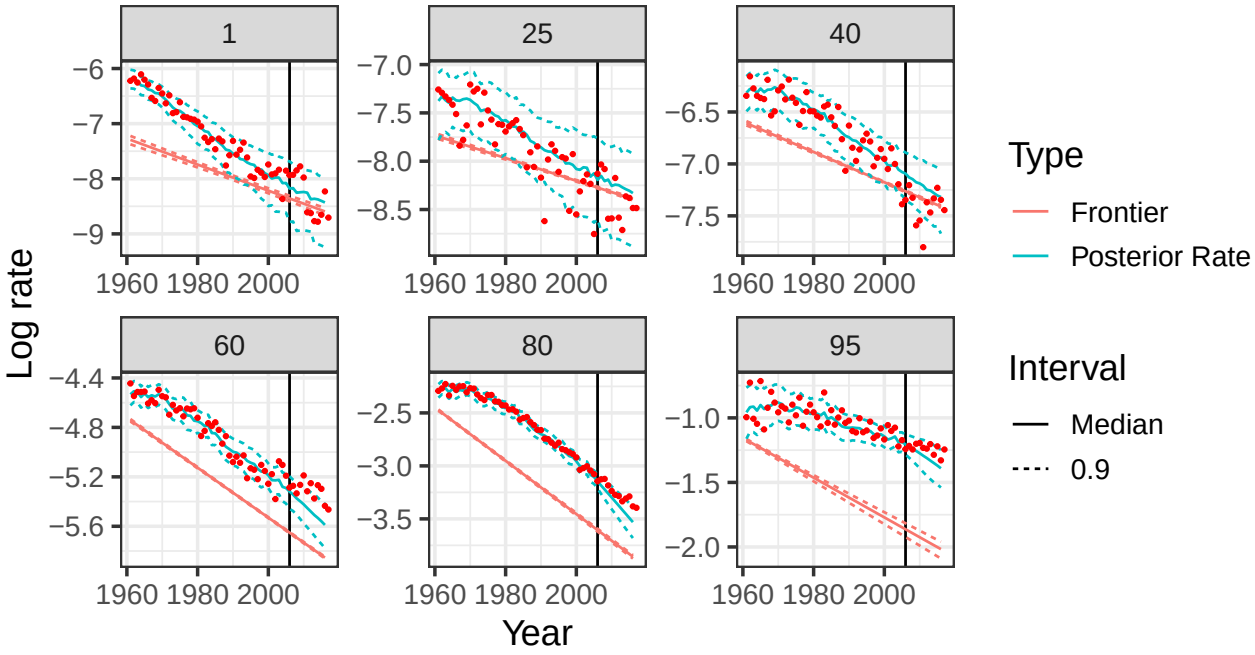
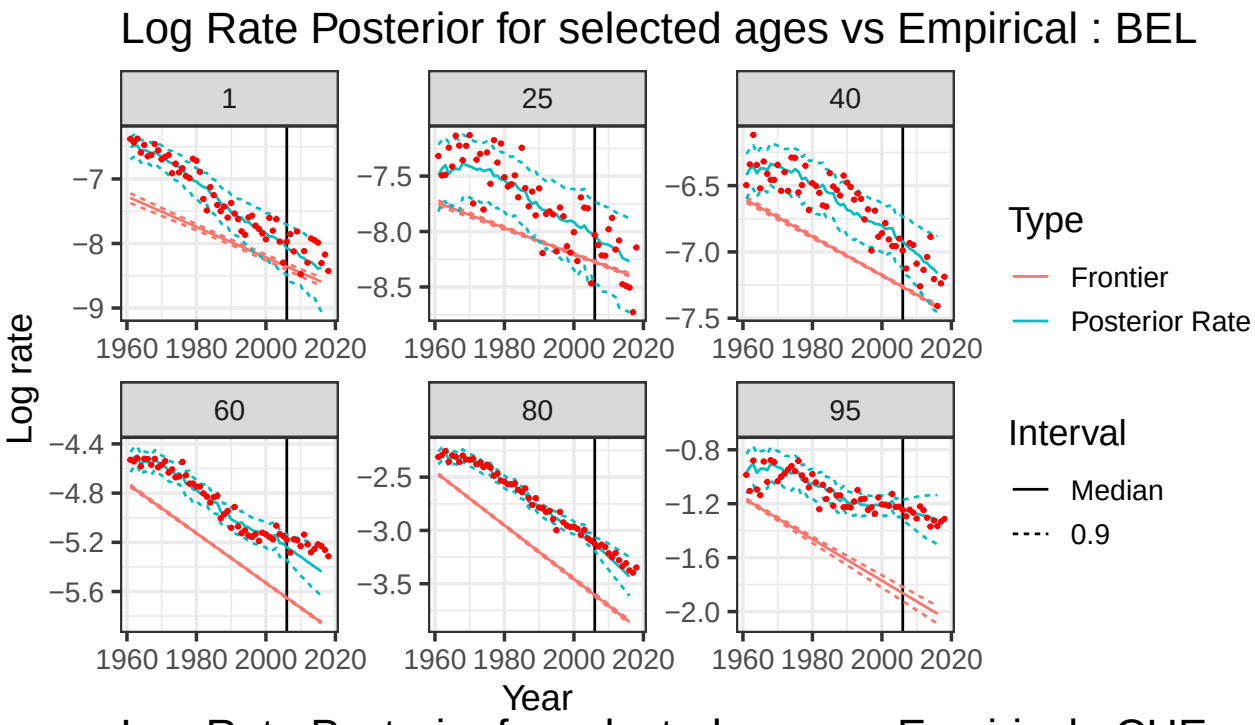
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9

3 Country Forecast Plots - Quadratic Model






Log Rate Posterior for selected ages vs Empirical : BEL
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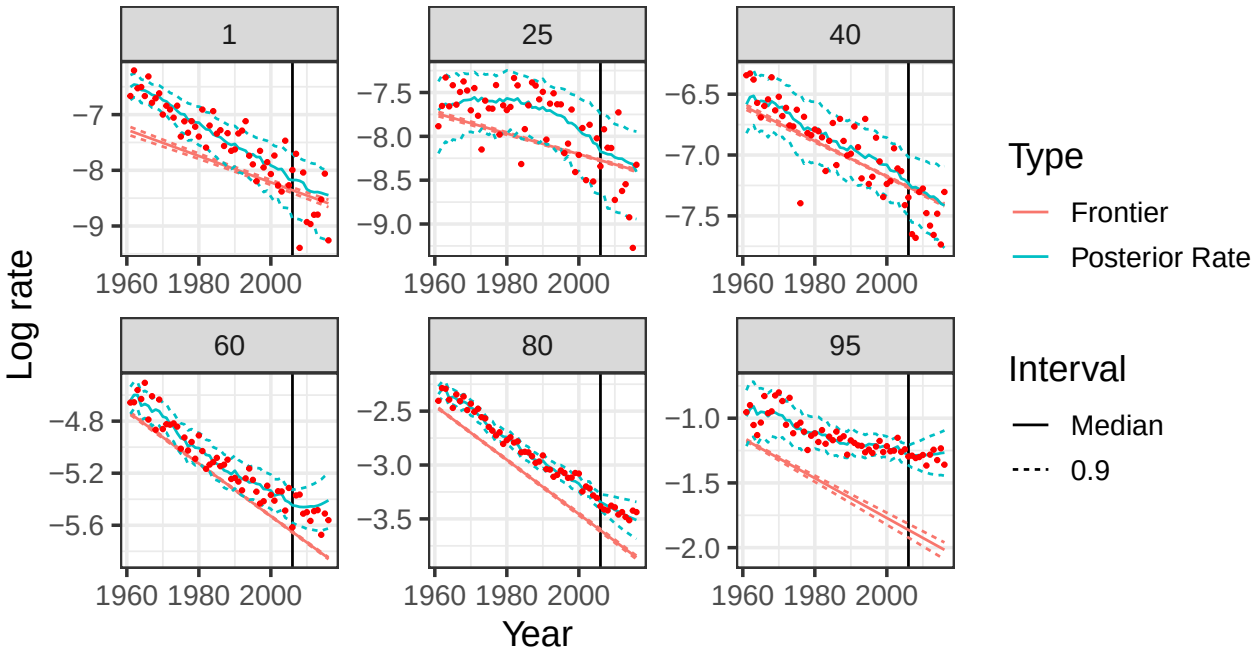
