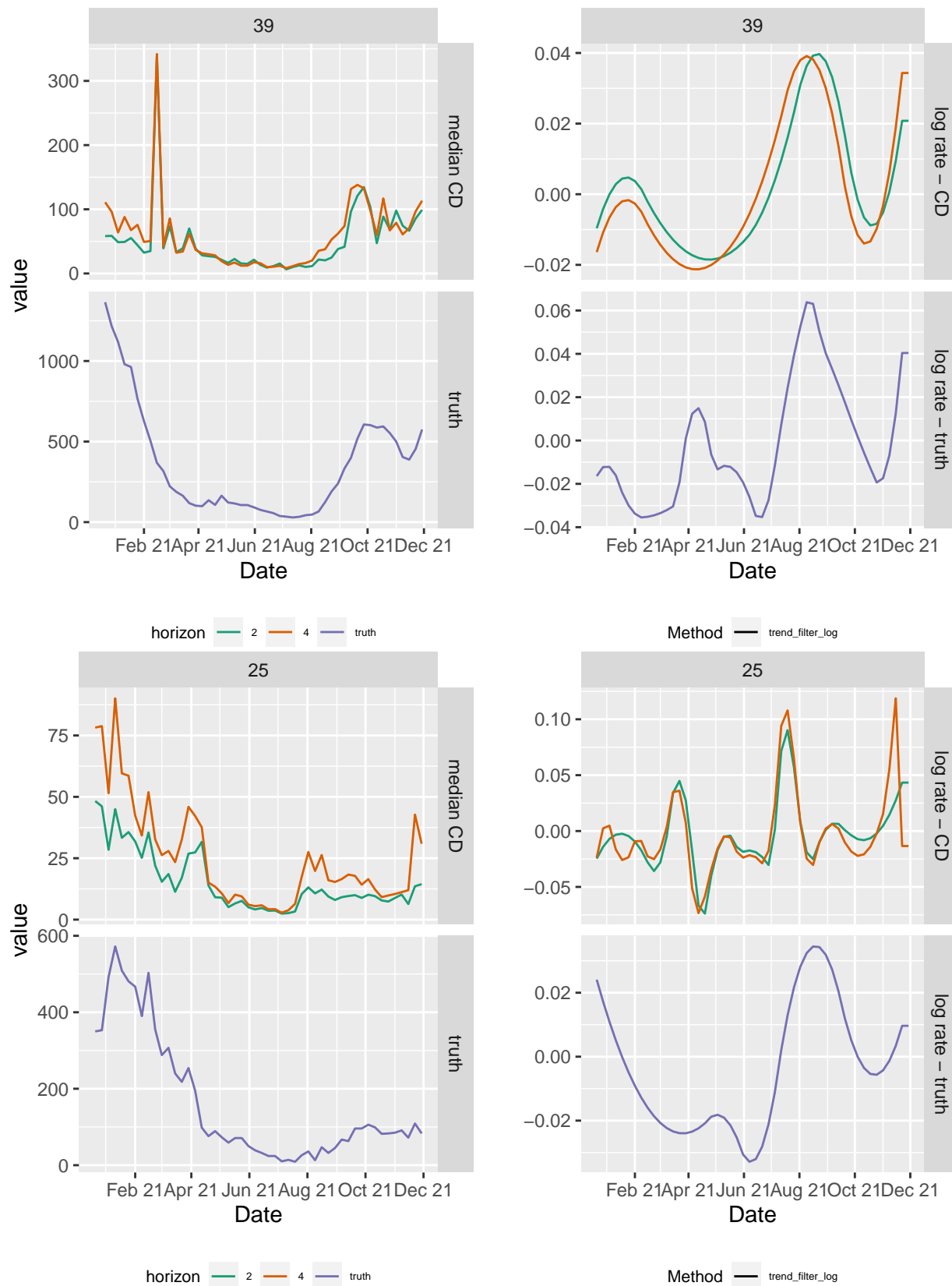


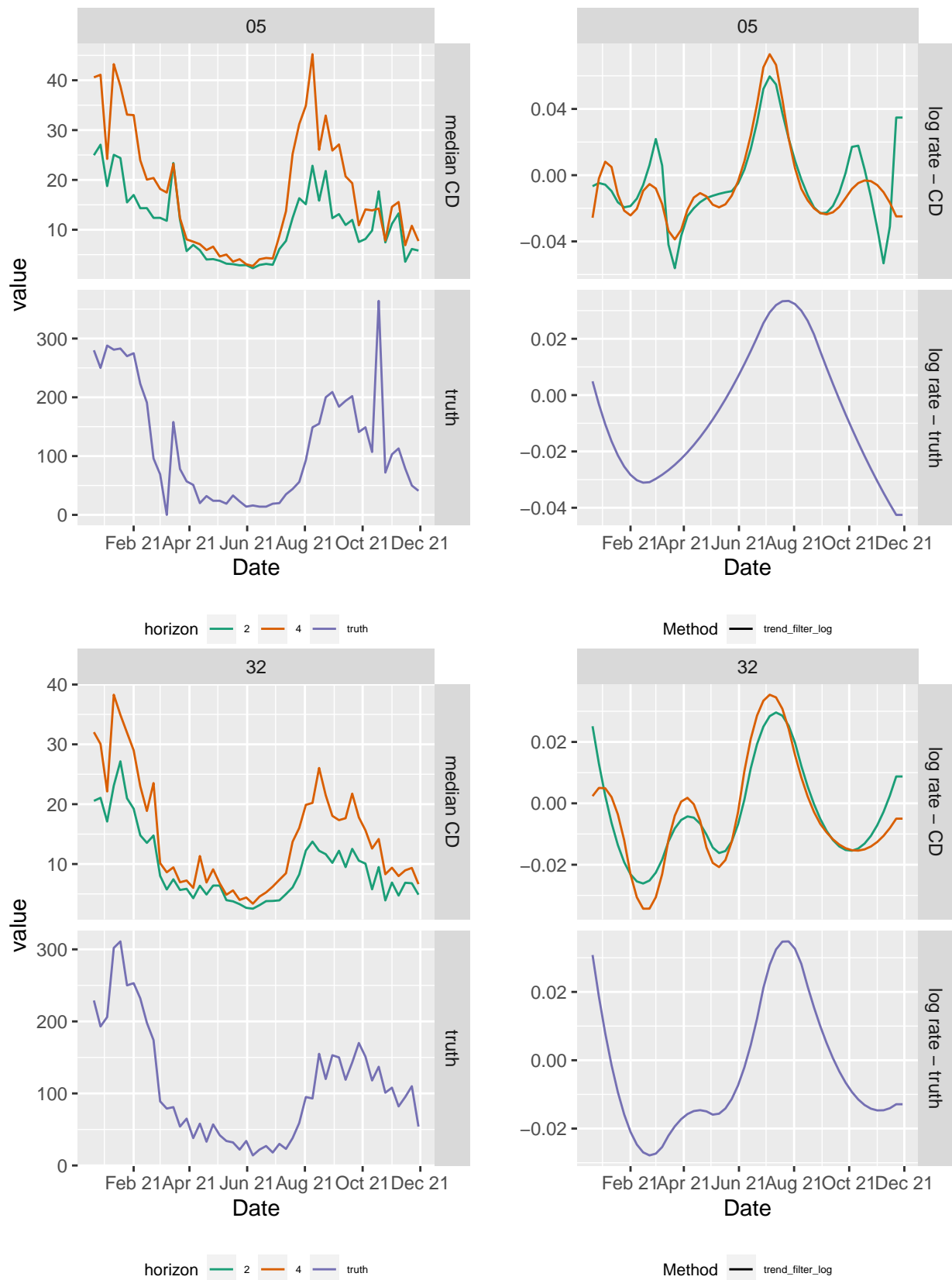
# Distance as a signal

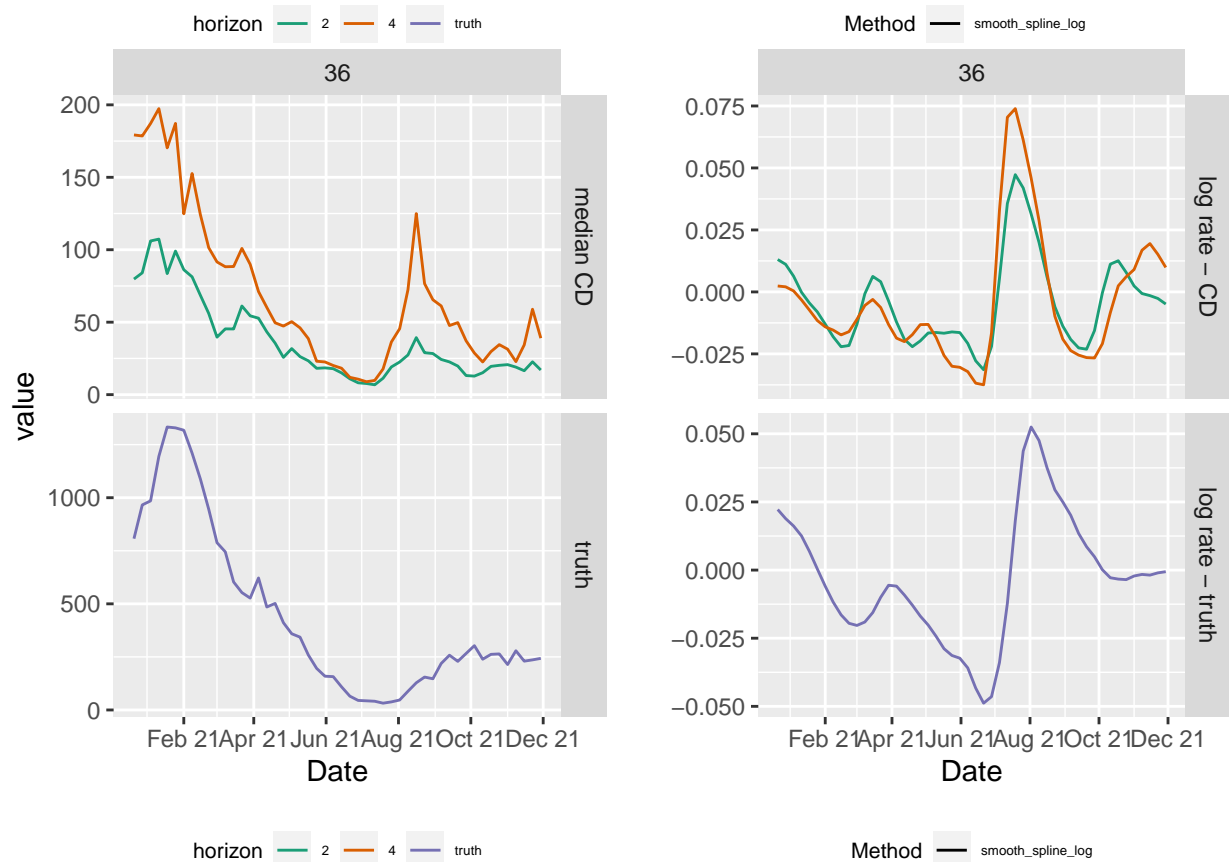
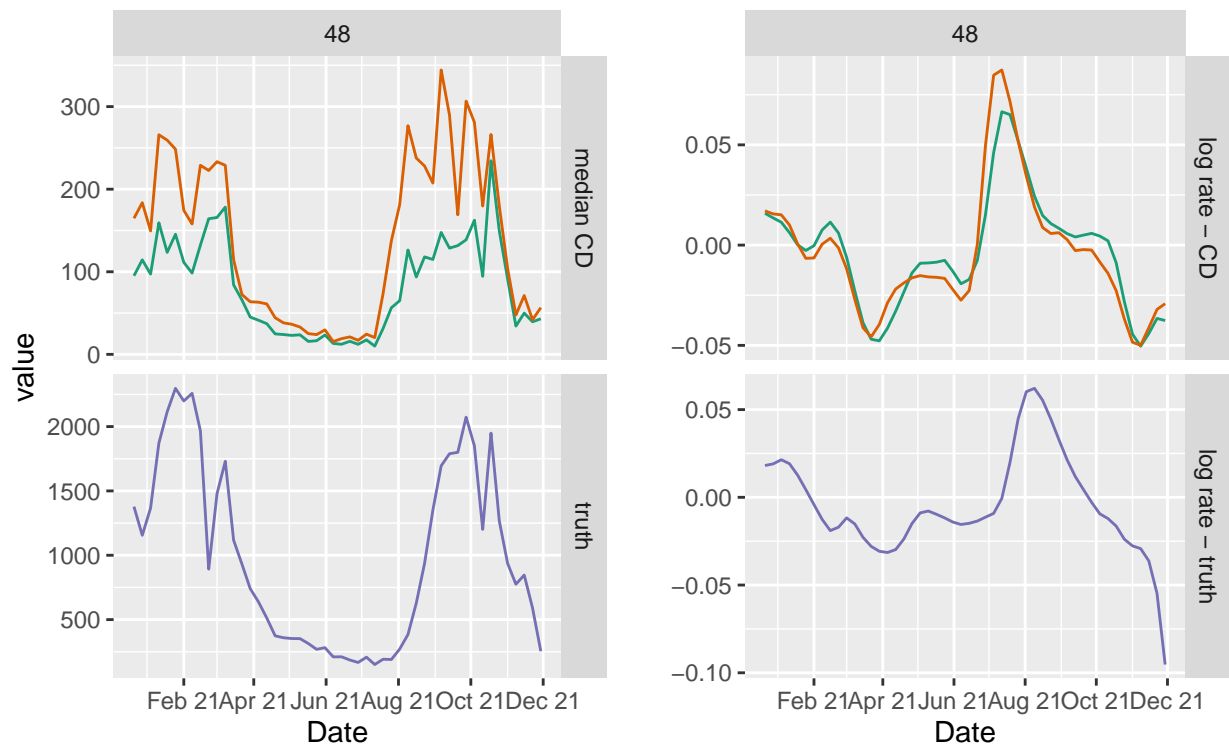
Nutcha Wattanachit, Johannes Bracher, Evan Ray, Nick Reich

