ALB OEM

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Fig 1 onwards are the MFCL residuals and fig 6 onwards the WG biodyn residuals, These are similar enough to keep us happy.

Fig 9 onwards is the OEM. There are two important things, the selection patterns of the fleets, i.e. is the index a juvenile or an adult index, we had a lot of, uninformed, discussion about this, and the bias in the CT index. So I did two things simulated time series based on the partial catches, see fig 9 and 11. The time series in 11 use the same random numbers but are different due to the selection pattern. In fig 12 I added a 3% trend in q for the CT fleet and we get the bias seen in the assessment. The rest of the diagnostics are similar enough to those in the biodyn WG assessment, so looks like we have an OEM

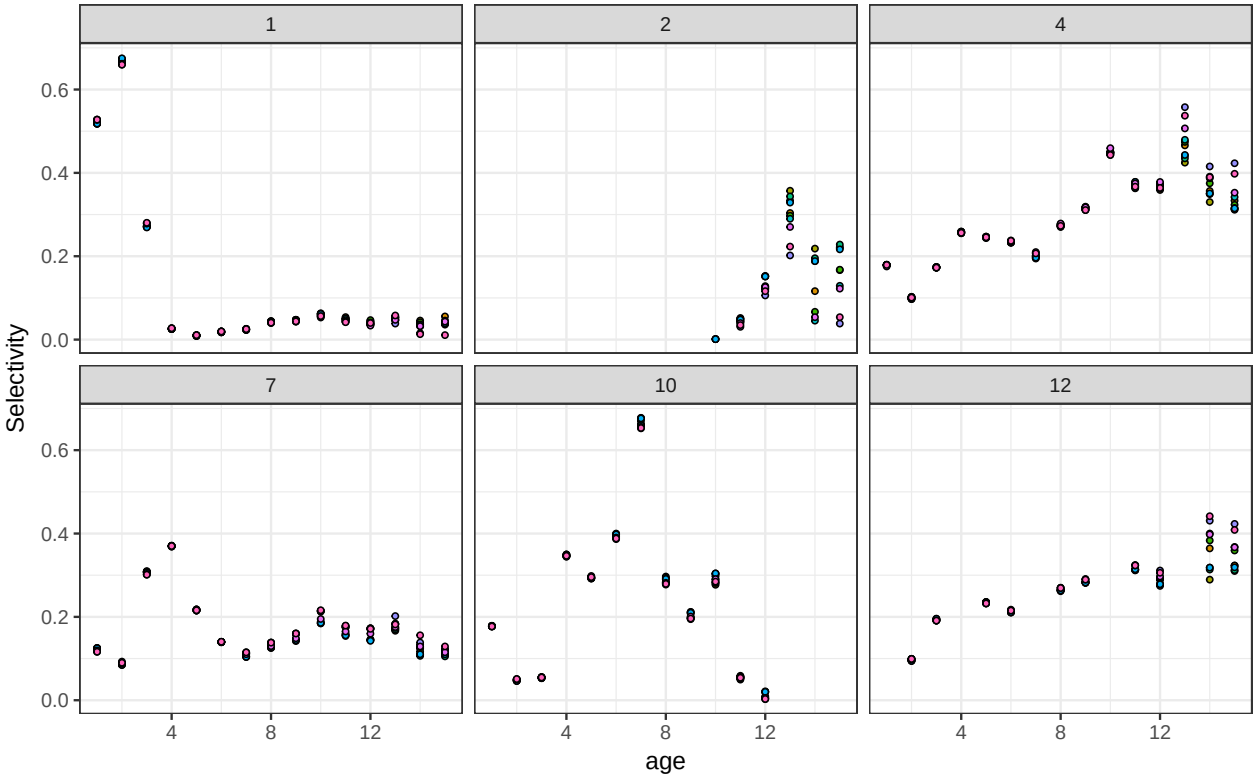


Figure 1. Selection patterns by fleet (panel) across OMs for 1 year

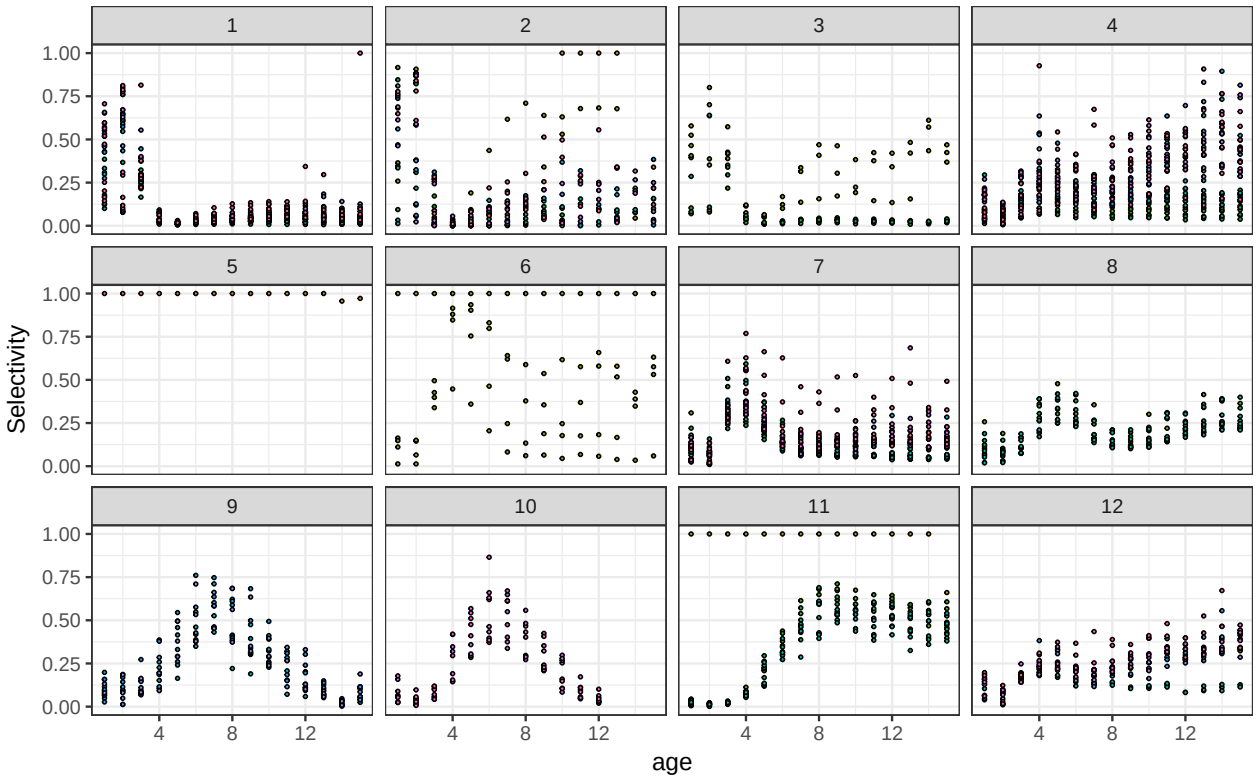


Figure 2. Selection patterns by fleet (panel) across OMs for 1 year #Operating Model

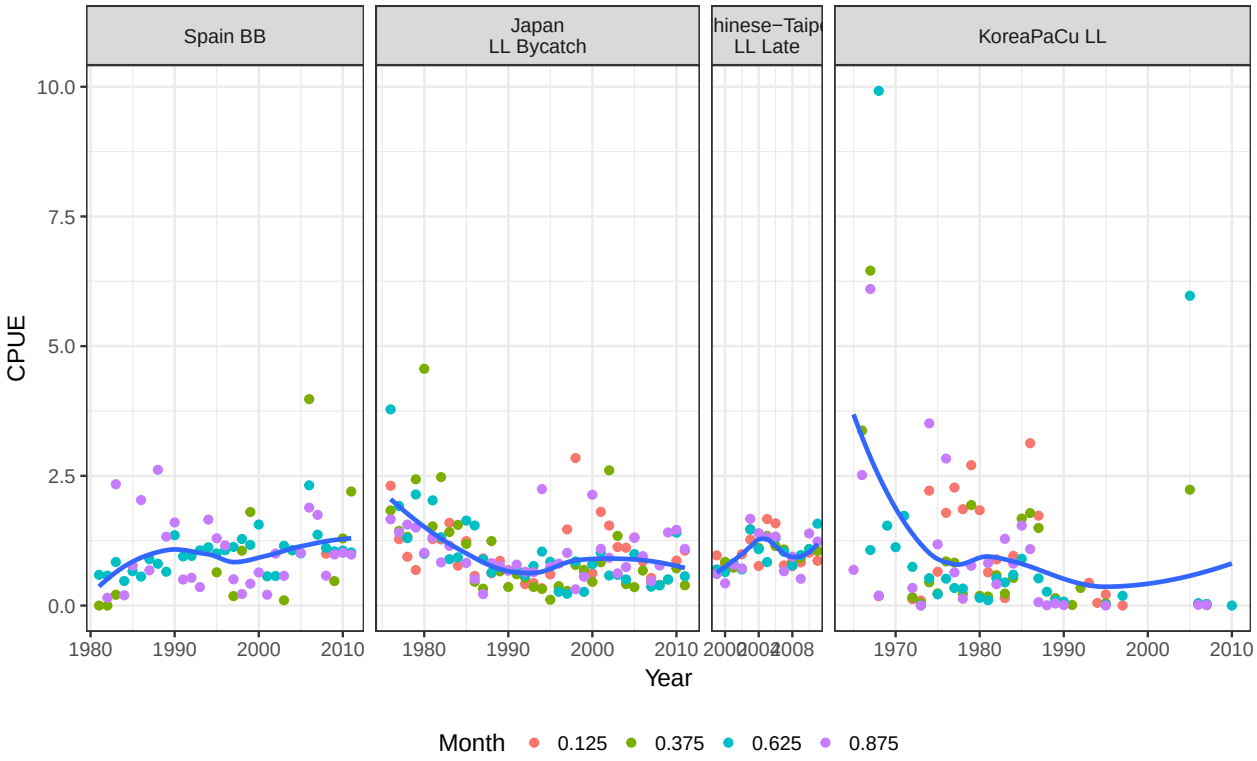


Figure 3. Time series of Multifan-CL CPUE indices corresponding to those used in the working group biomass dynamic assessment assessment.