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : CHE
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60
80
95
Log rate
Year
Type
Frontier
Posterior Rate
Interval
Median
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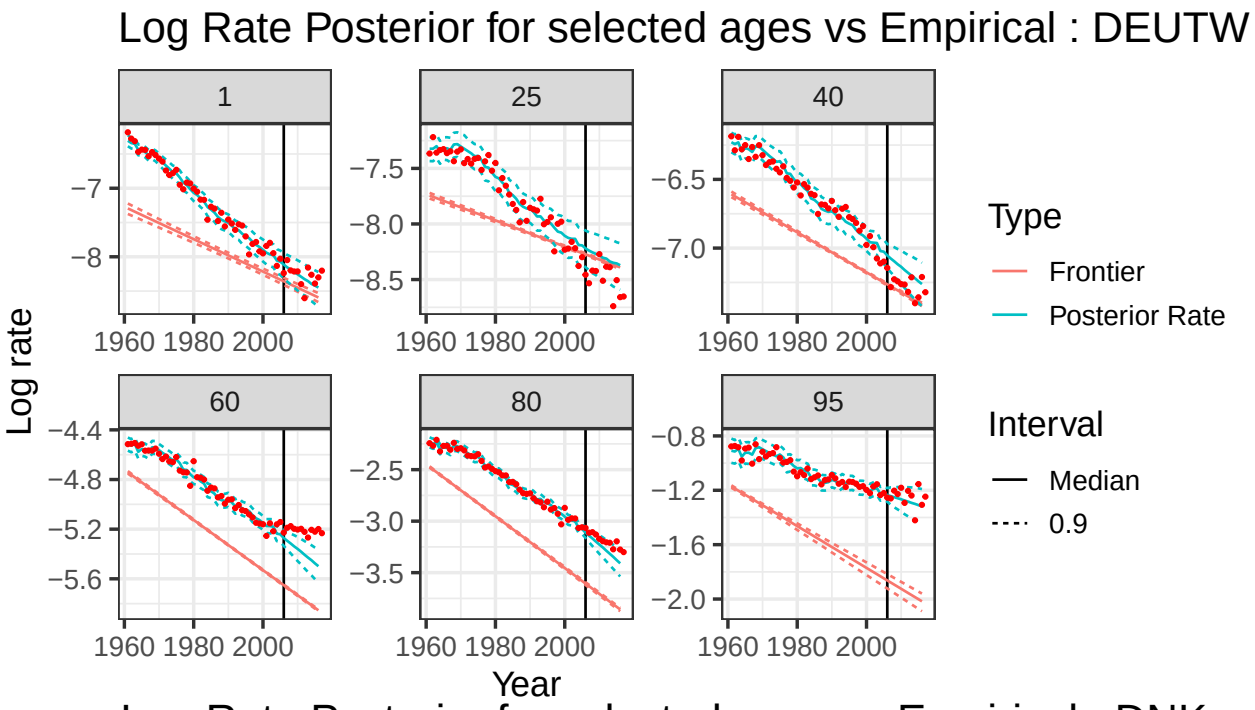