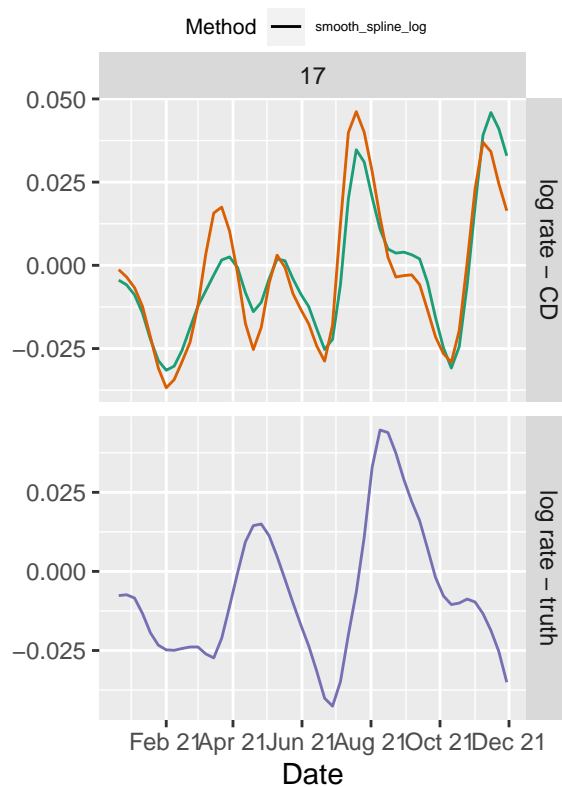
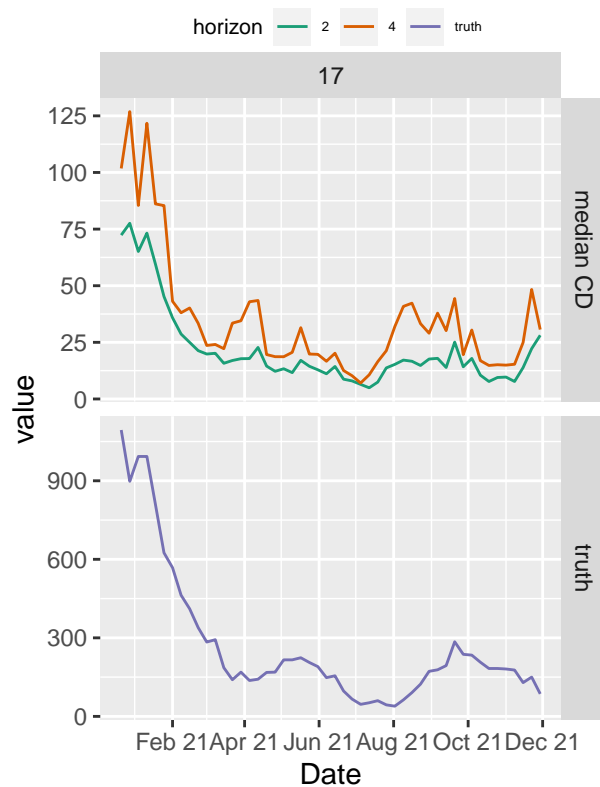
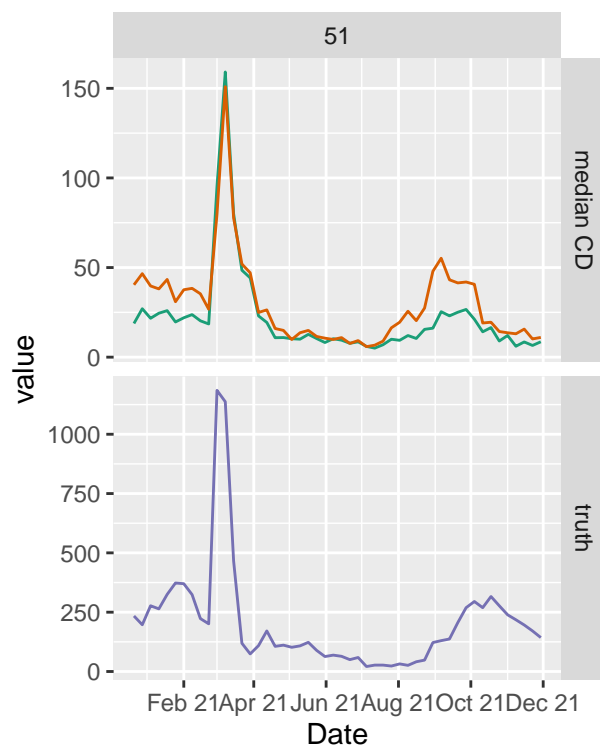
06/06/2022

## Plots - log scale trend filter and smooth spline



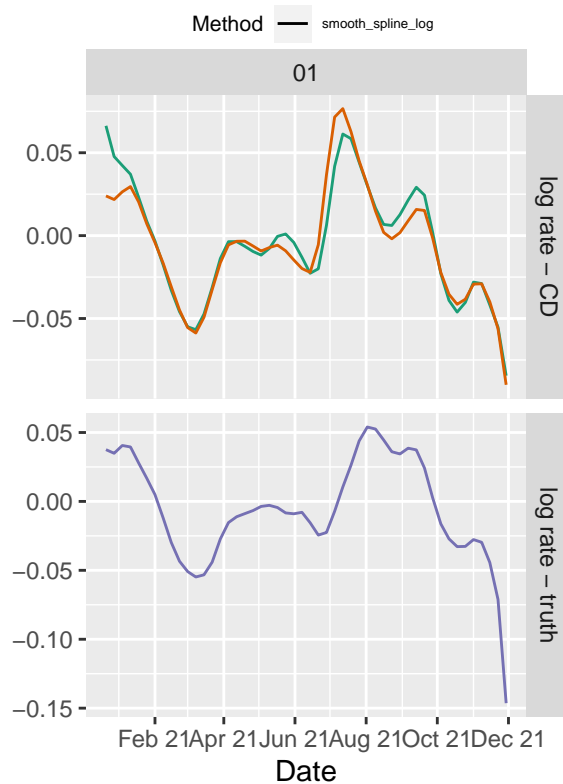
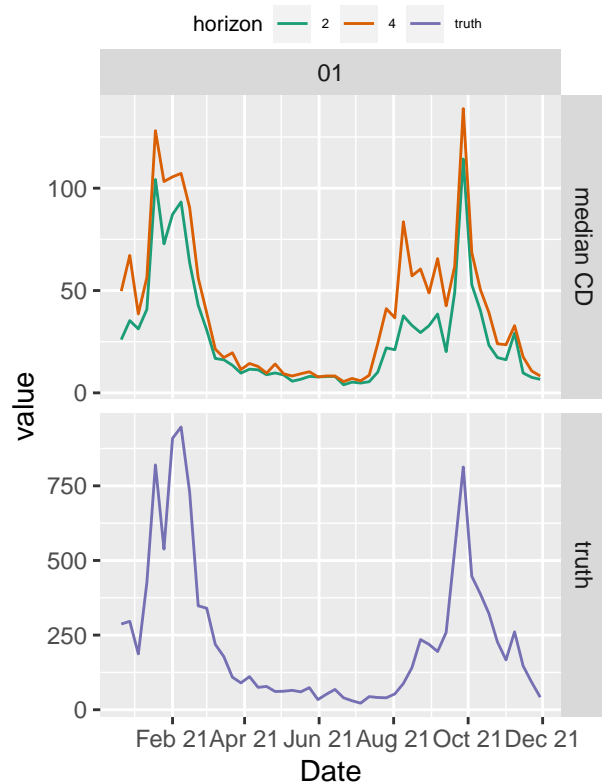
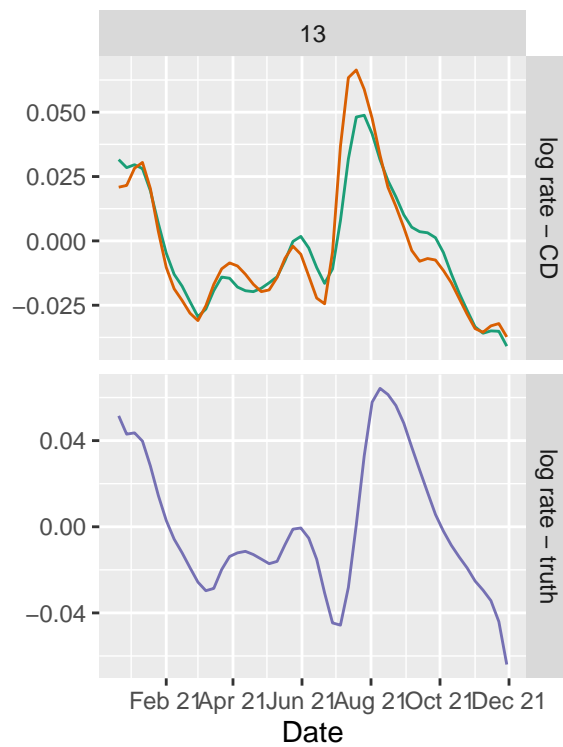
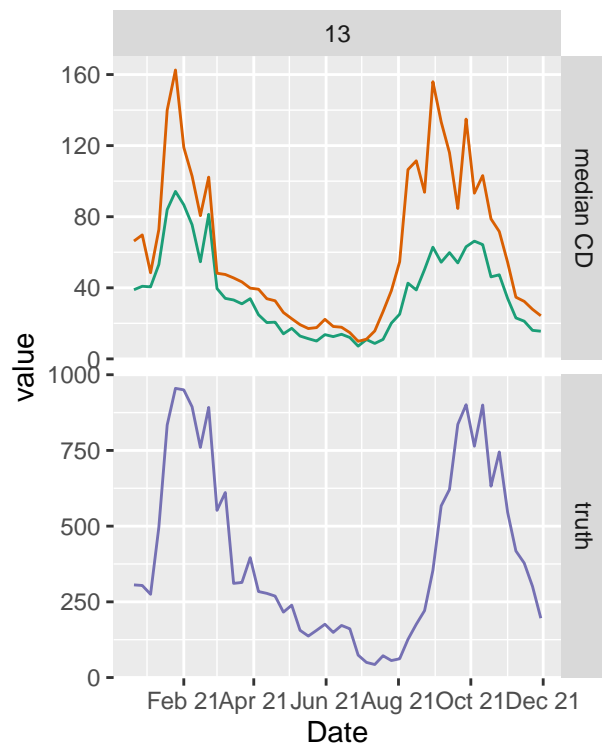






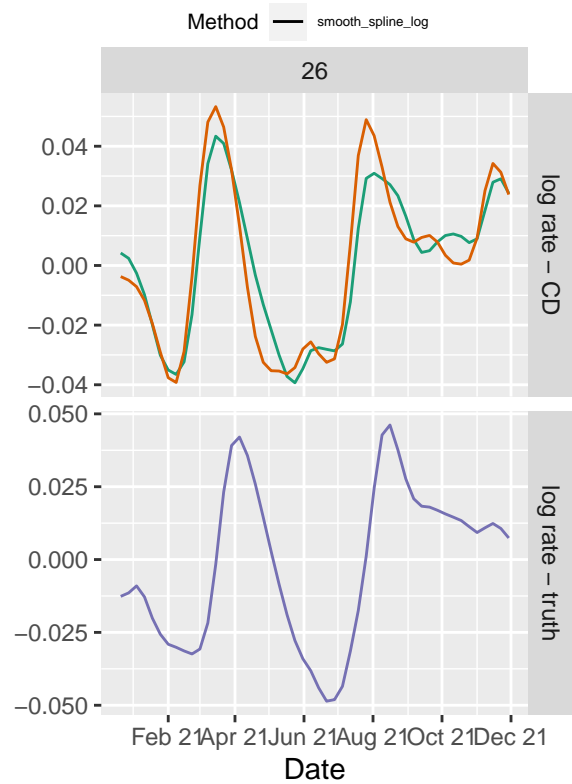
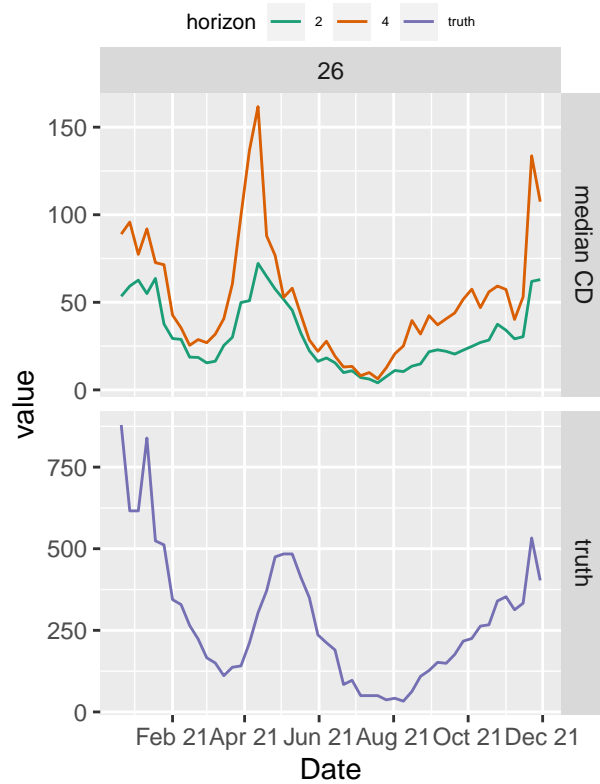
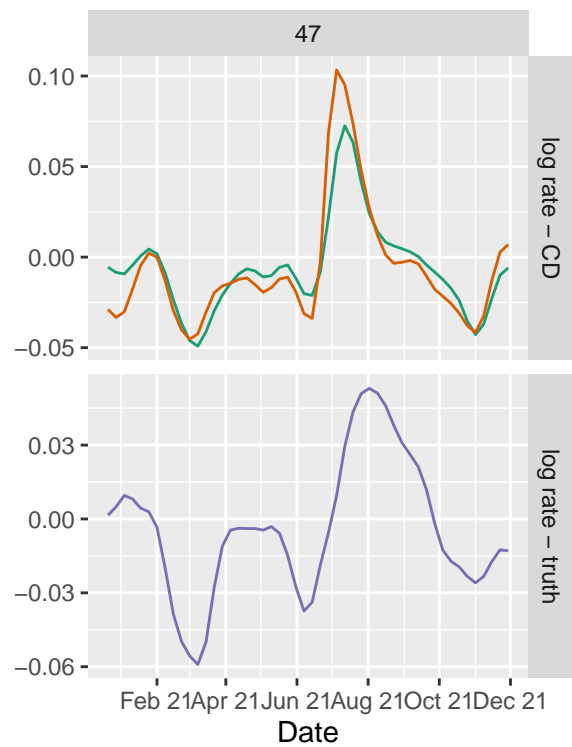
horizon 2 4 truth