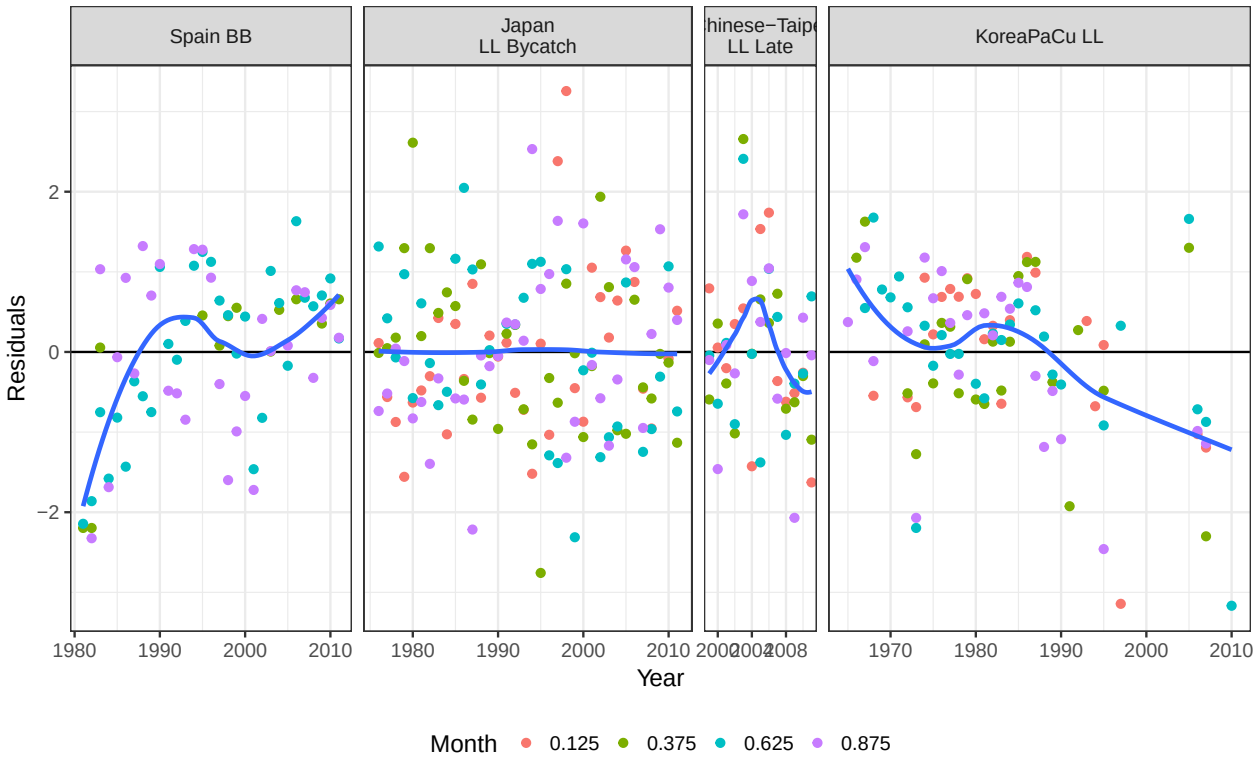


Figure 4. Standardised effort deviates from Multifan-CL.

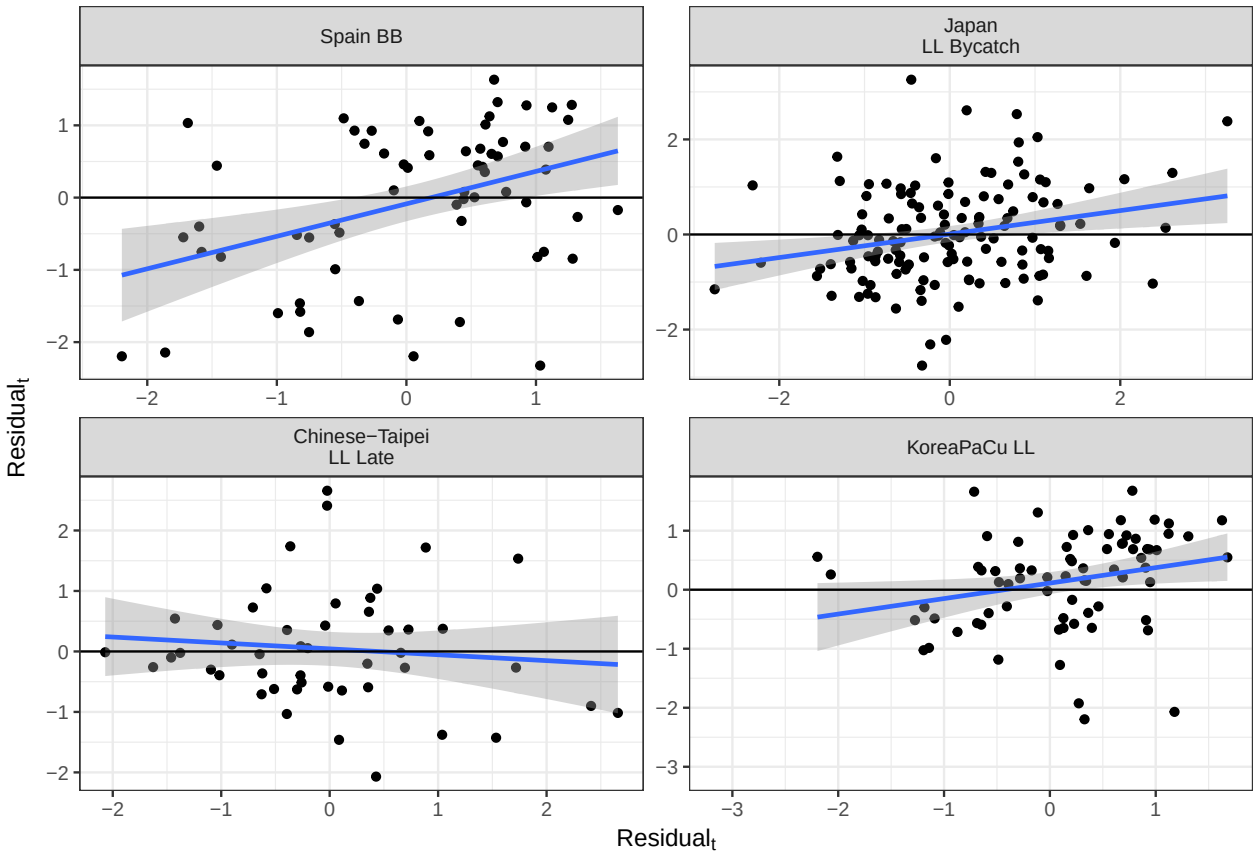


Figure 5. Autocorrelation (lag 1) of effort deviates from Multifan-CL.