Log Rate Posterior for selected ages vs Empirical : DEUTW
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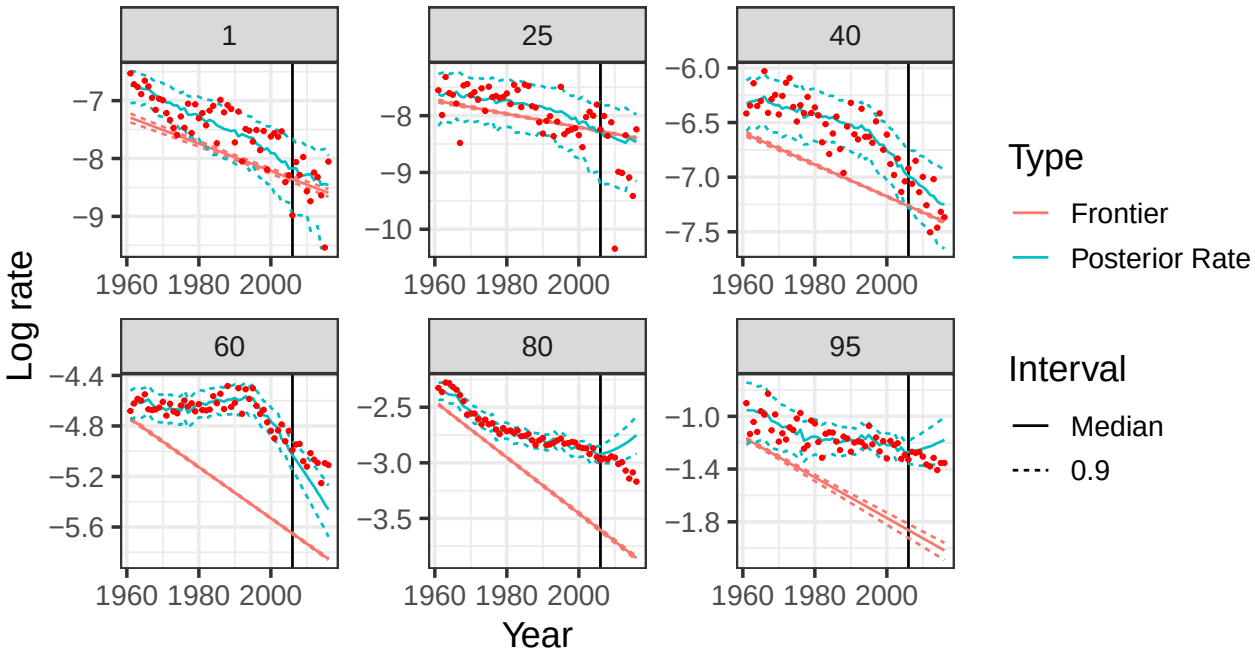
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : DNK
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60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : ESP