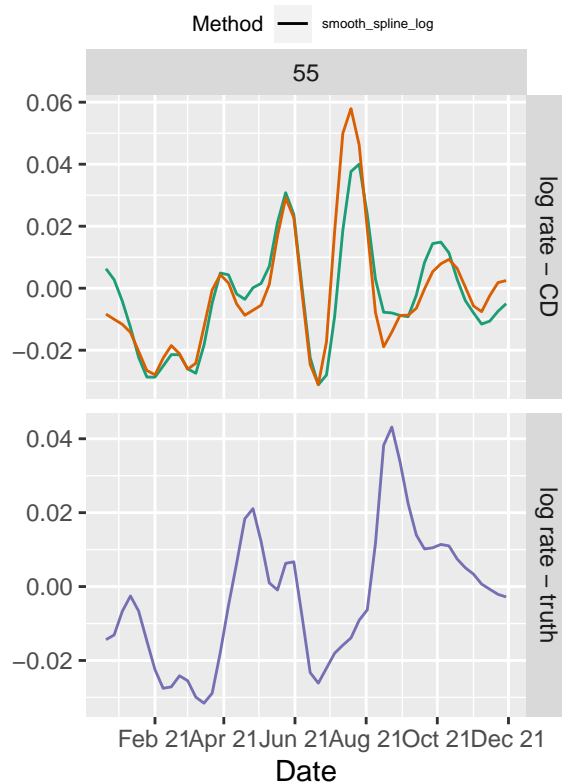
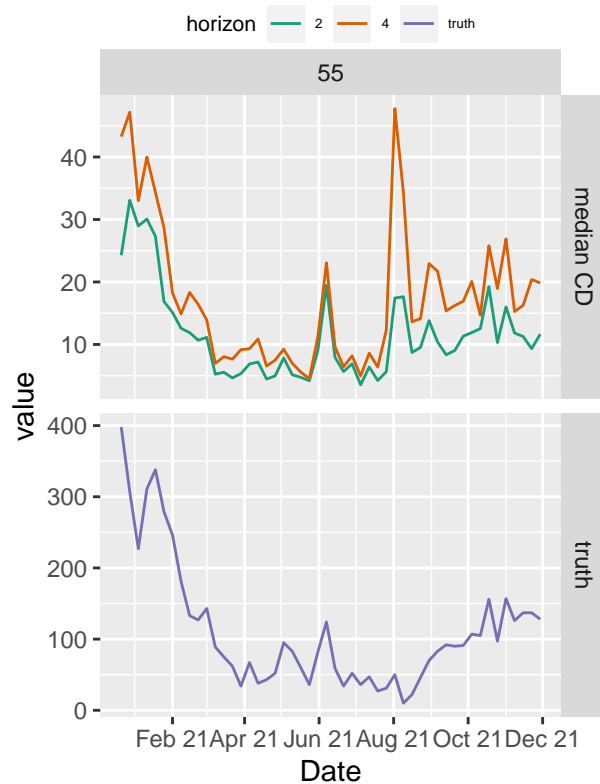
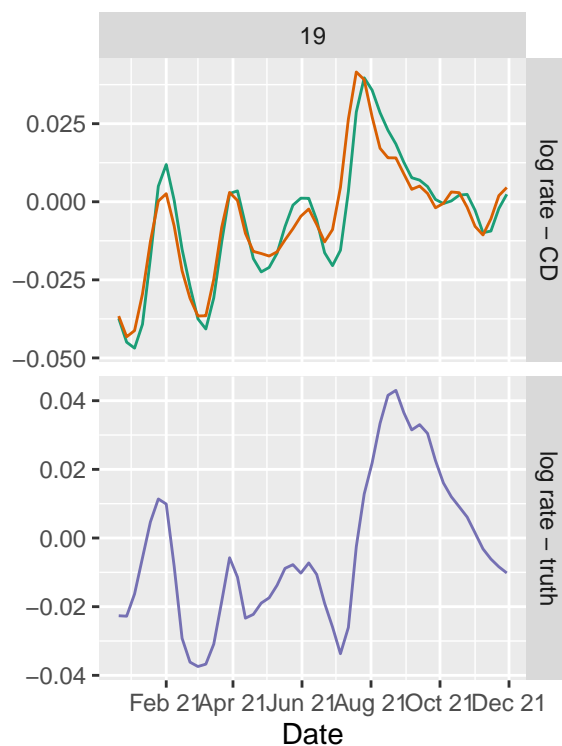
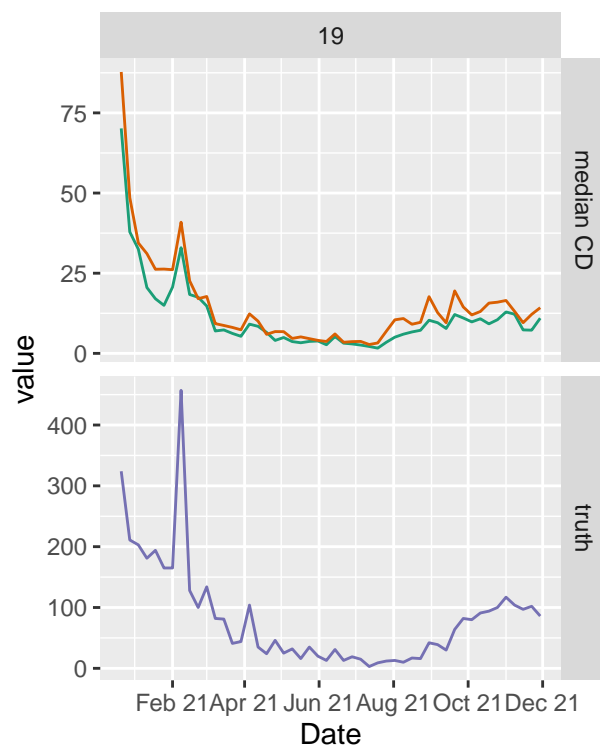
Method smooth\_spline\_log



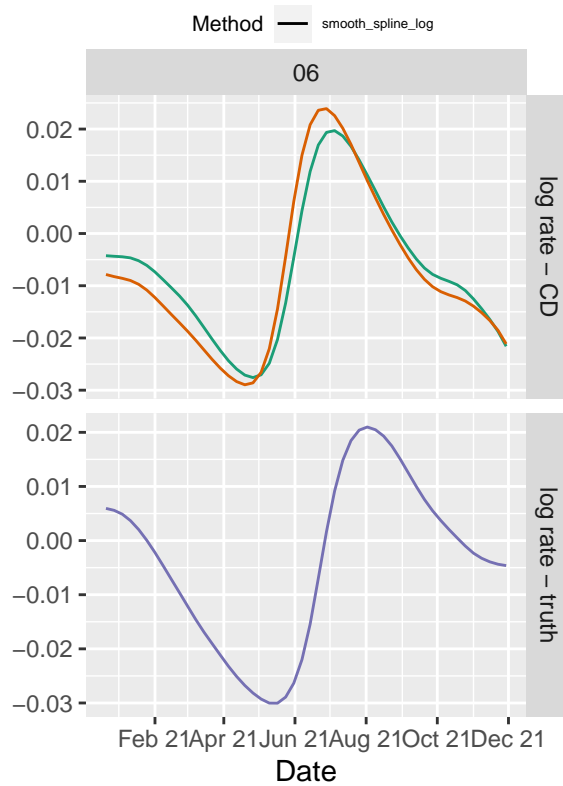
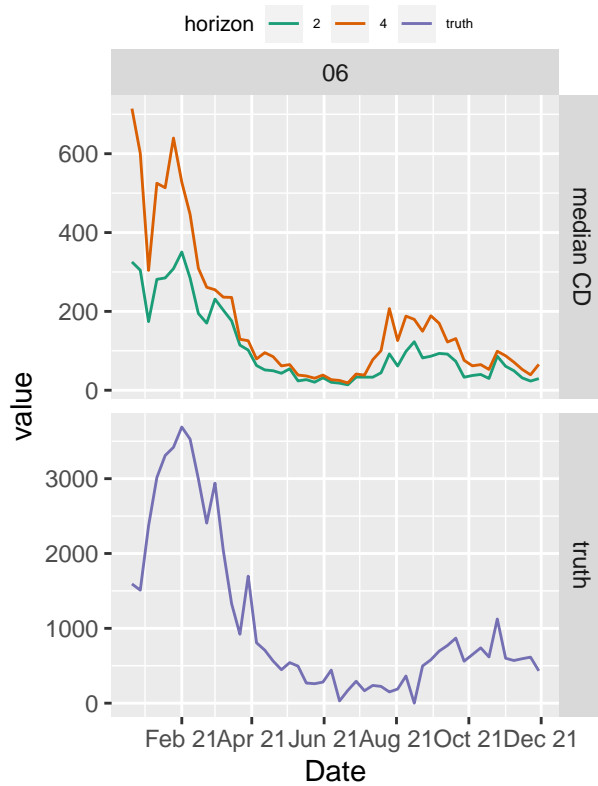
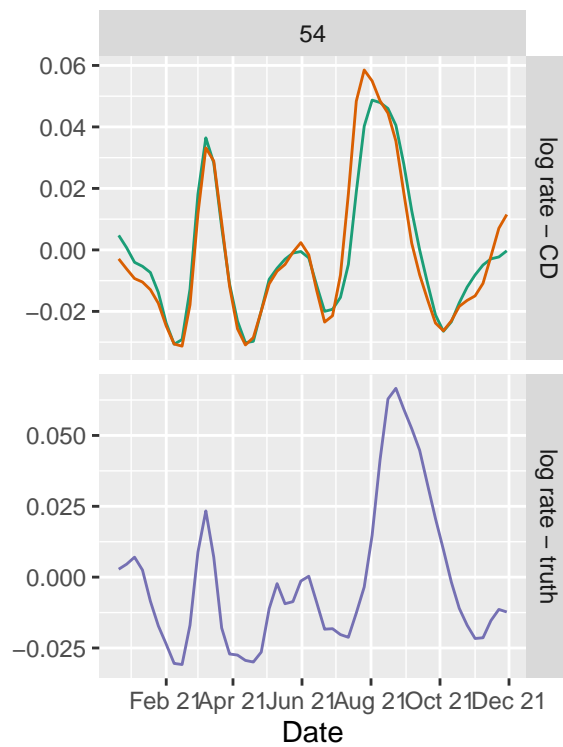
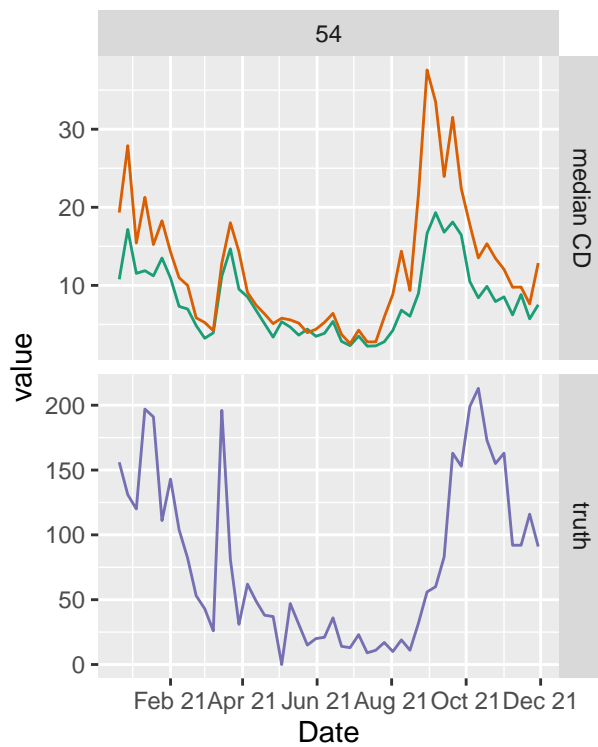
horizon 2 4 truth