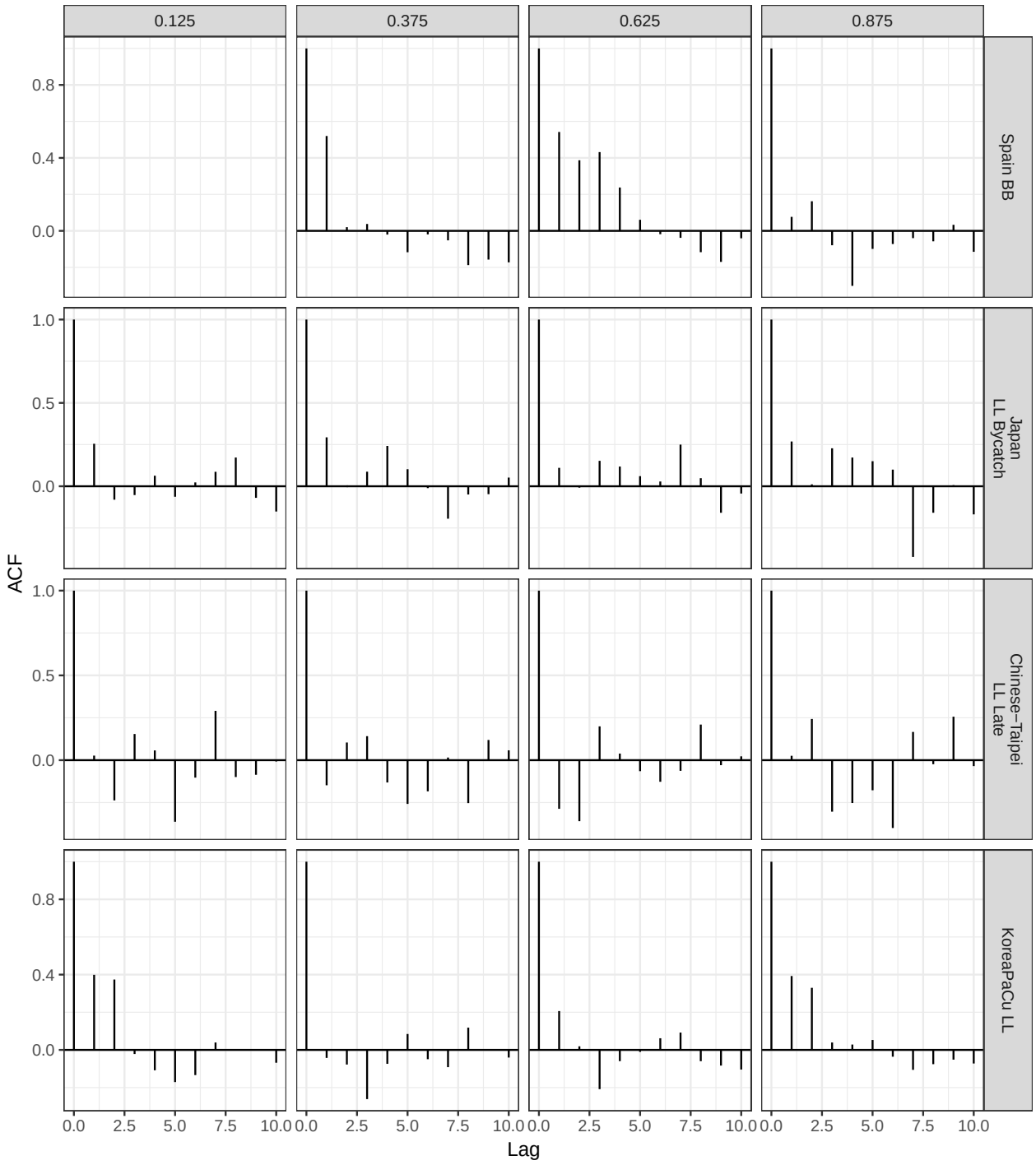


Figure 6. Autocorrelation of effort deviates from Multifan-CL.

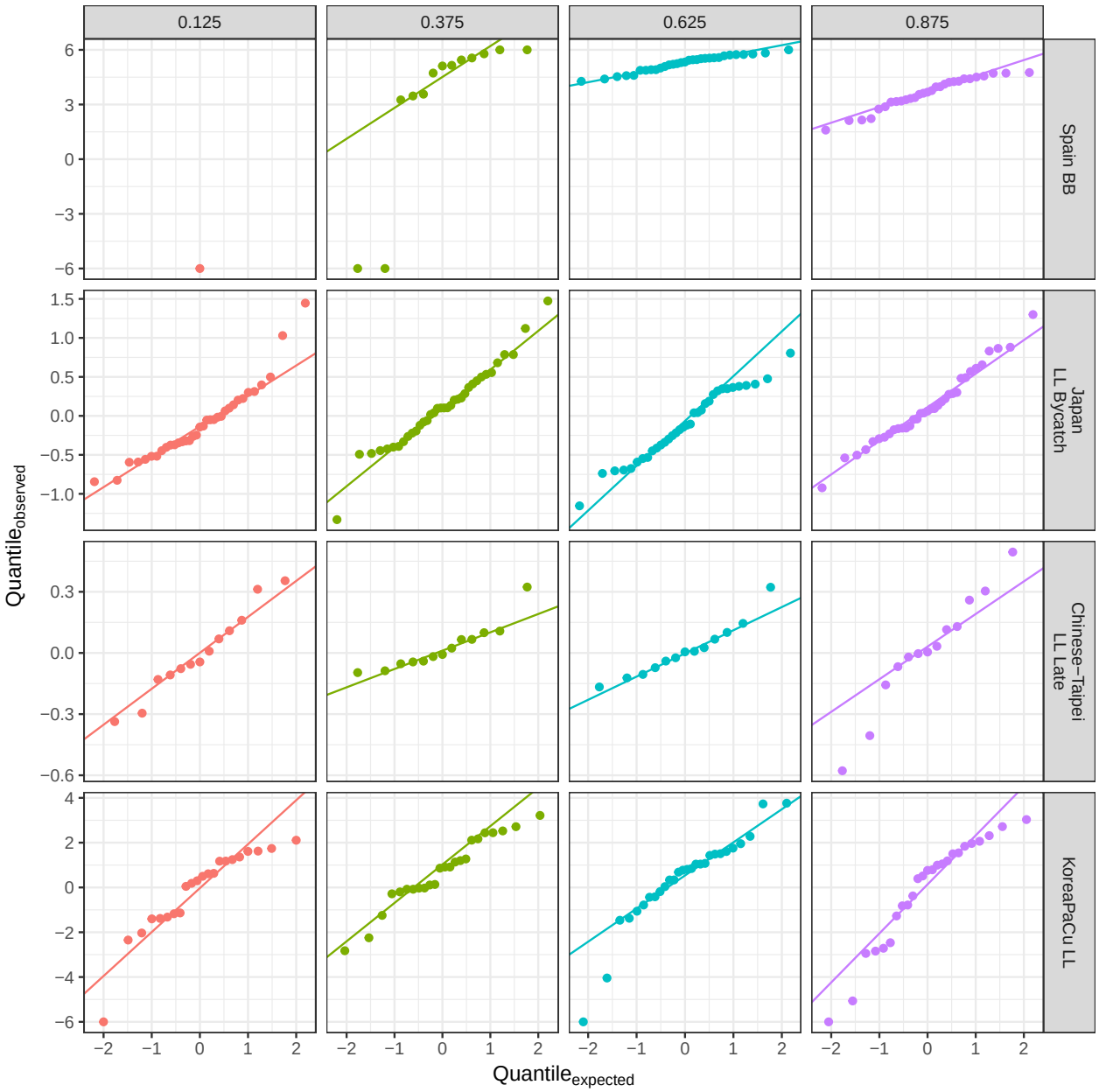


Figure 7. Quantile Quantile plot for effort deviates from Multifan-CL.

Biomass Dynamic

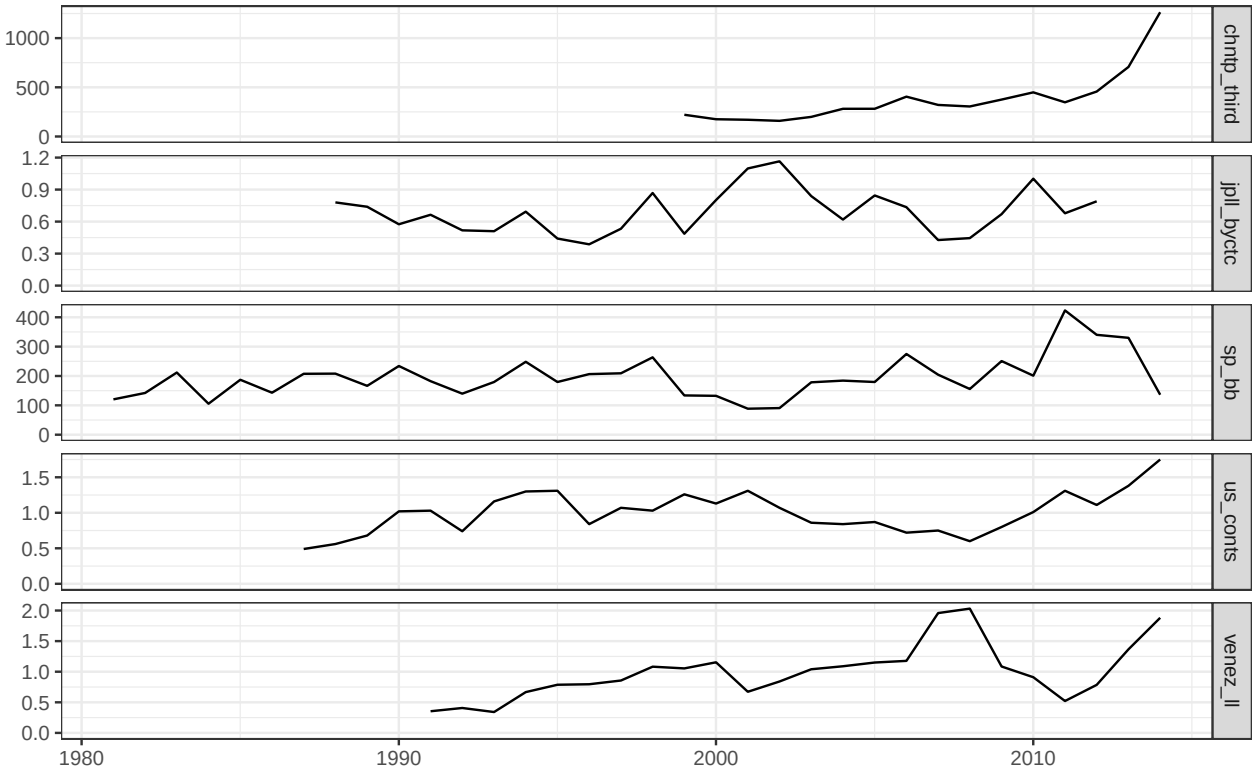


Figure 8. Time series of CPUE indices used in biomass dynamic assessment model.