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : FIN
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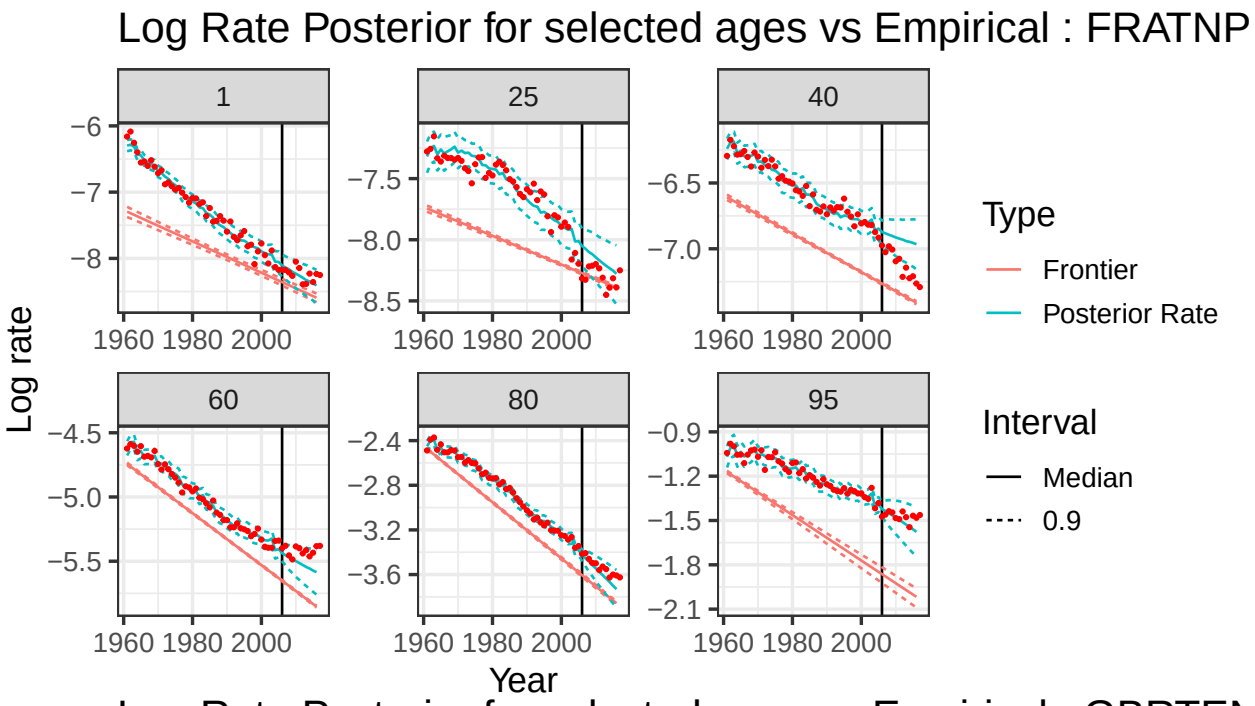
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : FRATNP