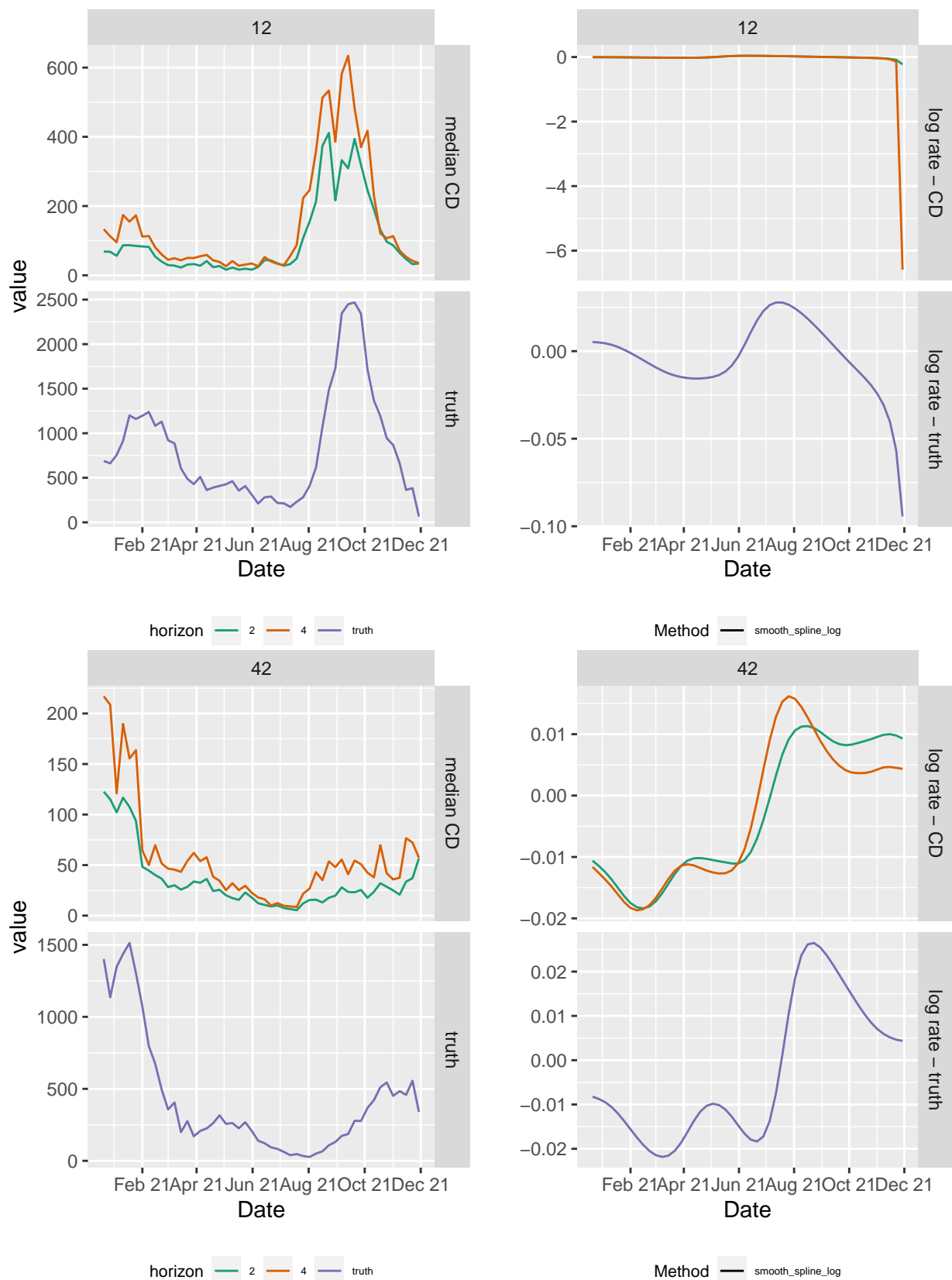
Method smooth\_spline\_log

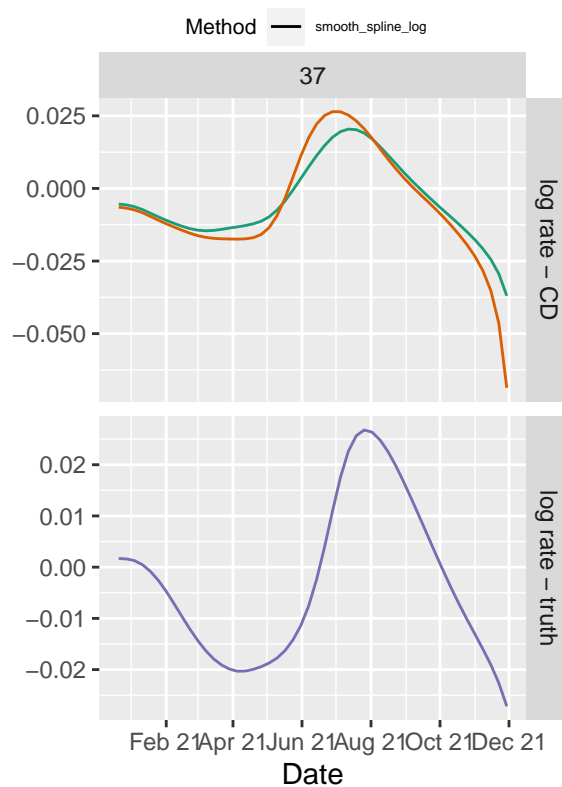
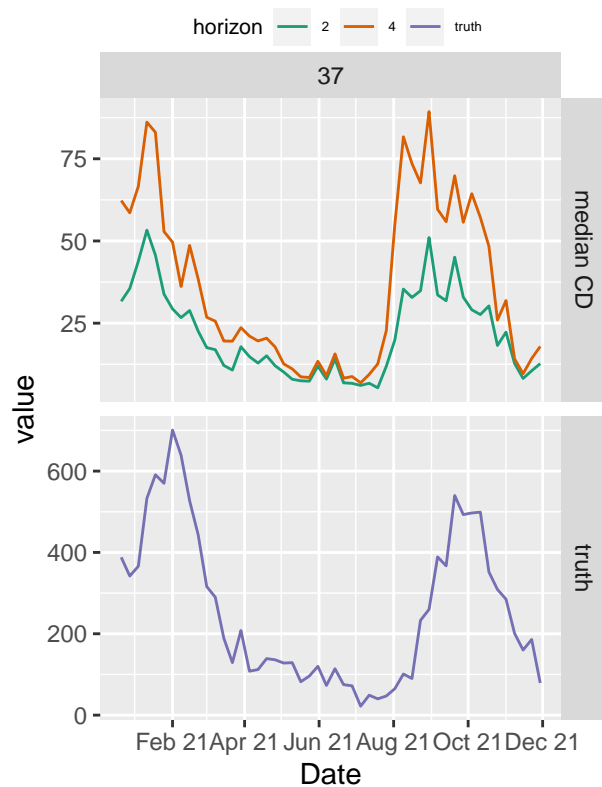
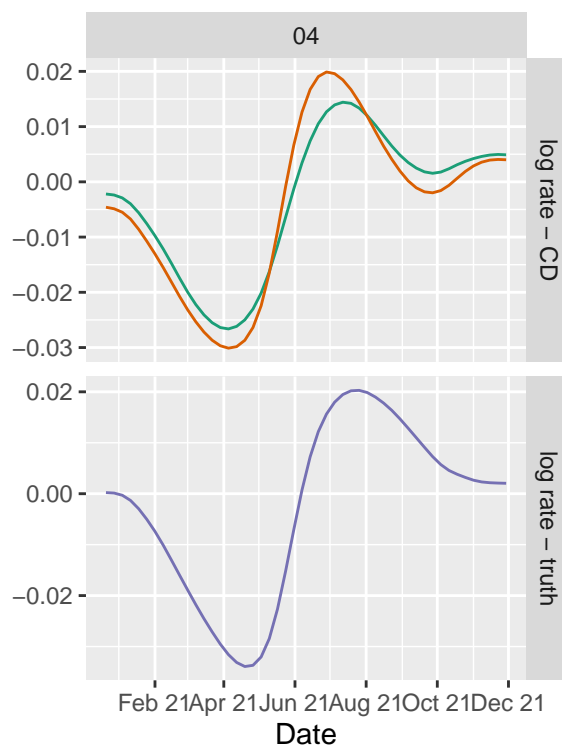
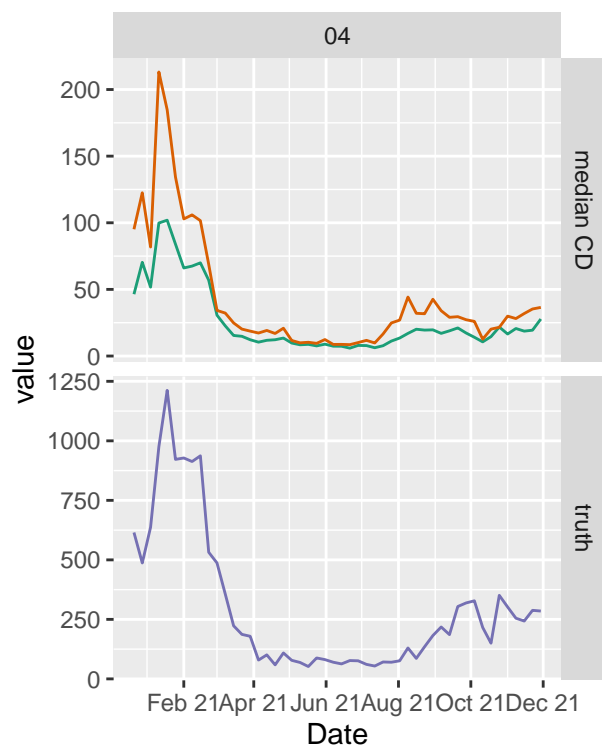






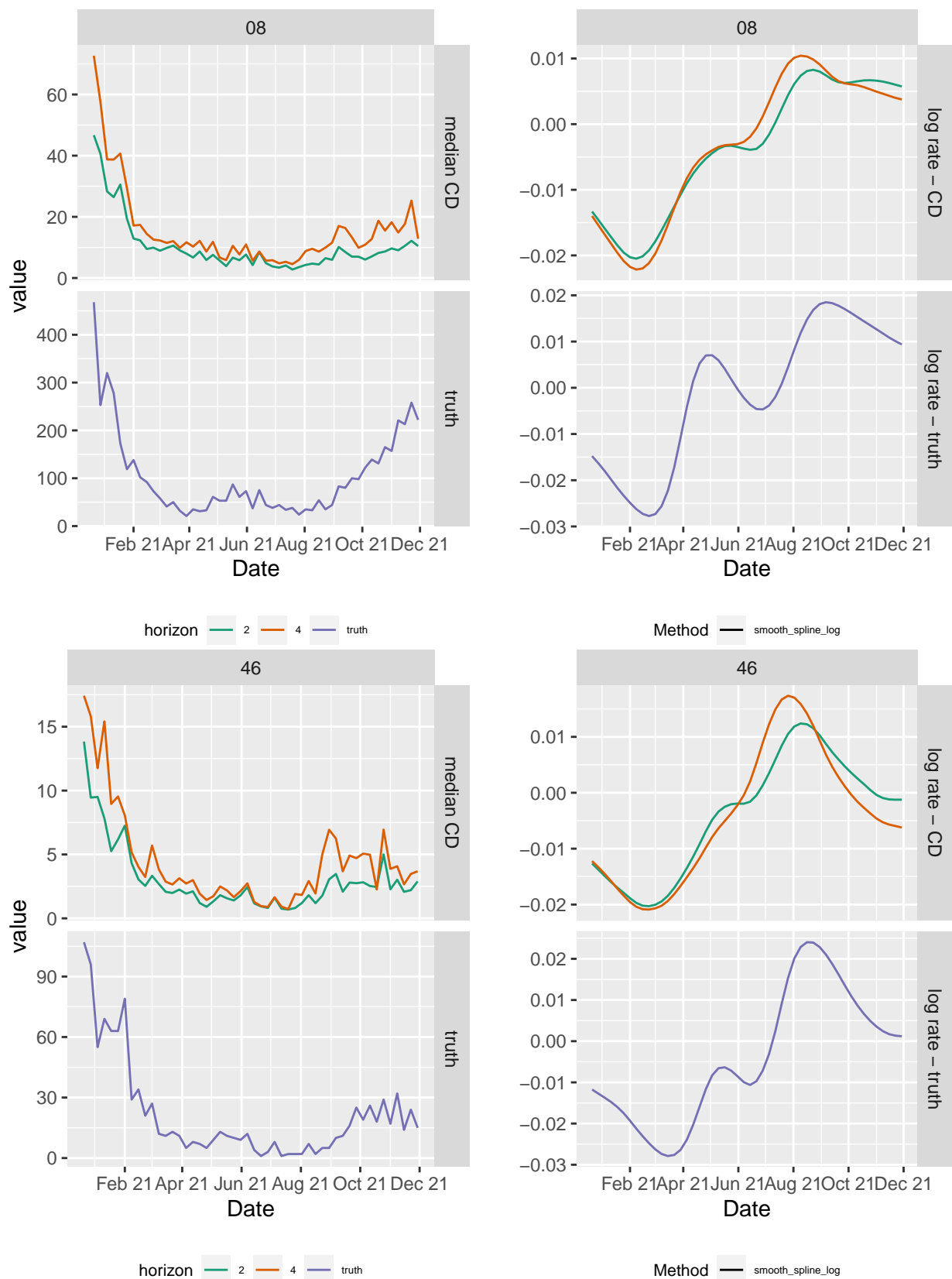


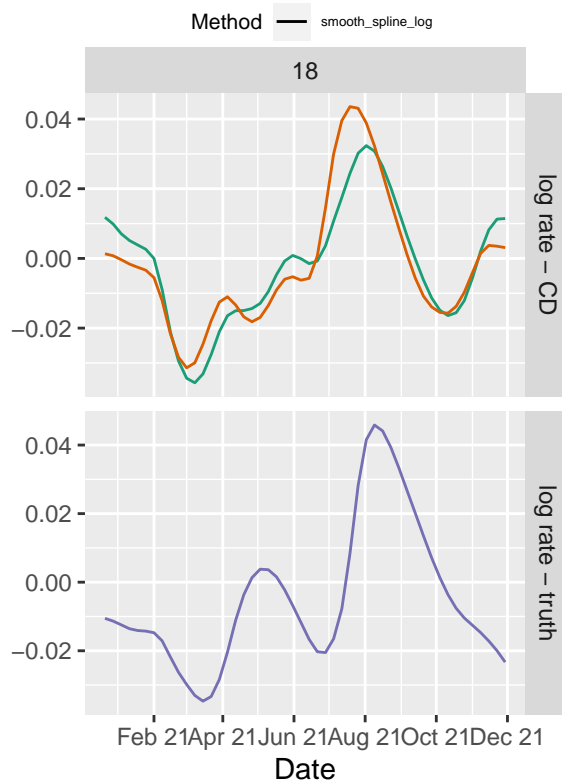
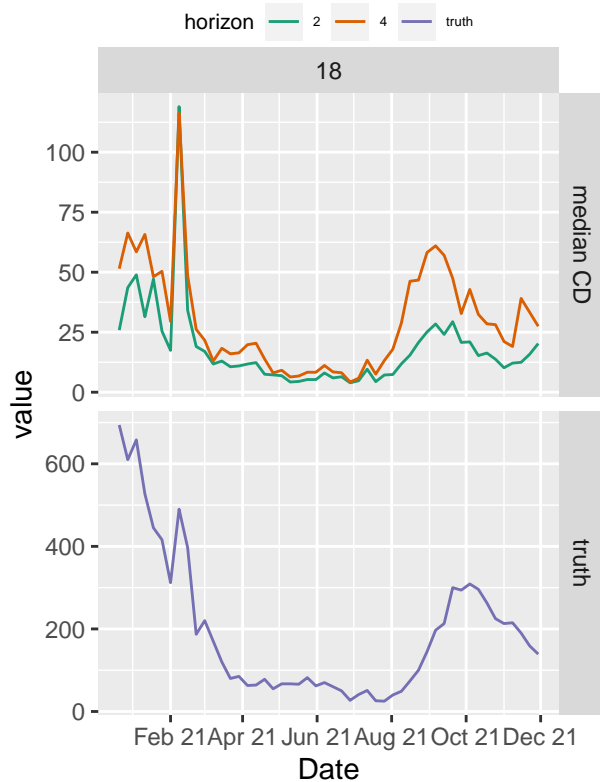
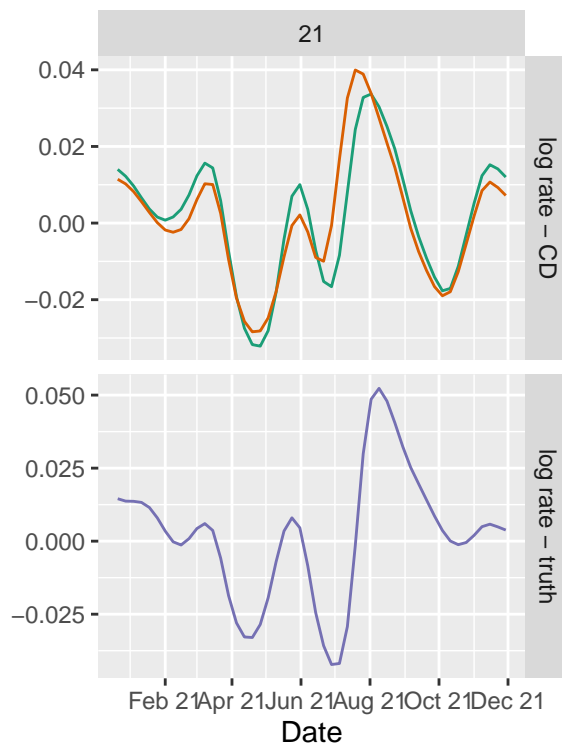
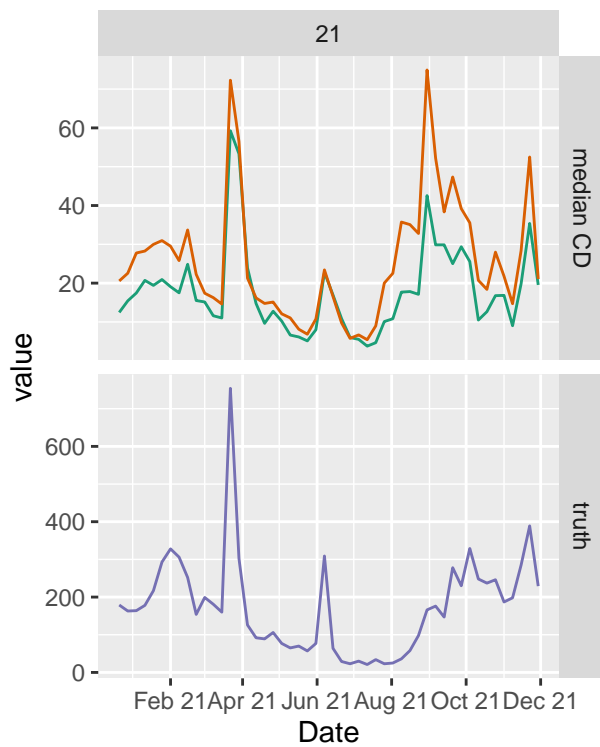