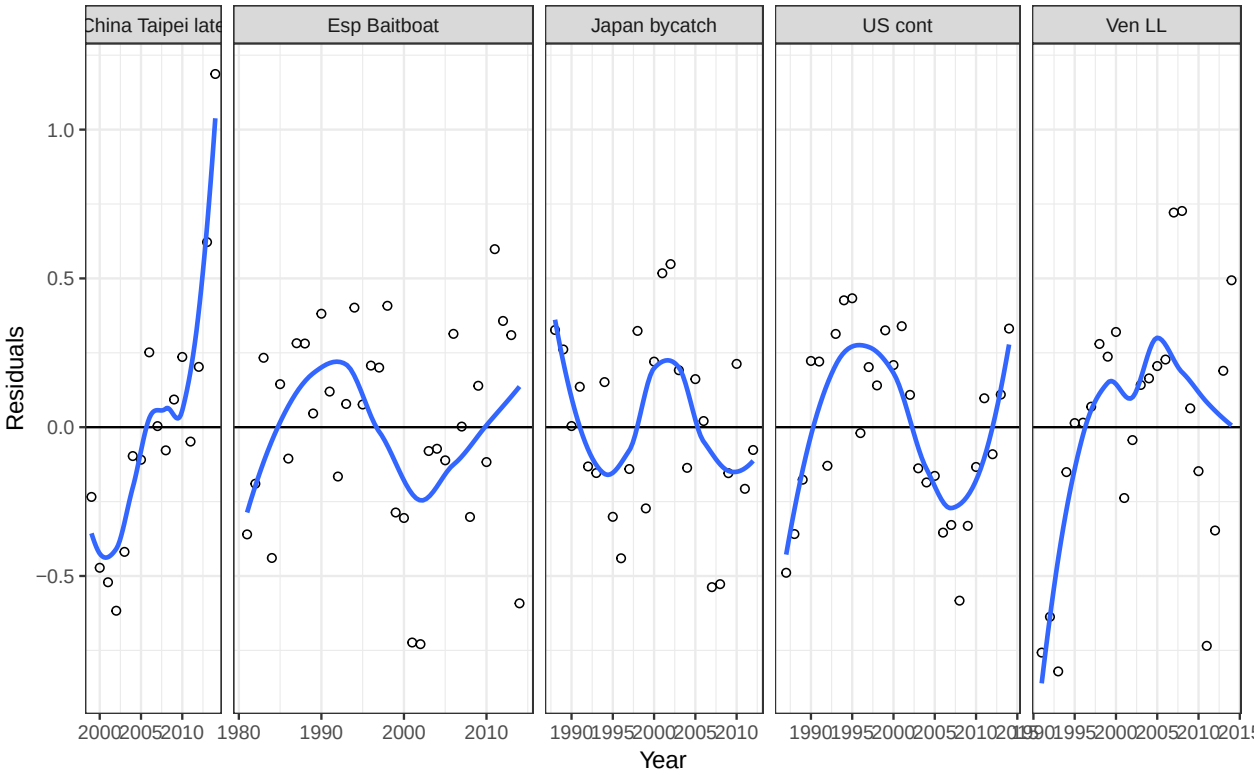


Figure 9. Residuals from fit to CPUE by biomass dynamic assessment model.

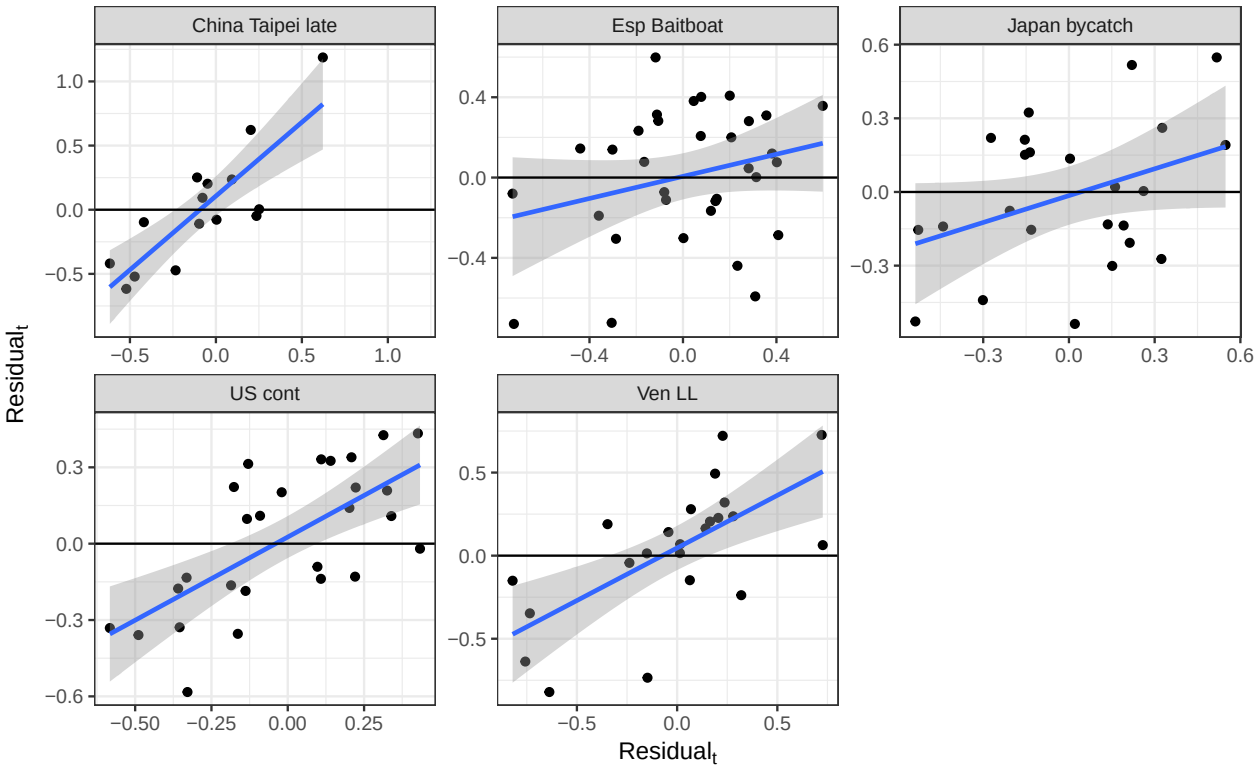


Figure 10. Autocorrelation of residuals (lag 1) from fit to CPUE by biomass dynamic assessment model.