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25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : GBRTEN
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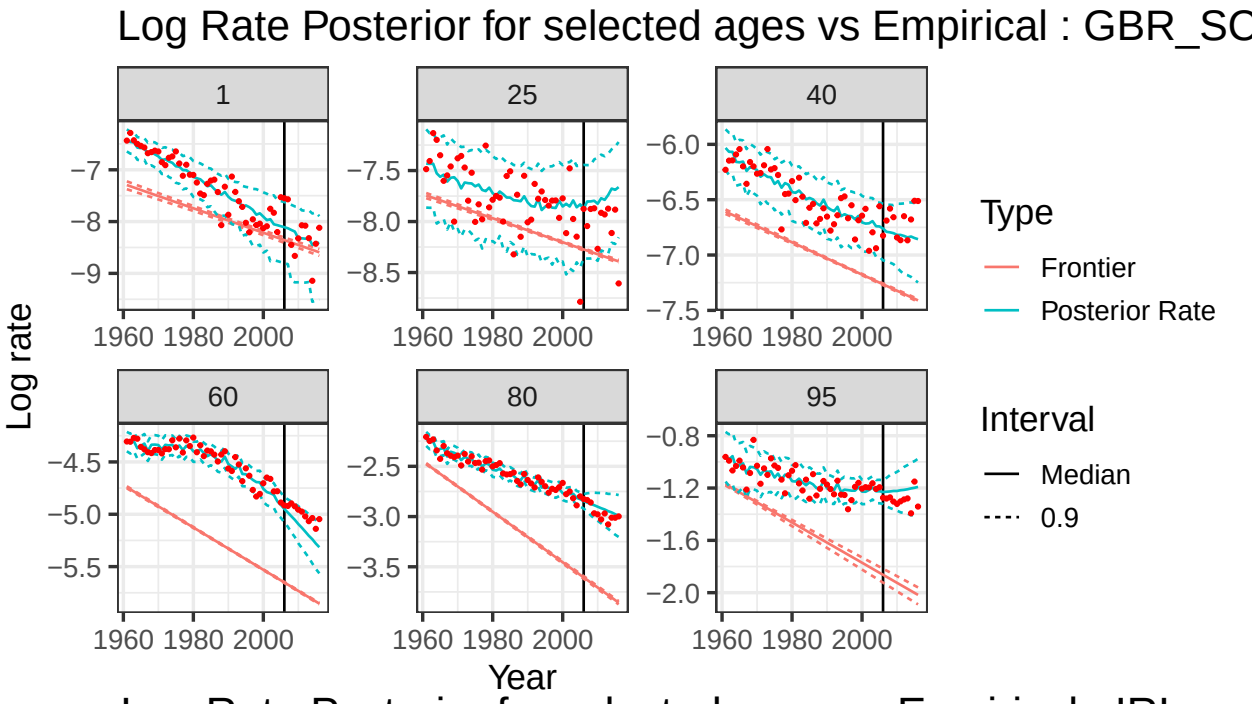
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : GBR_SC
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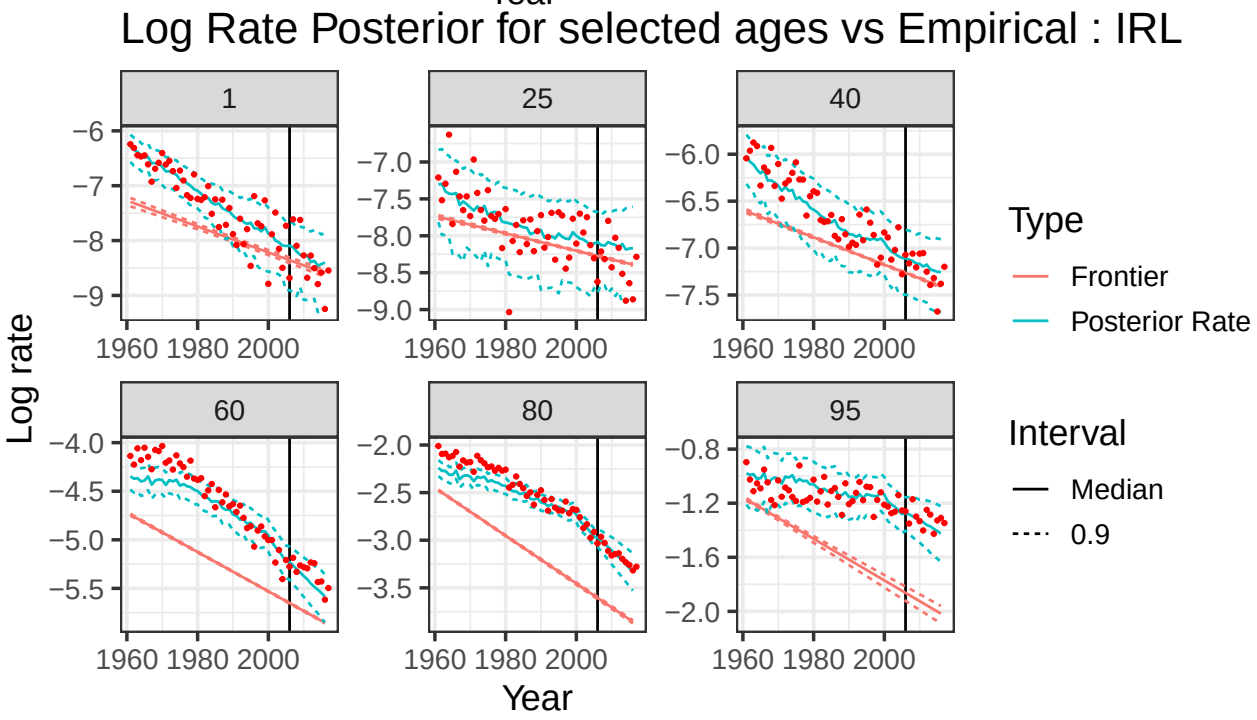