horizon 2 4 truth

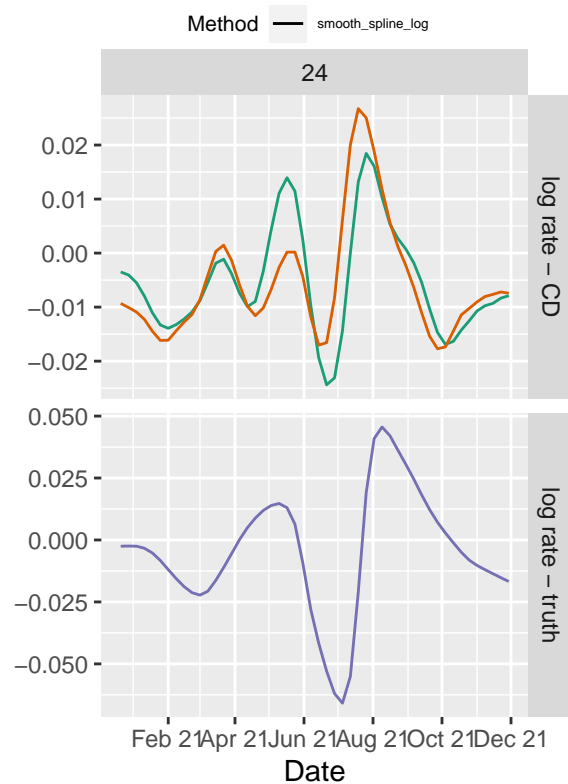
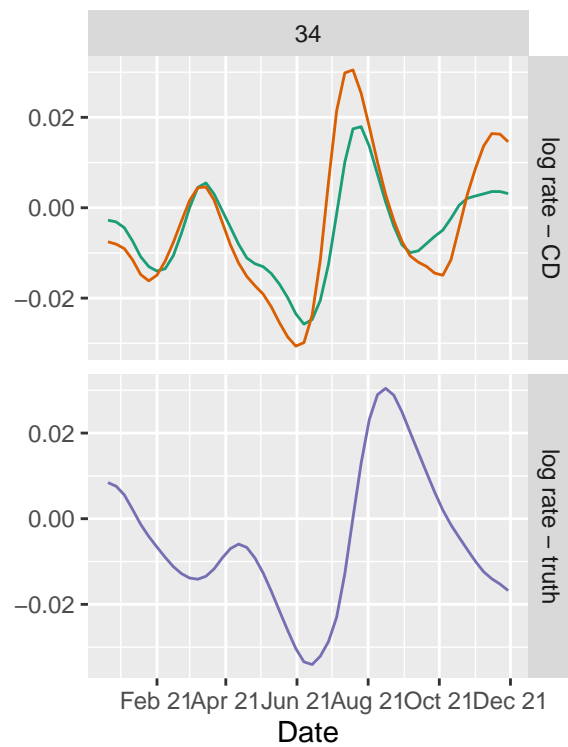
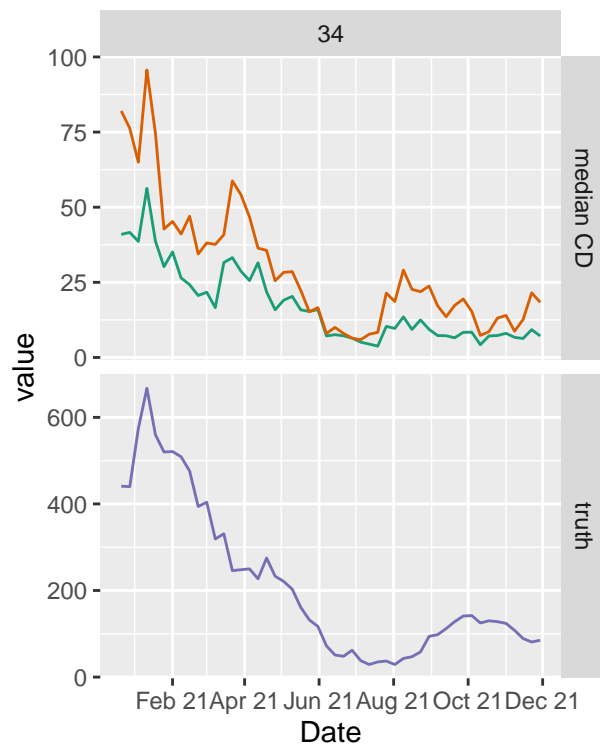
Method smooth\_spline\_log

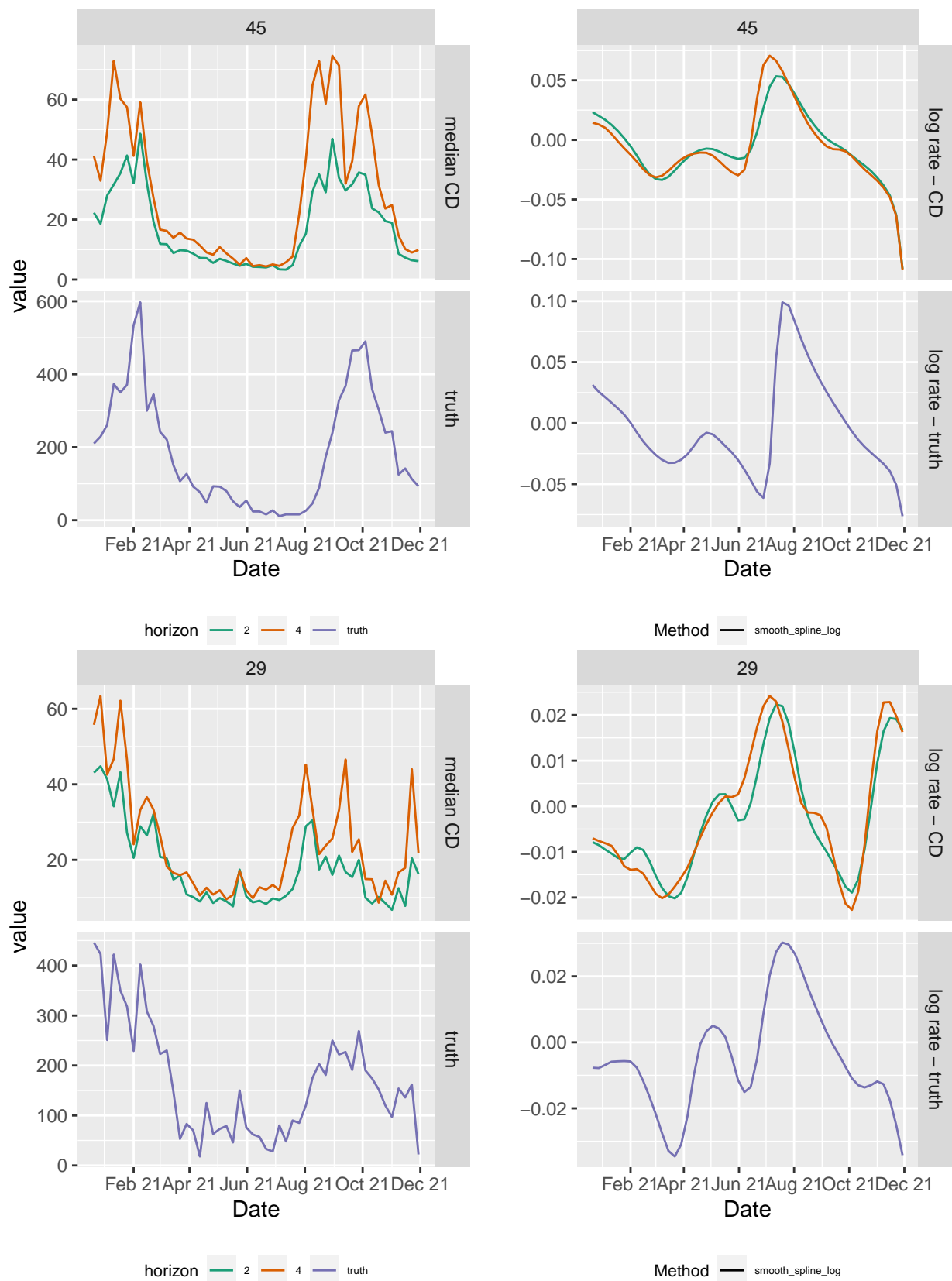


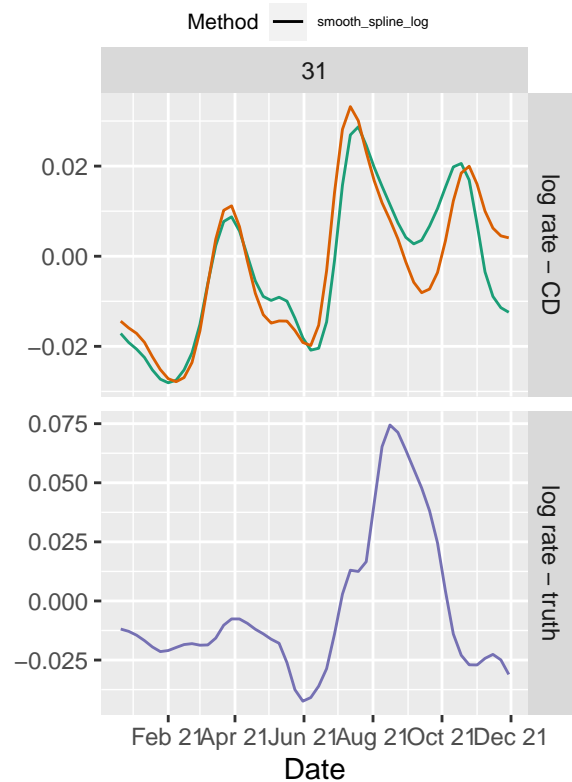
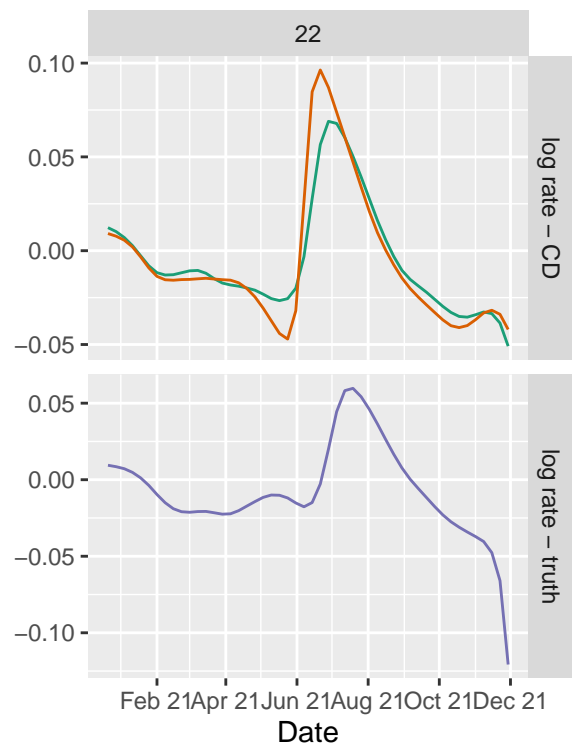
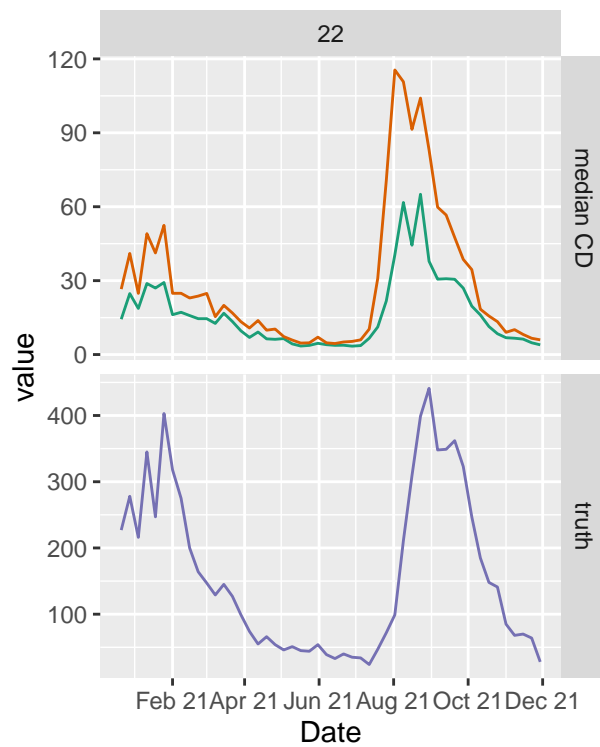