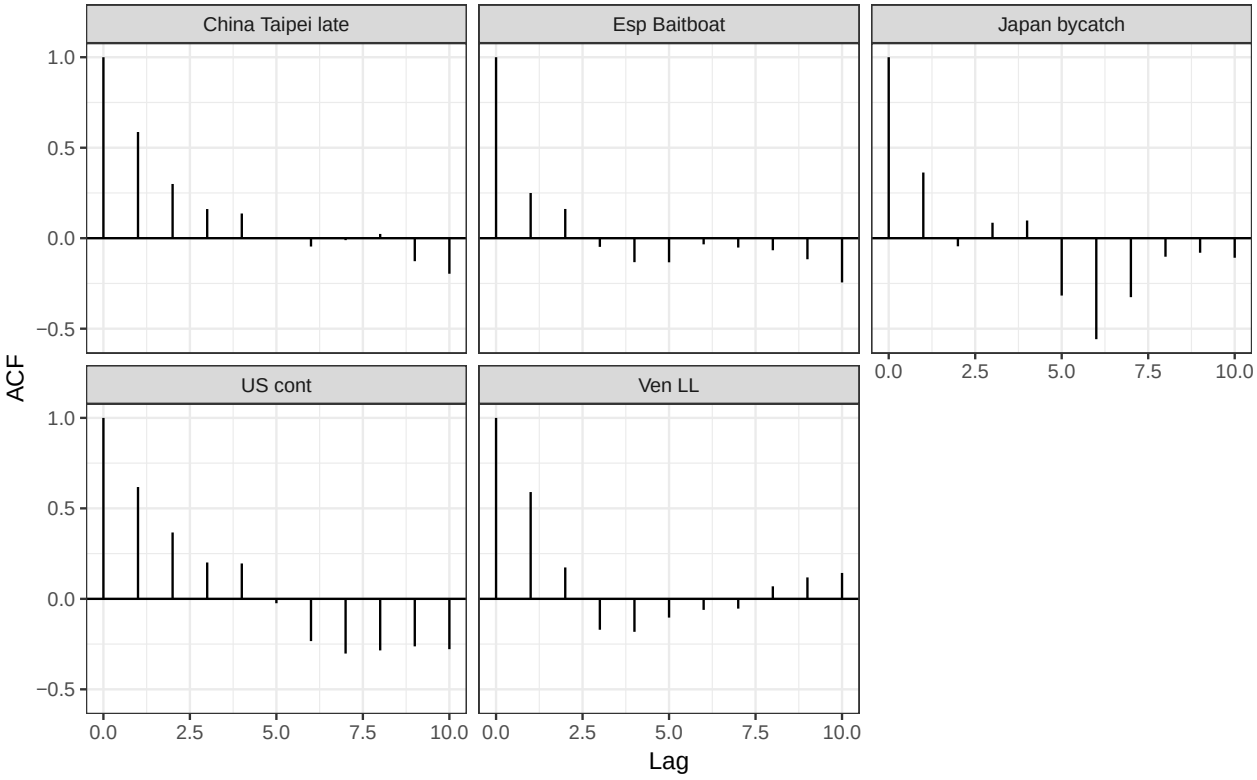


Figure 11. Autocorrelation of residuals from fit to CPUE by biomass dynamic assessment model.

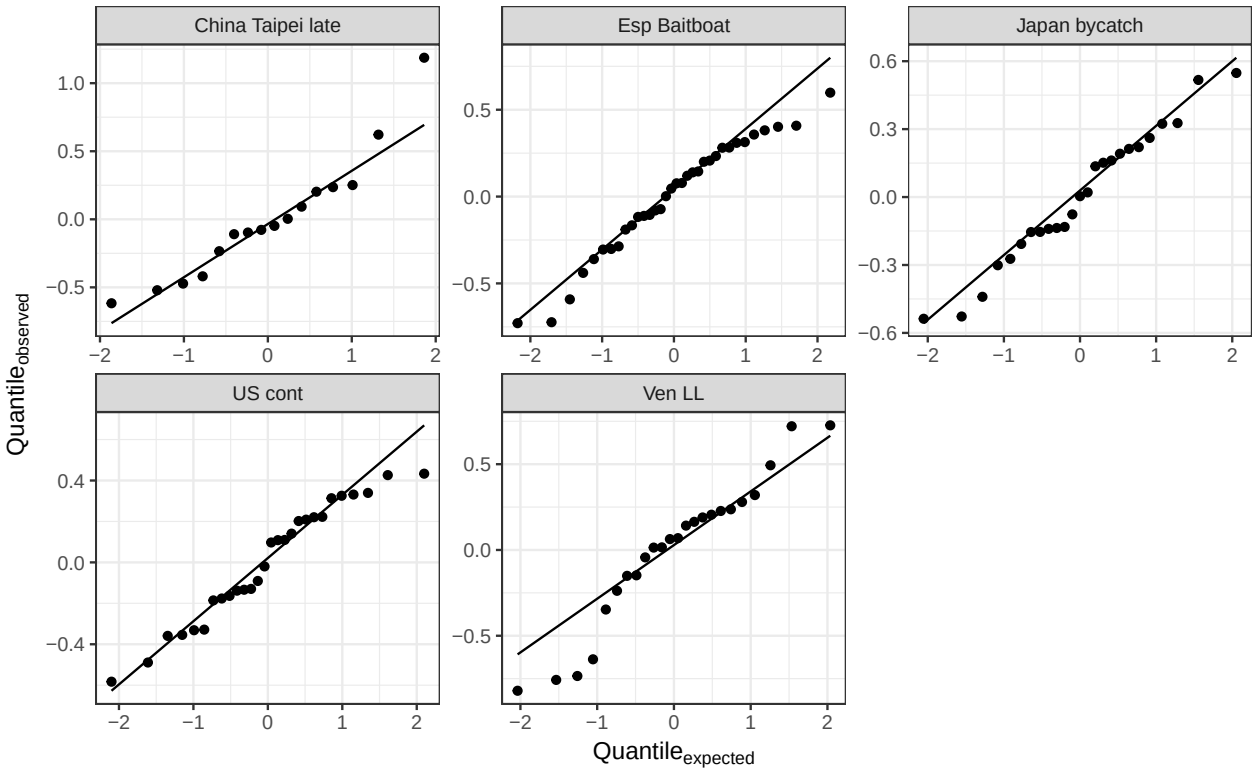


Figure 12. Quantile Quantile plot of residuals from fit to CPUE by biomass dynamic assessment model

Observation Error Model

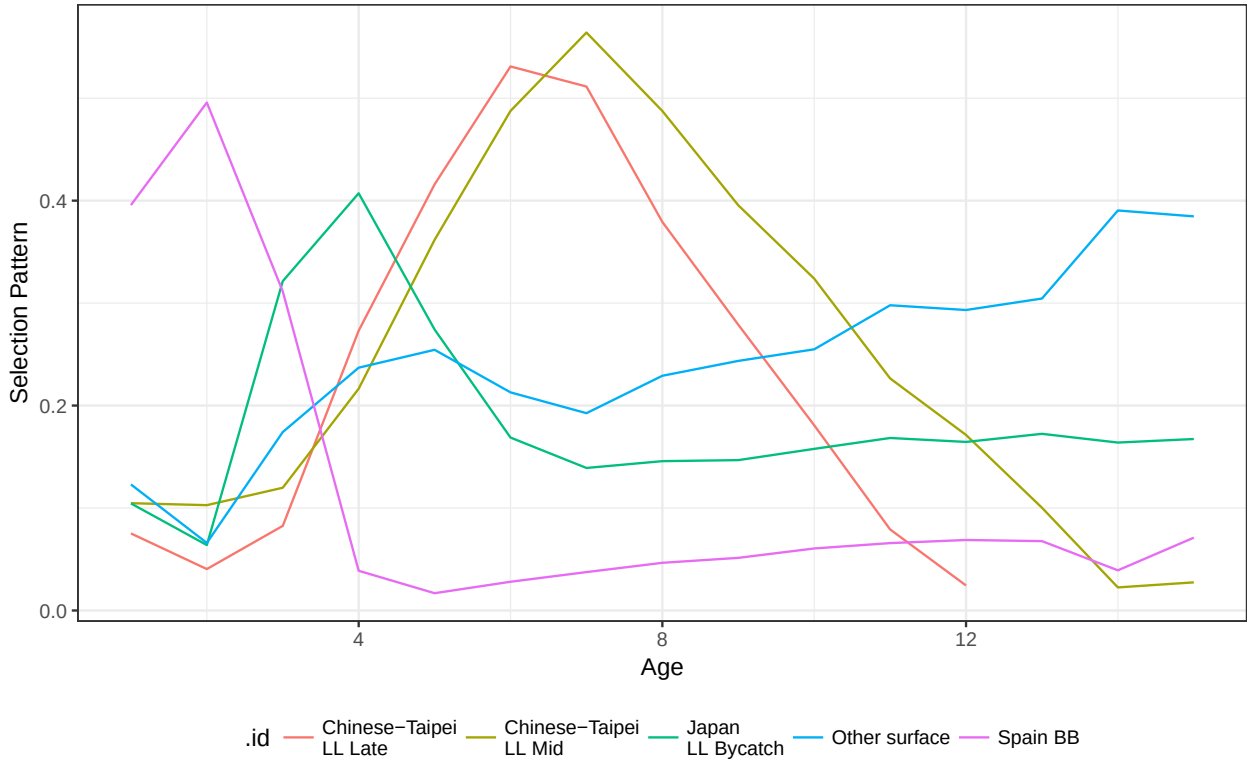


Figure 13. Selection pattern by fleet.