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : IRL
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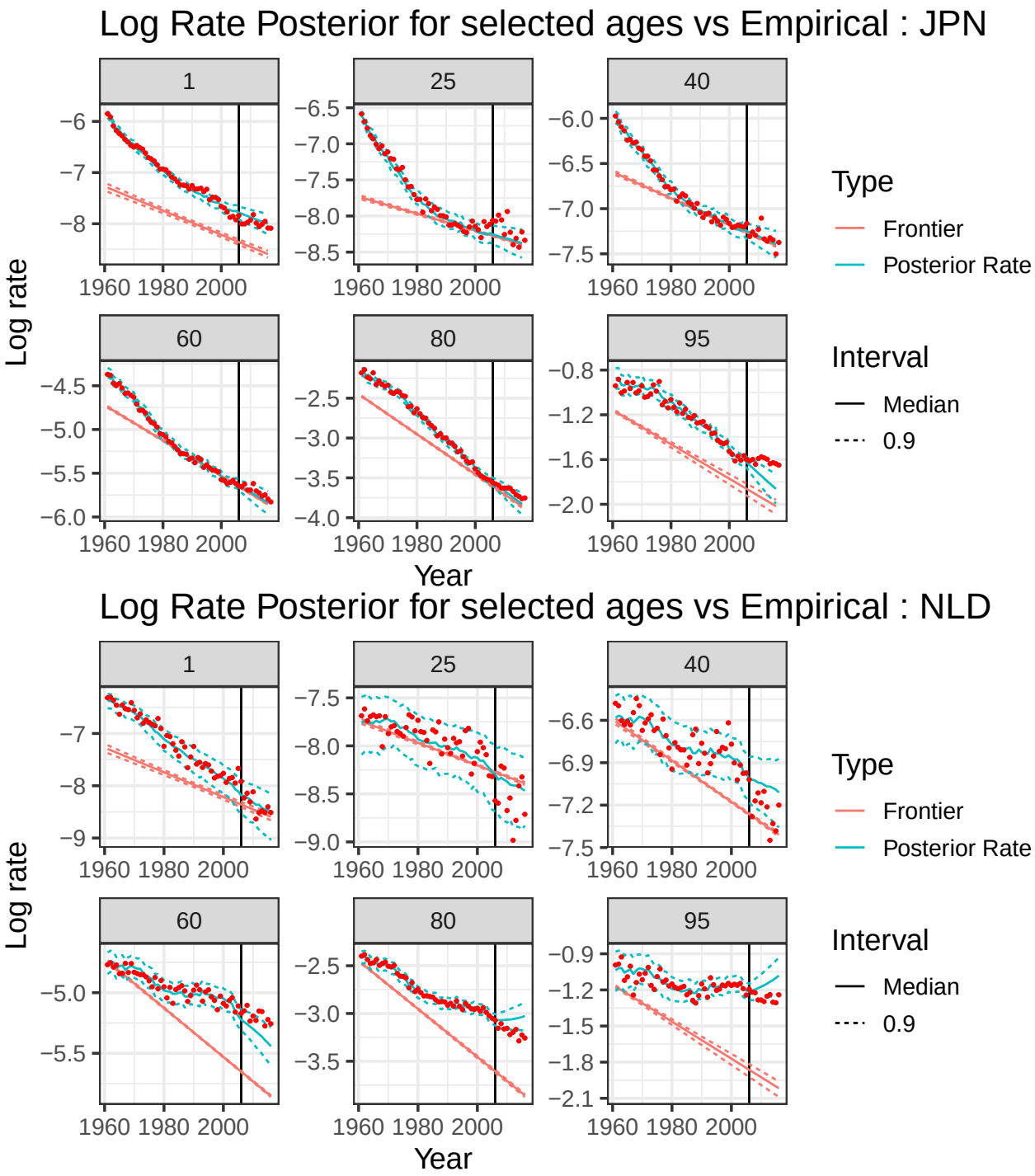
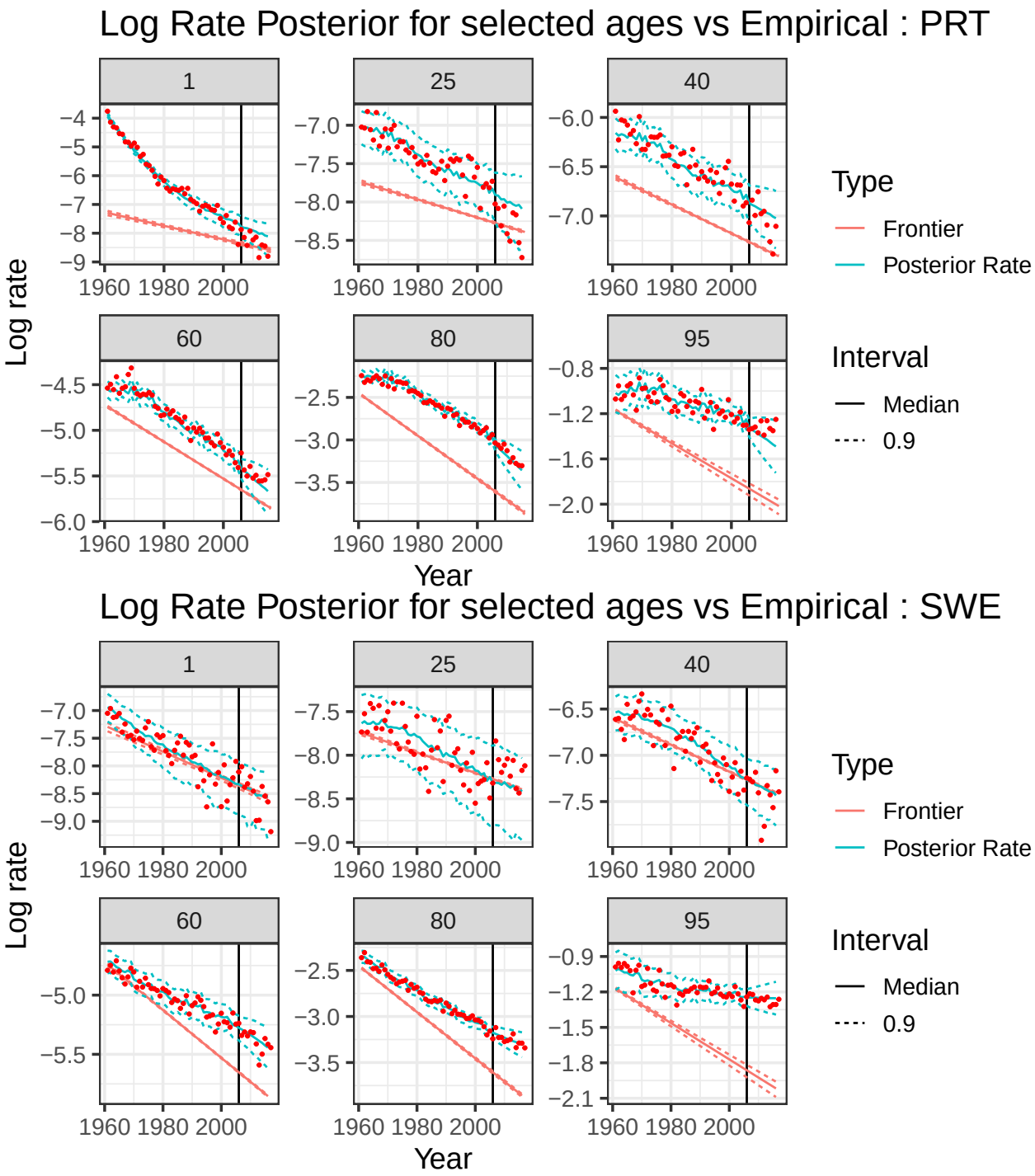
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : JPN
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9
Log Rate Posterior for selected ages vs Empirical : NLD
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : NOR
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : NZL_NM
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : PRT
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9
Log Rate Posterior for selected ages vs Empirical : SWE
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9


Log Rate Posterior for selected ages vs Empirical : USA
1
25
40
60
80
95
Log rate
Year
1960 1980 2000
Type
Frontier
Posterior Rate
Interval
Median
0.9