horizon 2 4 truth

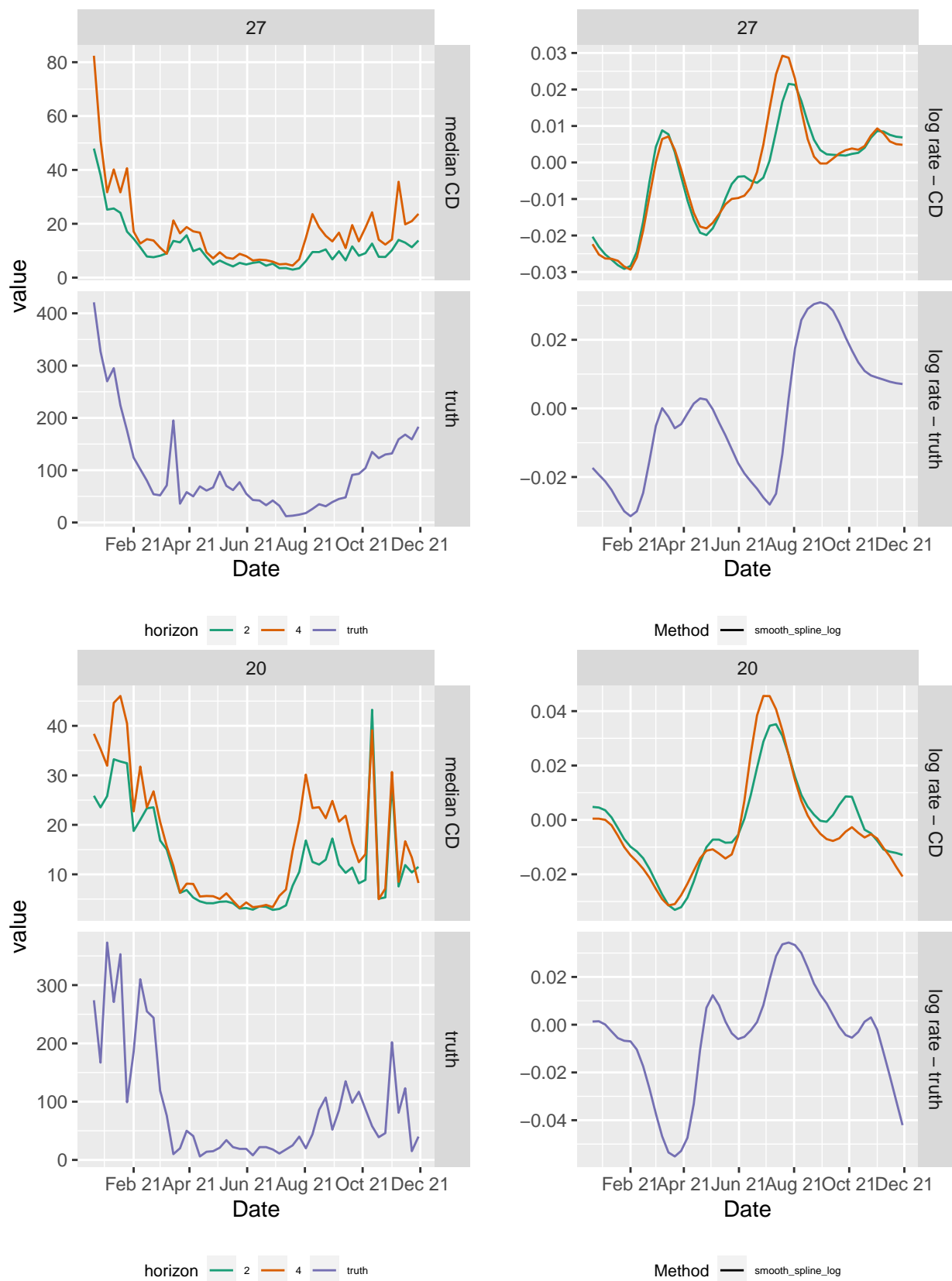
Method smooth\_spline\_log

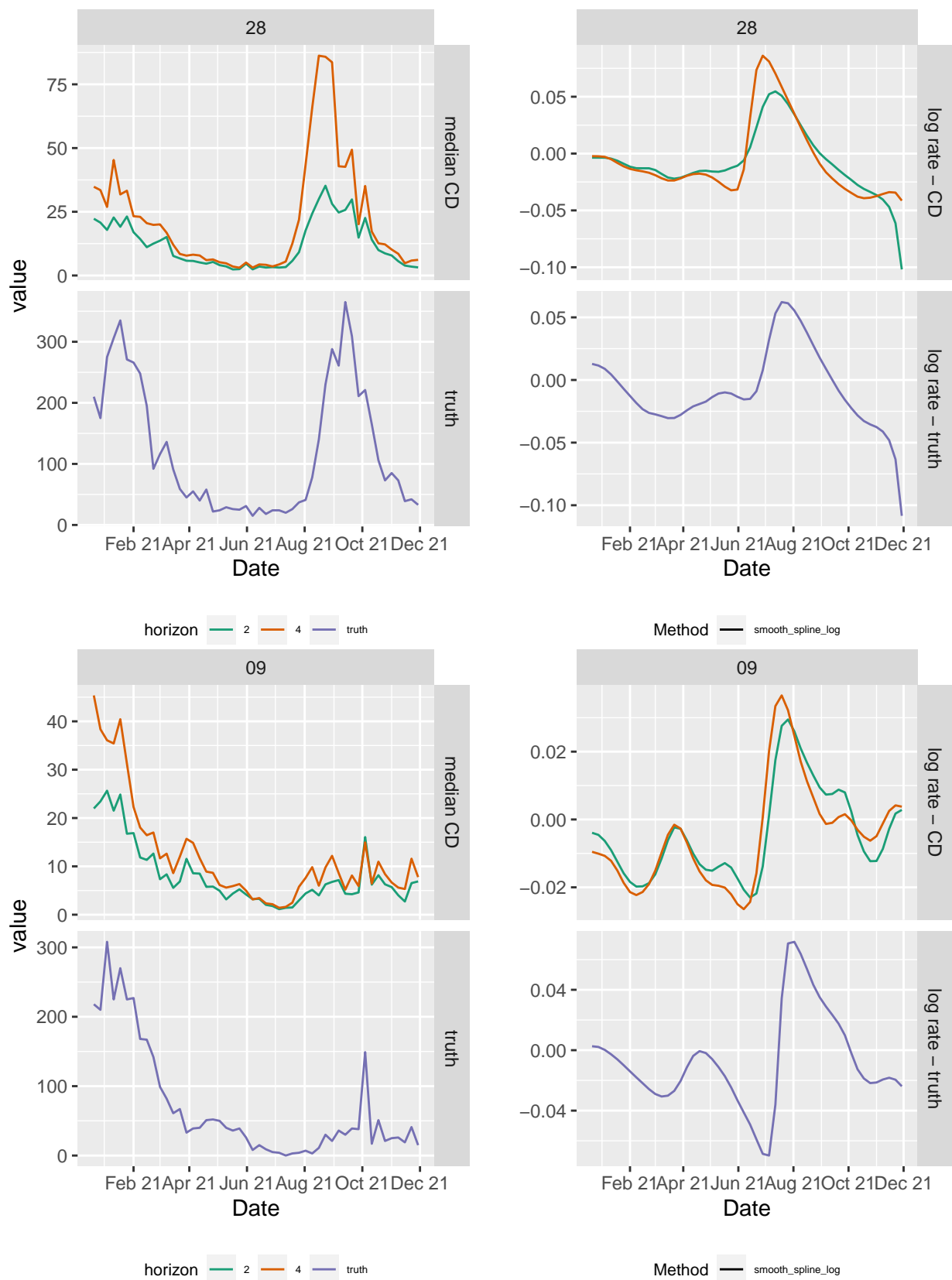


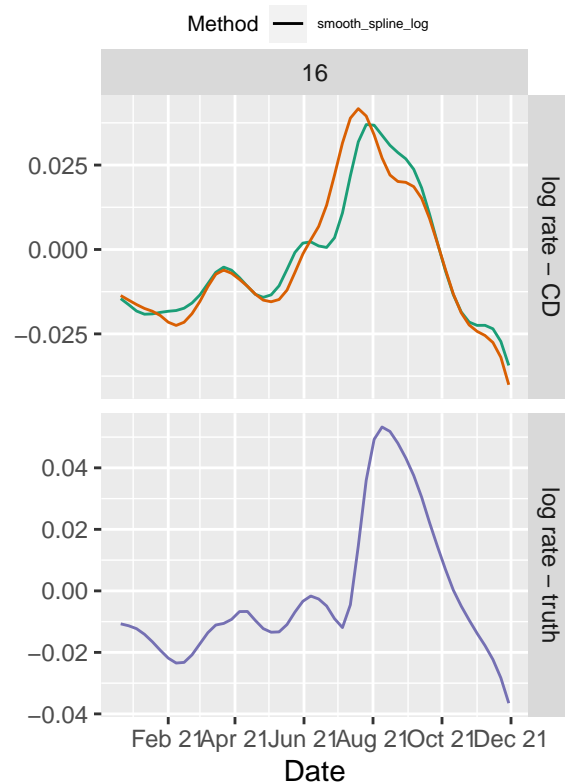
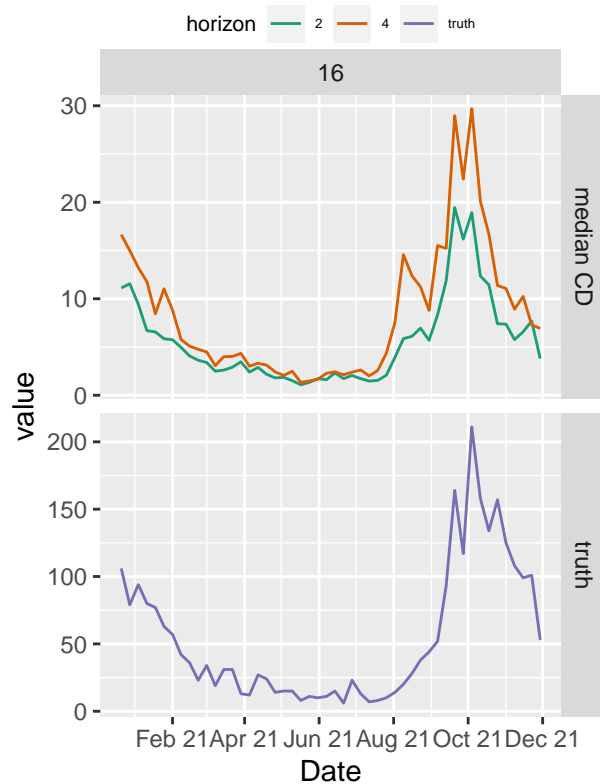
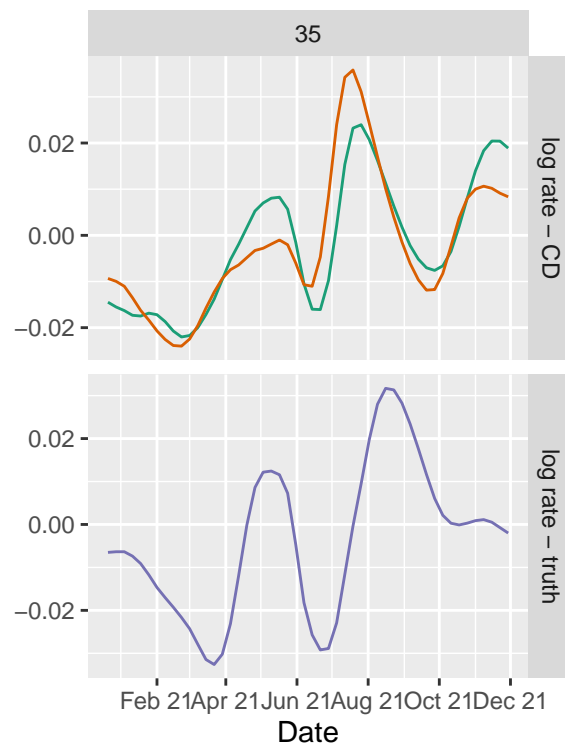
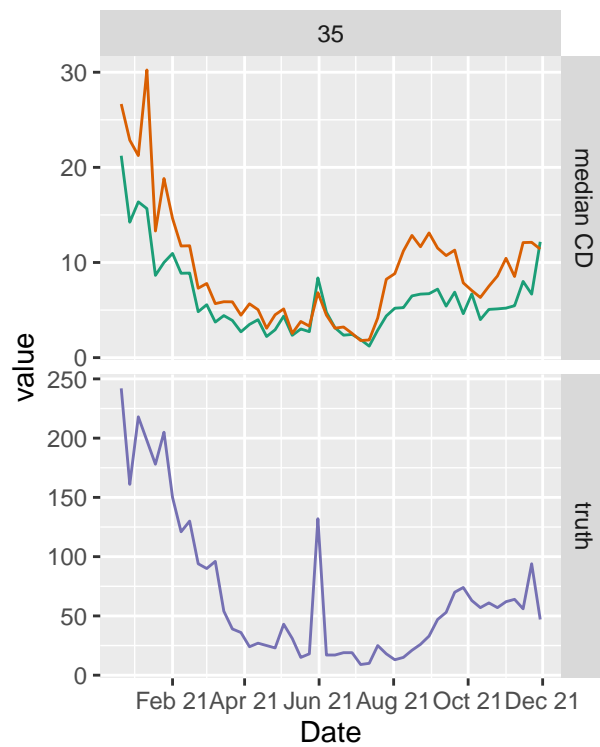