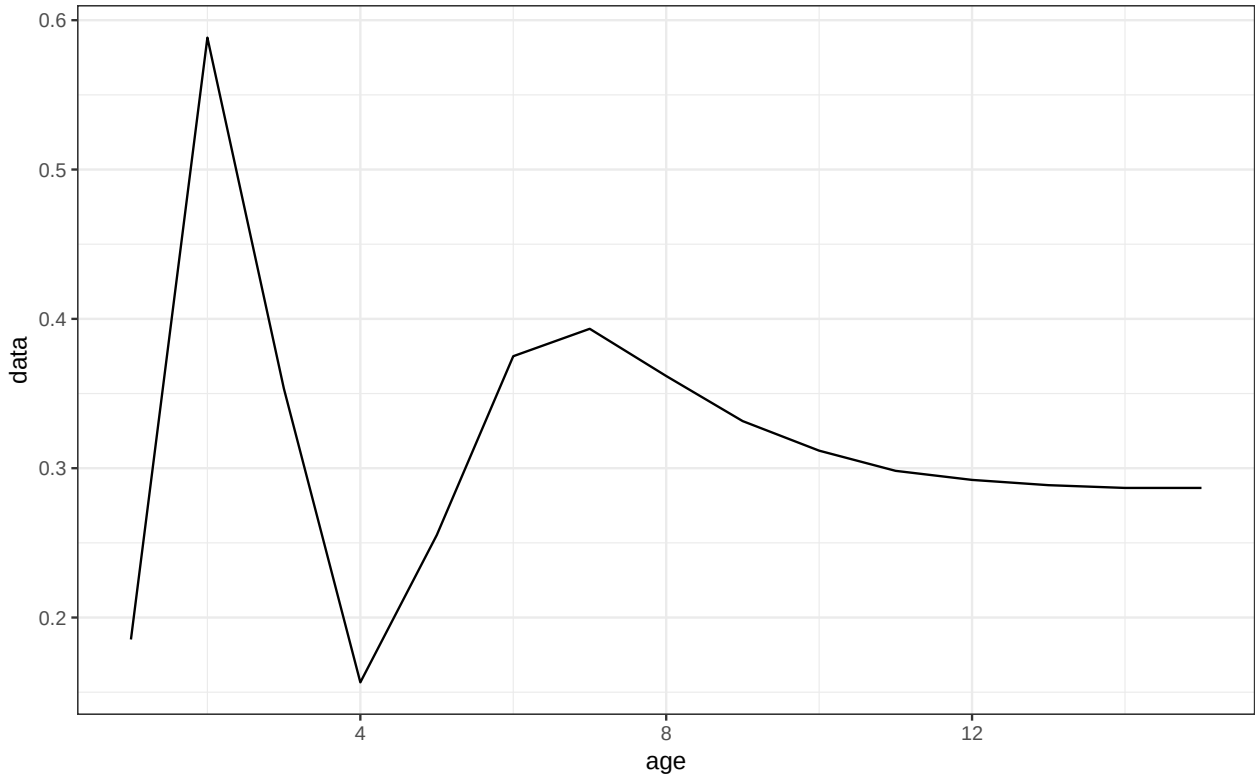


Figure 14. Overall selection pattern.

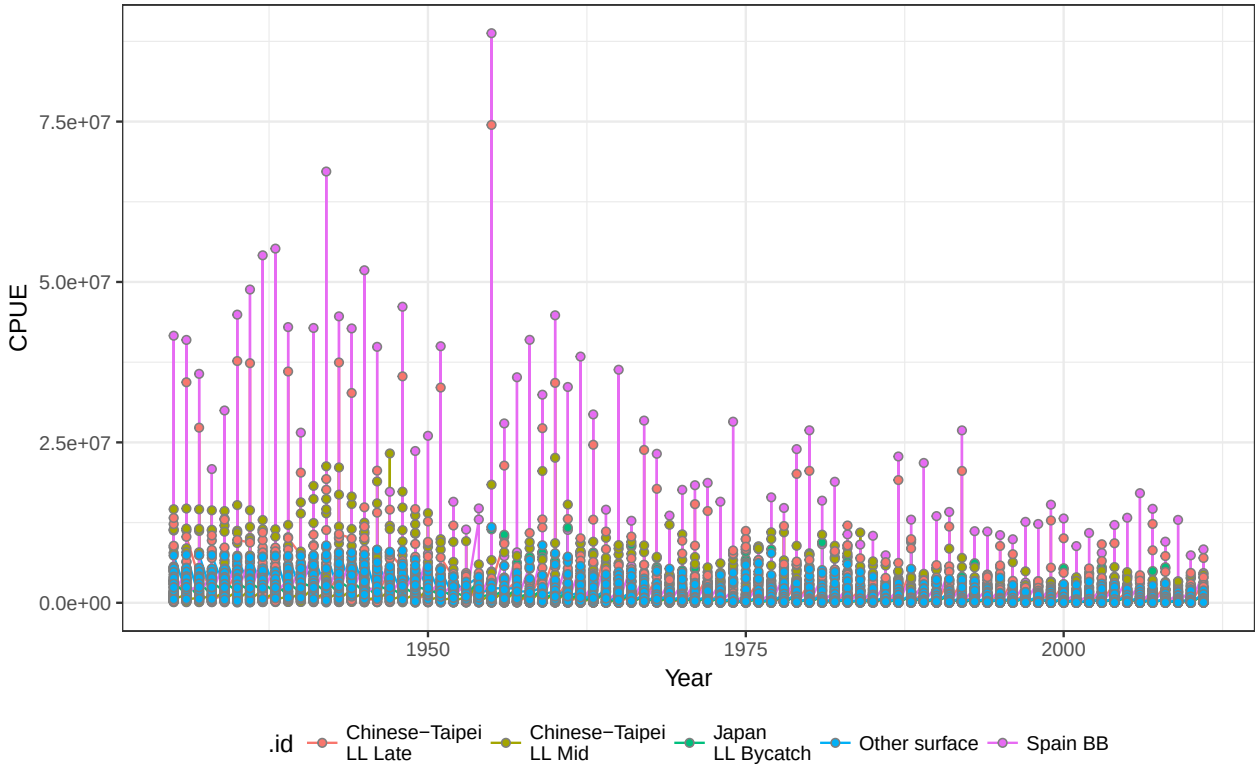


Figure 15. Simulated indices with same seed but selection patterns of fleets.

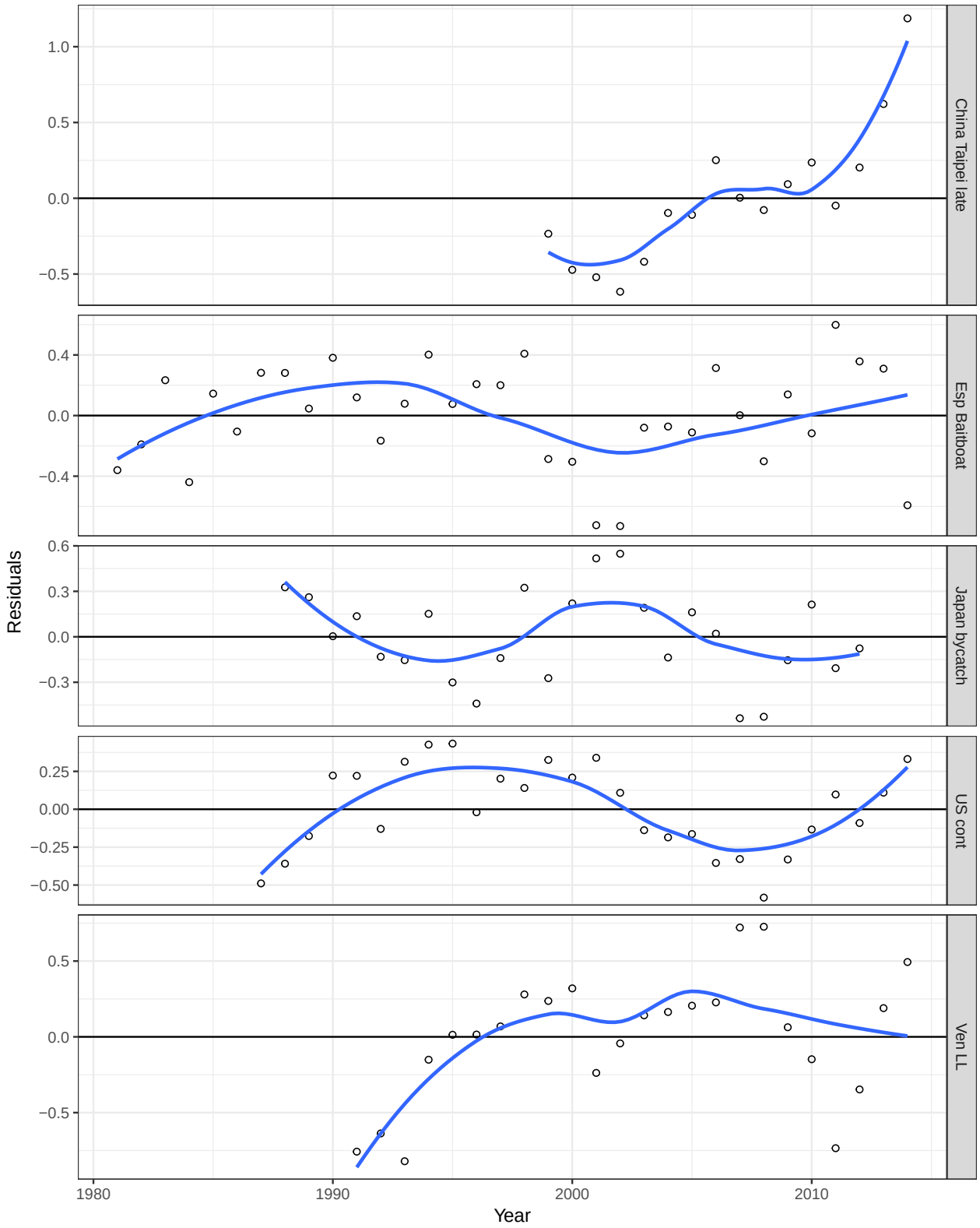


Figure 16. Residuals from fit to simulated CPUE series.

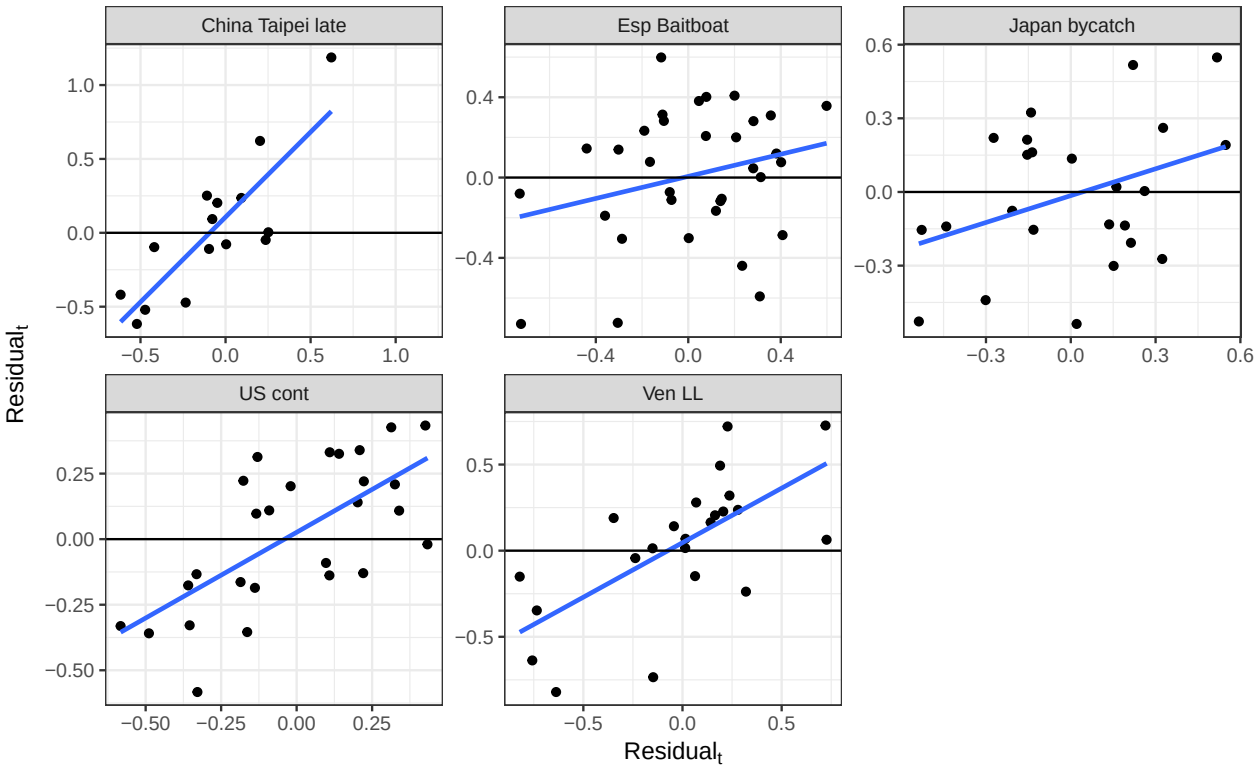


Figure 17. Autocorrelation of residuals from fit to simulated CPUE series.

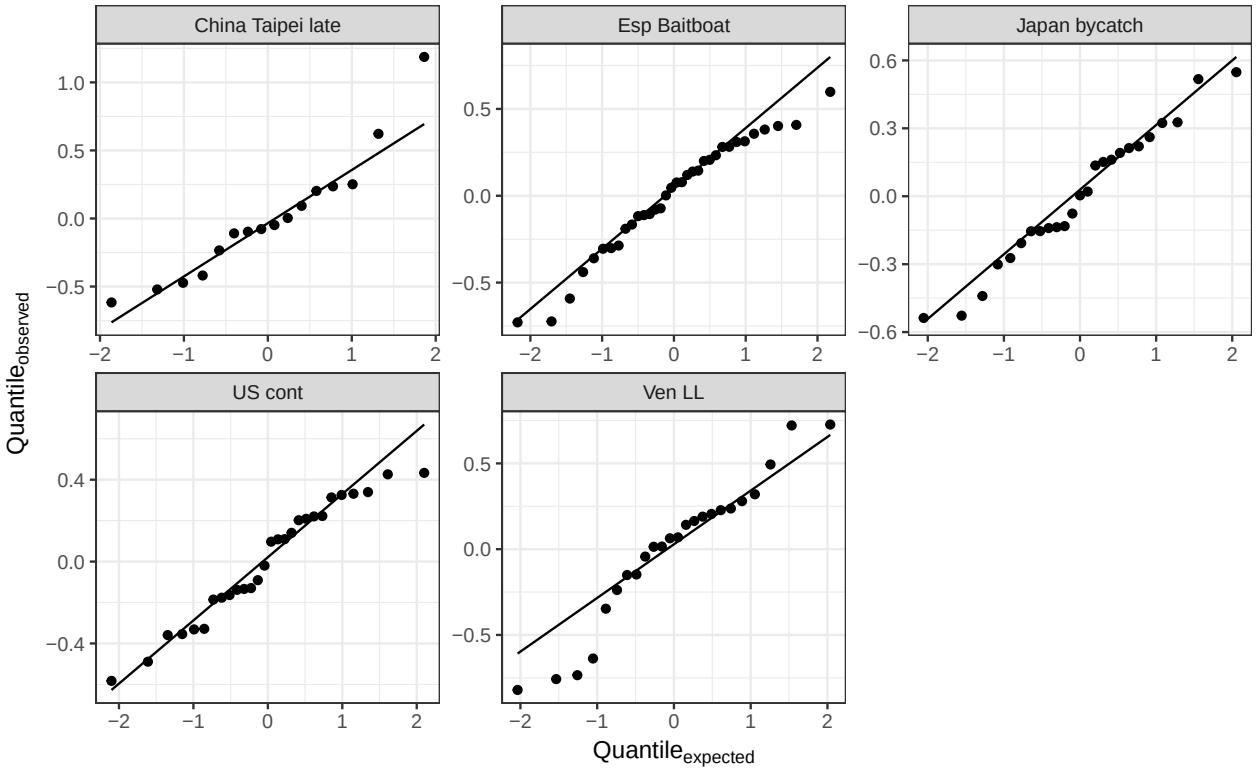


Figure 18. Quantile Quantile plot for residuals from fit to simulated CPUE series.