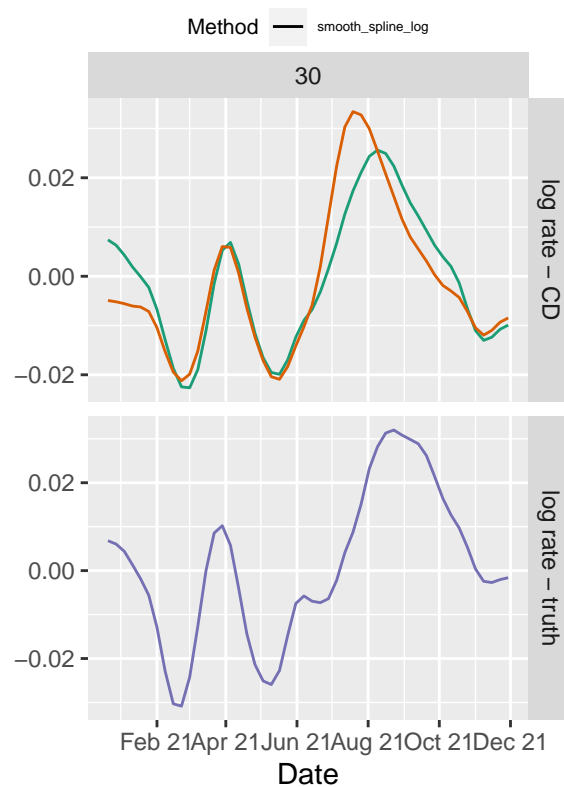
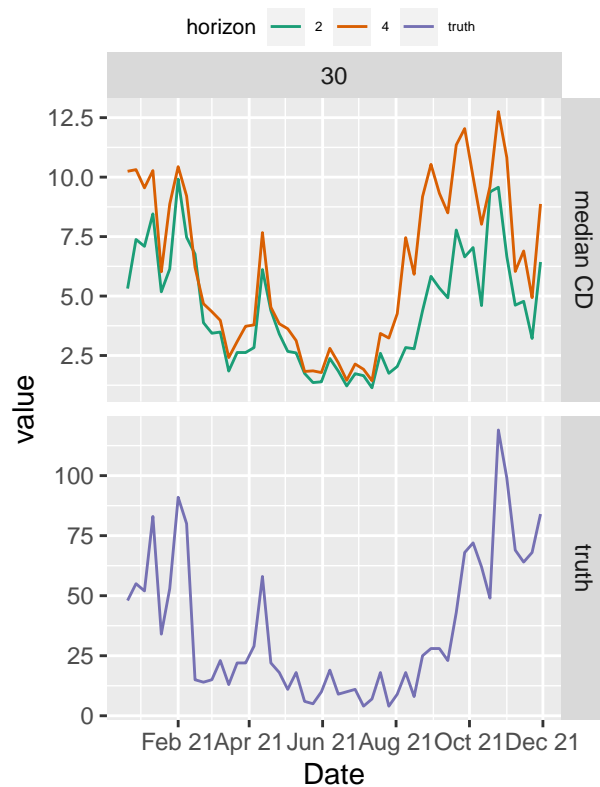
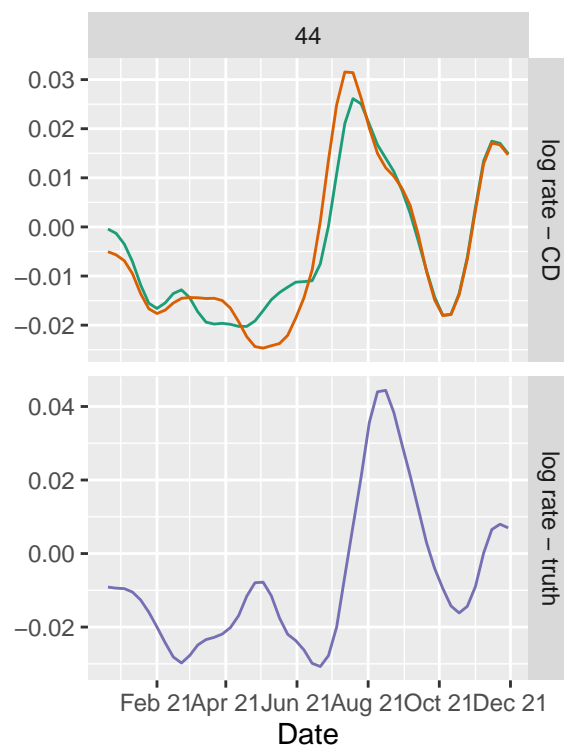
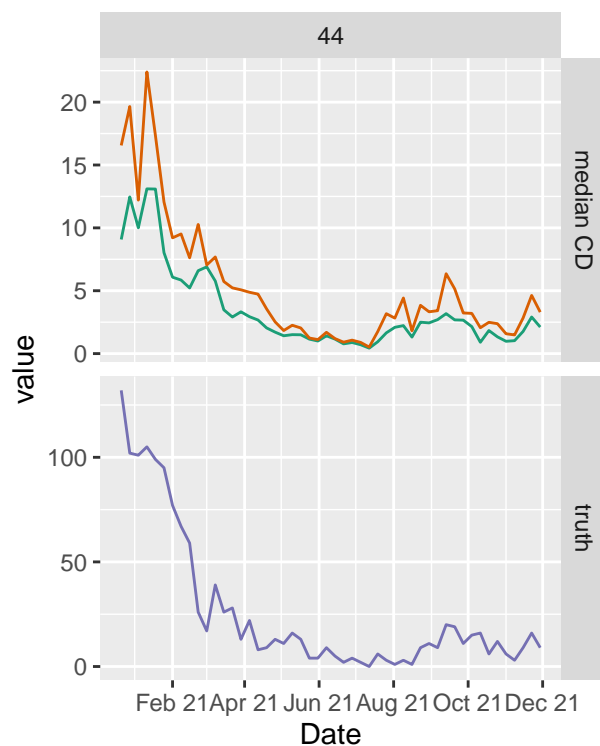






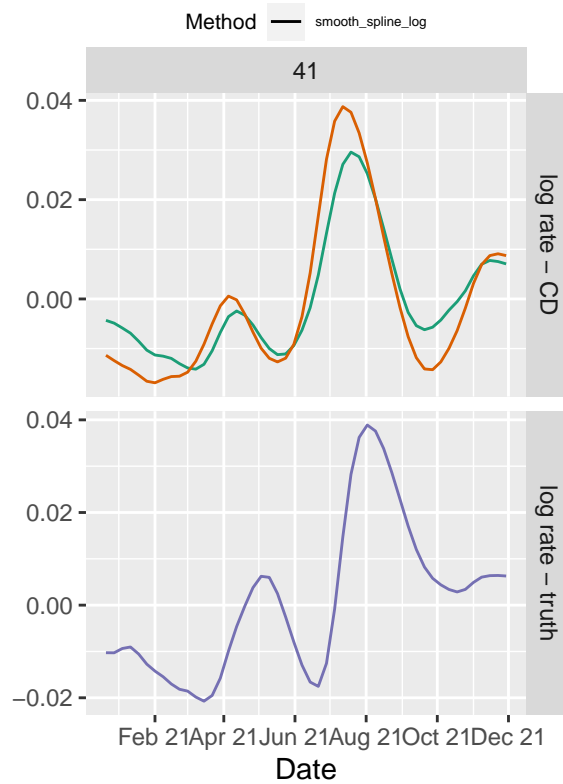
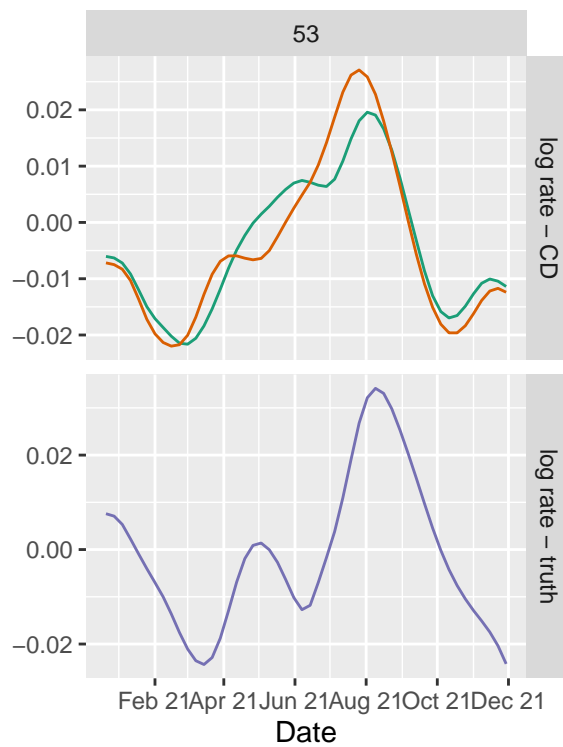
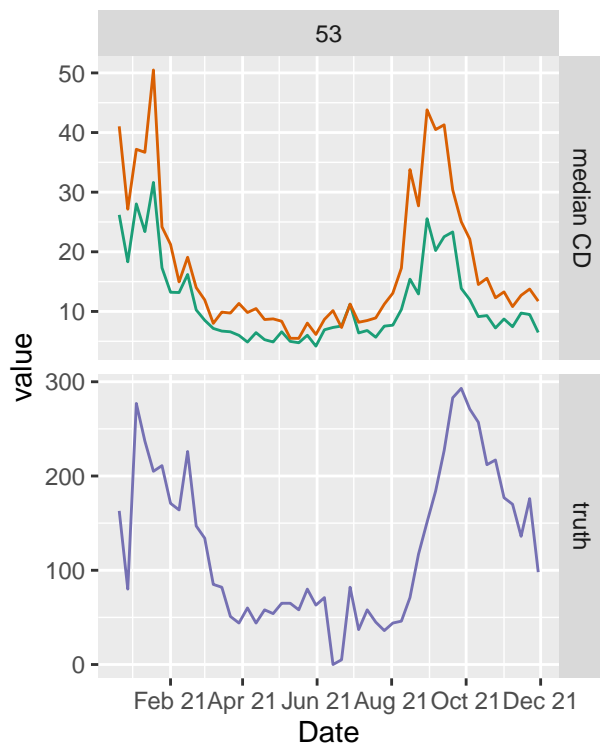






horizon 2 4 truth

Method smooth\_spline\_log



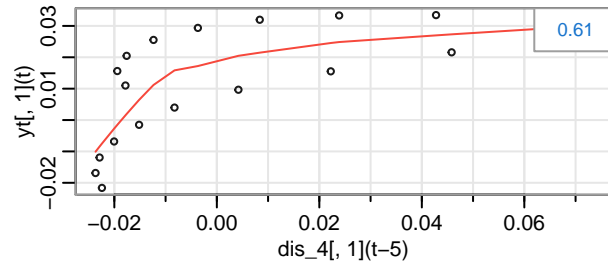
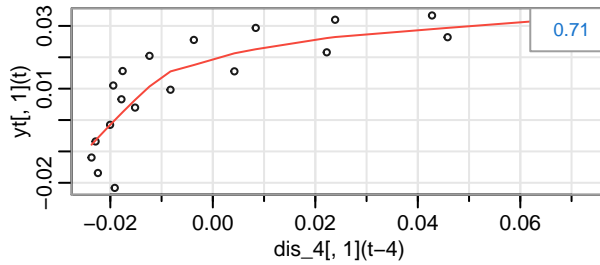
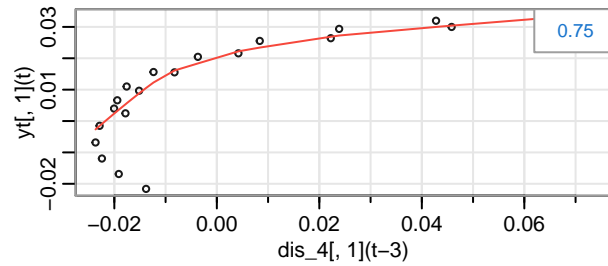
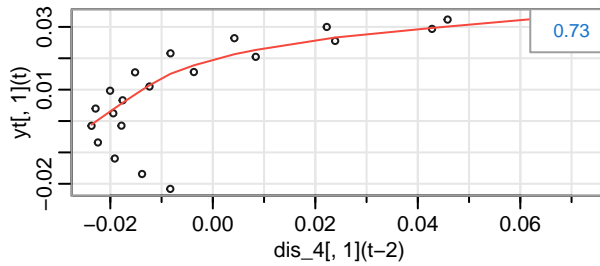
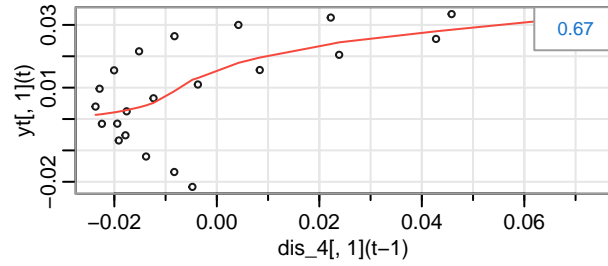
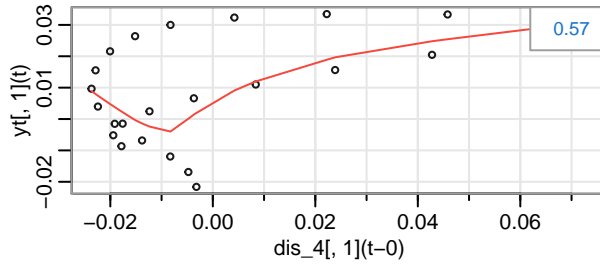
horizon 2 4 truth