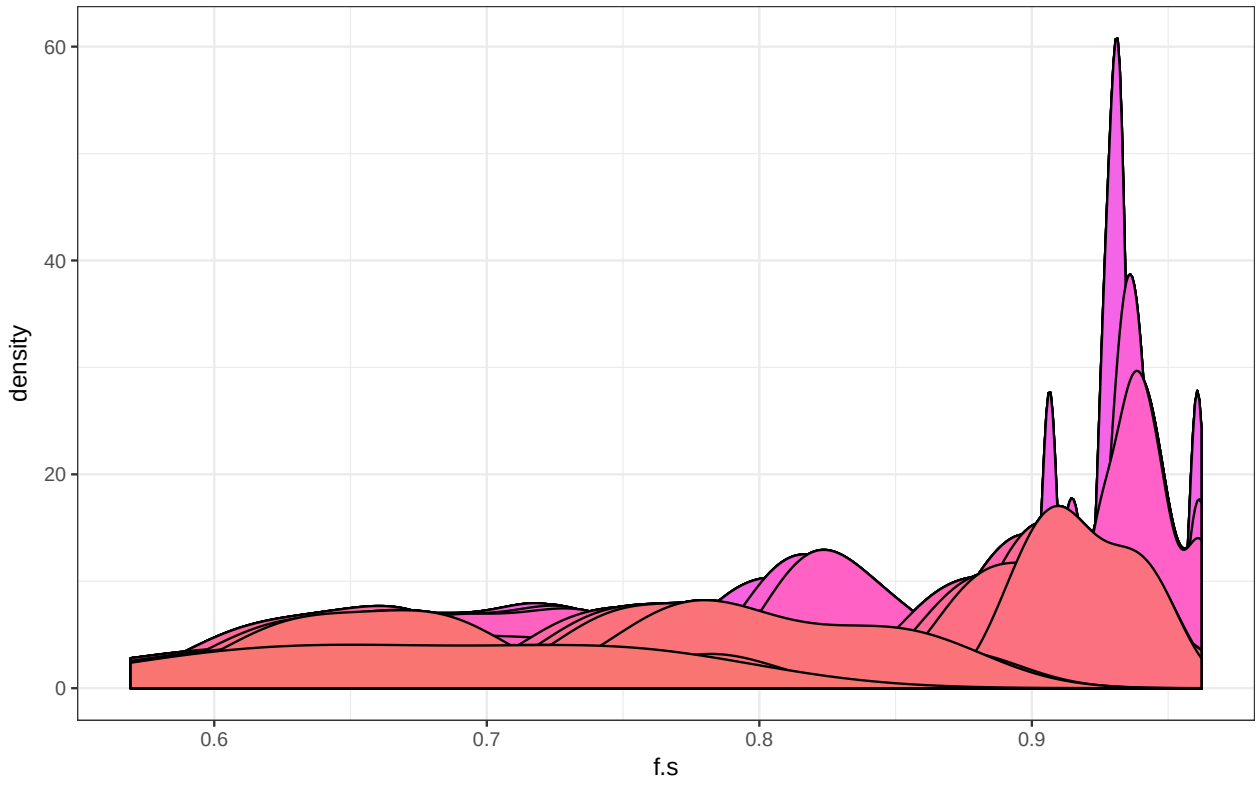
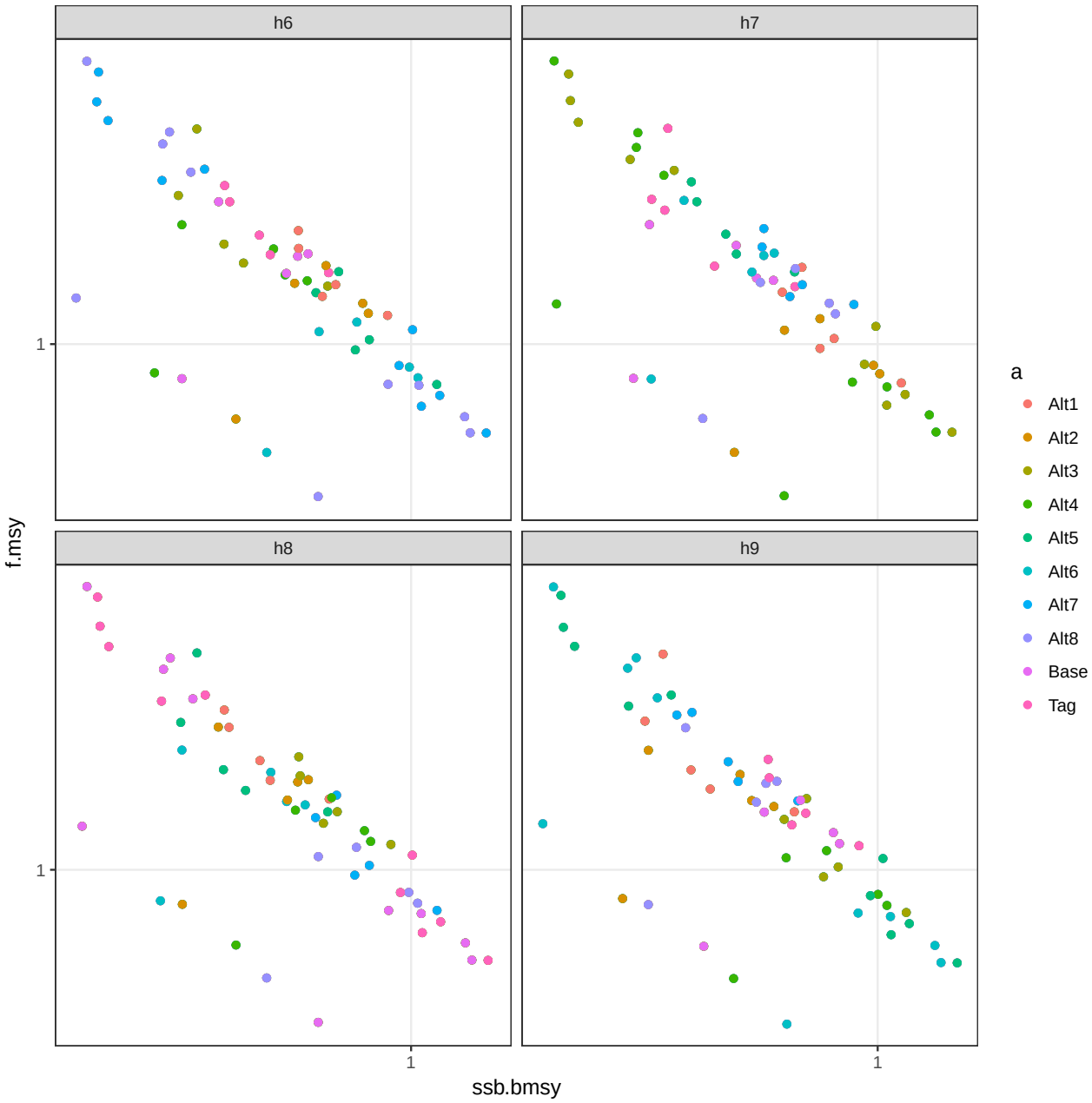


Figure 19.


h6
h7
h8
h9
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ssb.bmsy
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a
Alt1
Alt2
Alt3
Alt4
Alt5
Alt6
Alt7
Alt8
Base
Tag

Figure 20.

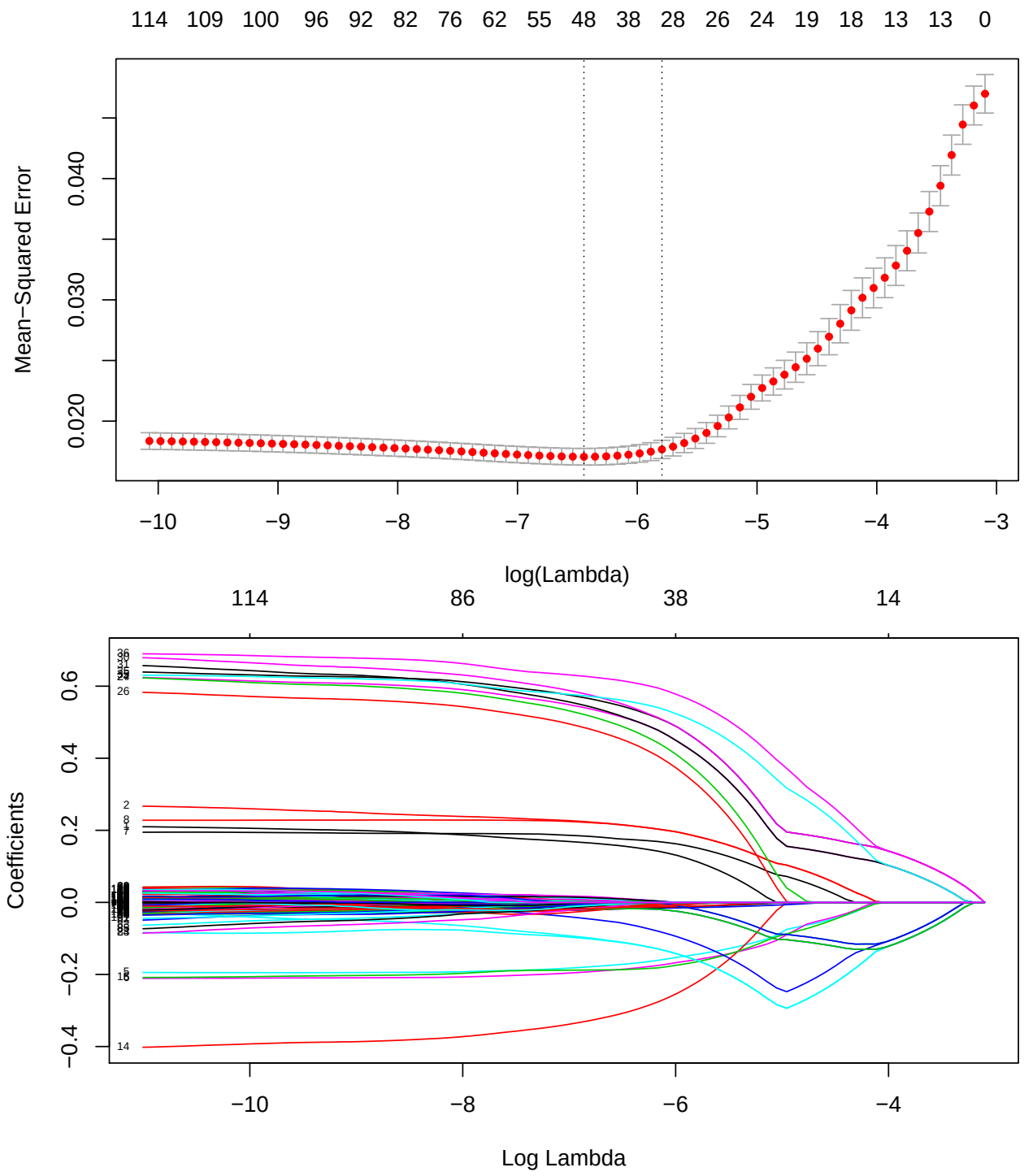
114 109 100 96 92 82 76 62 55 48 38 28 26 24 19 18 13 13 0
Mean−Squared Error
0.020
0.030
0.040
−10 −9 −8 −7 −6 −5 −4 −3
log(Lambda)
114 86 38 14
Coefficients
−0.4 −0.2 0.0 0.2 0.4 0.6
−10 −8 −6 −4
Log Lambda

Figure 21.