Method smooth\_spline\_log

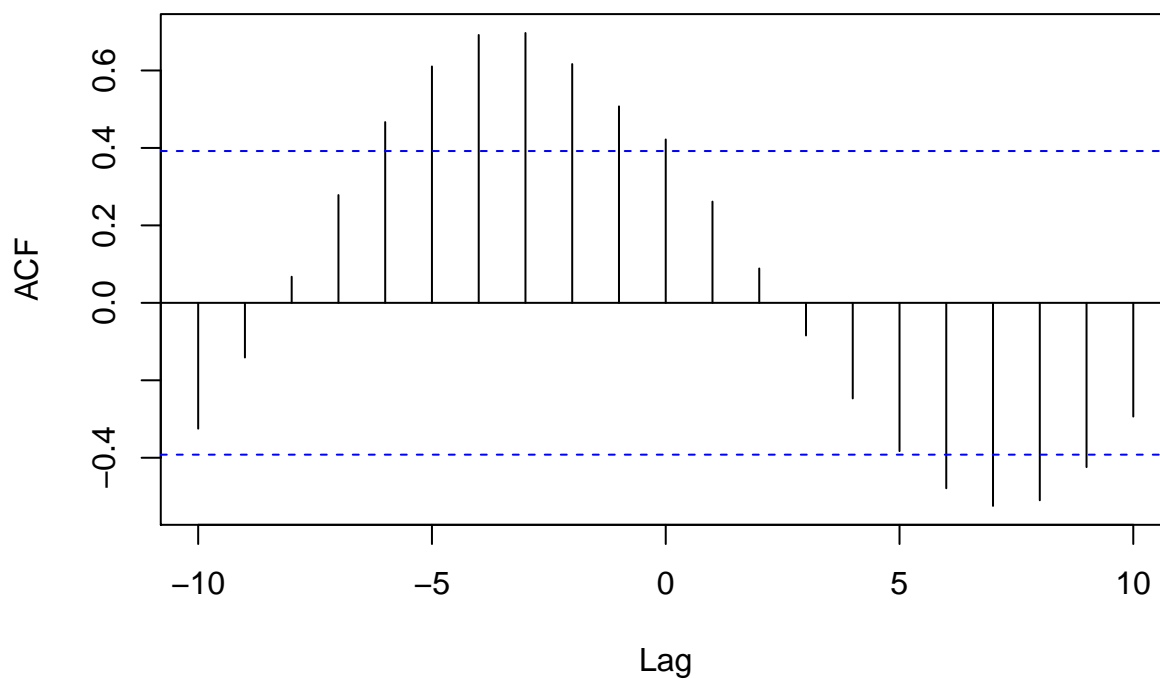
## Cross-correlations

### Forecast inclusion criteria

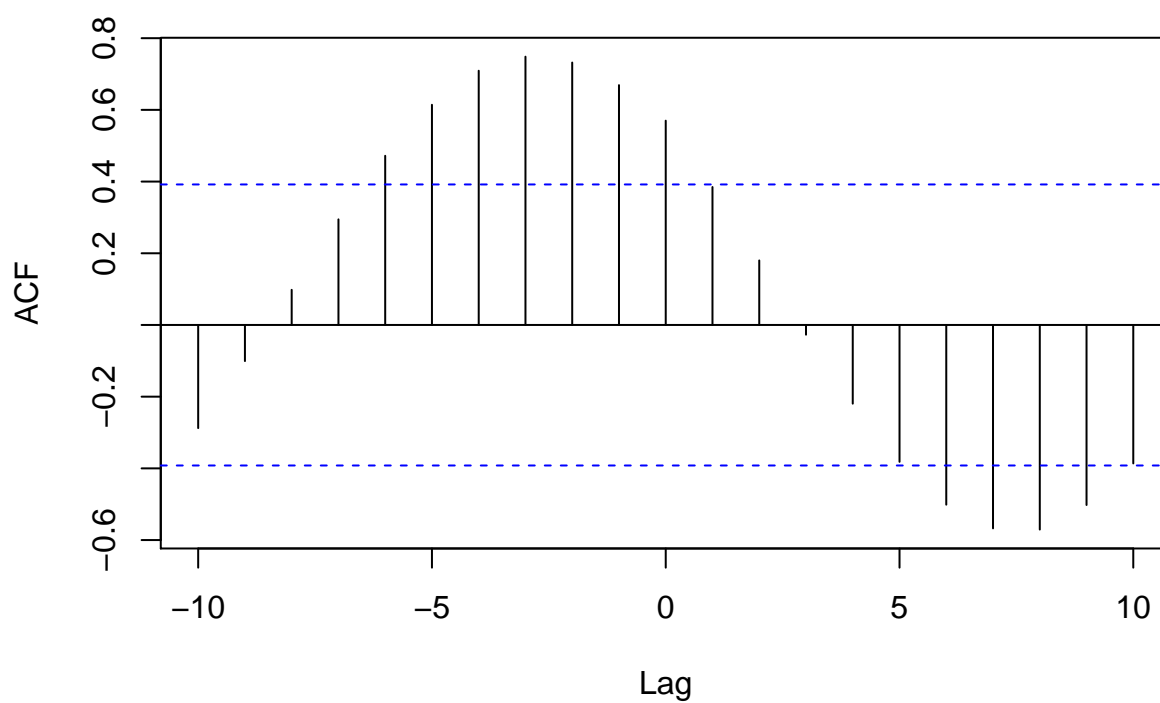
- Targets: 1-4 wk ahead inc death
- Target End Dates: Jan-Dec 2021 with all 4 horizons.
- Model: all models submitted on a particular date
- Probability levels: All
- Locations: All except US,4,42,45,39,49,50

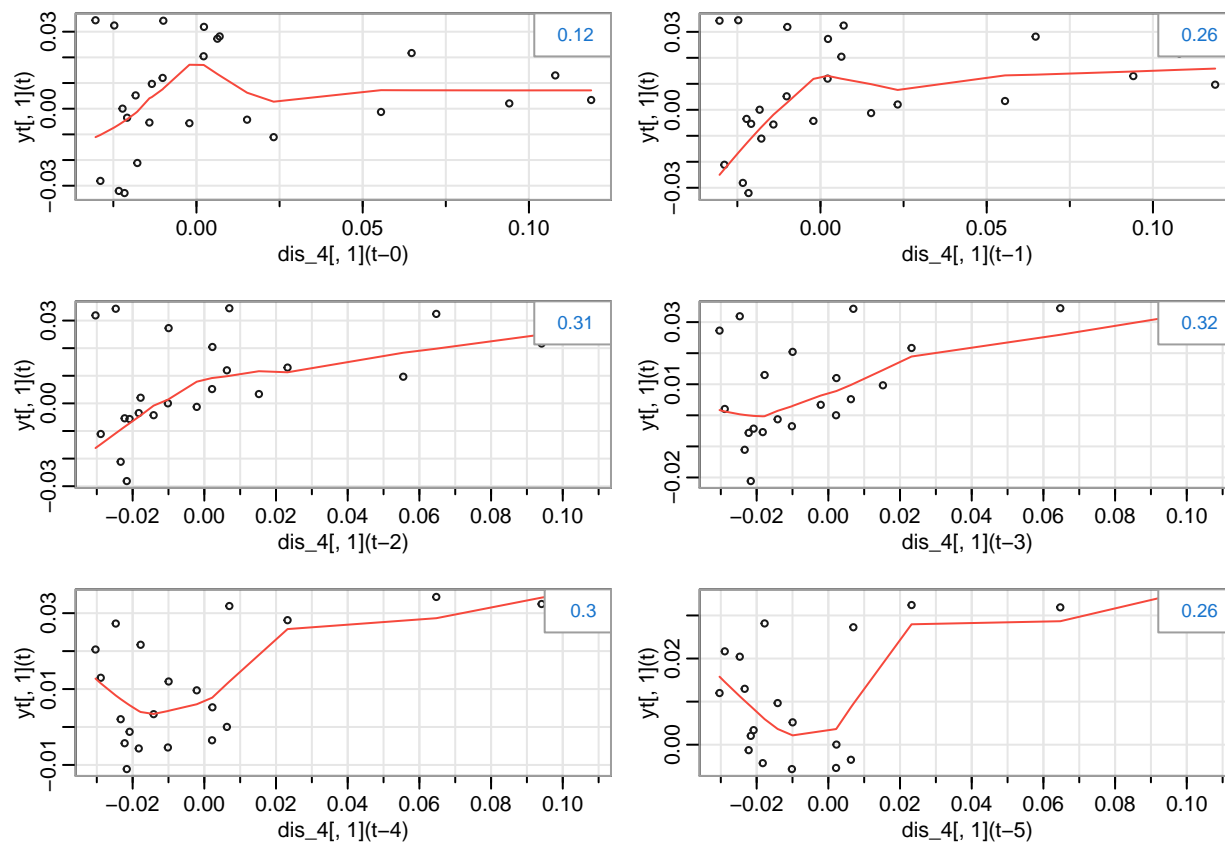


**2 wk ahead – 05**

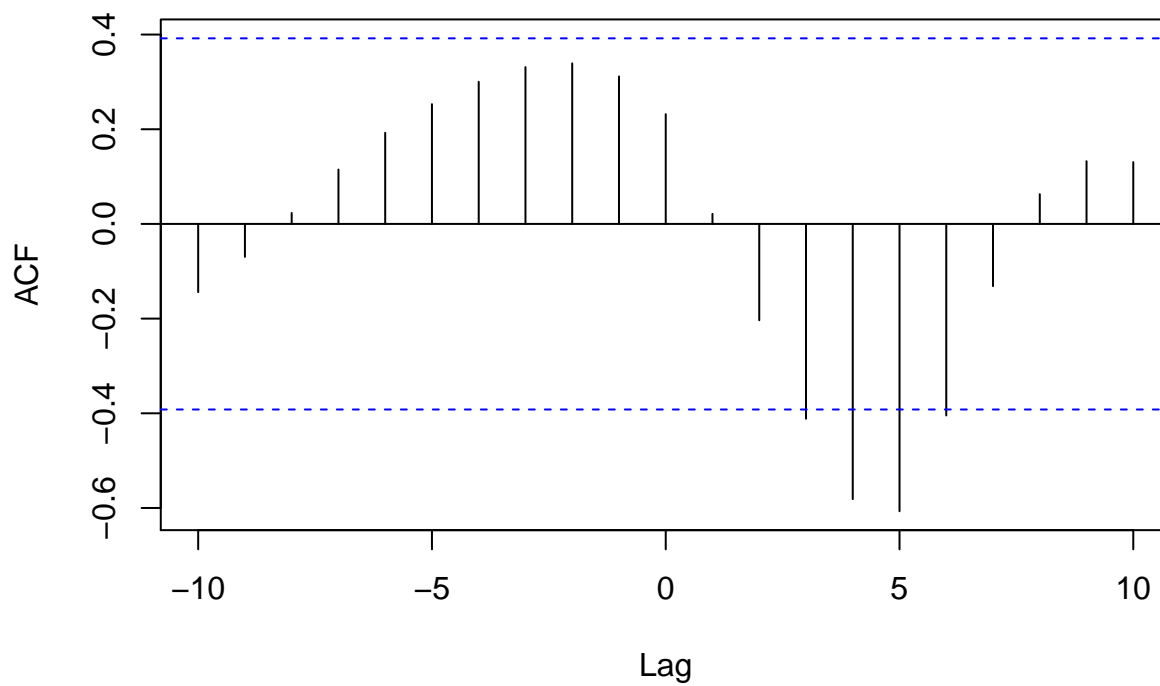


**4 wk ahead – 05**



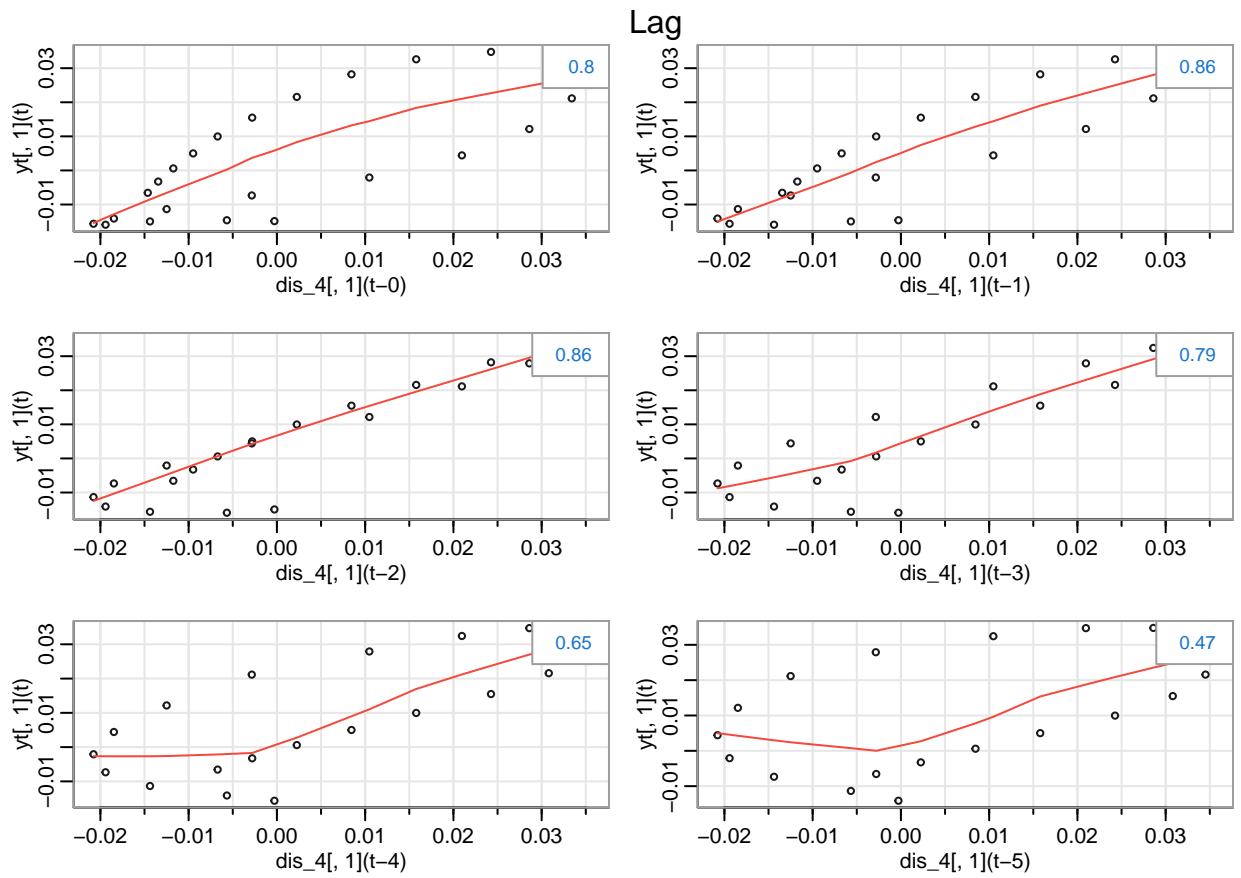
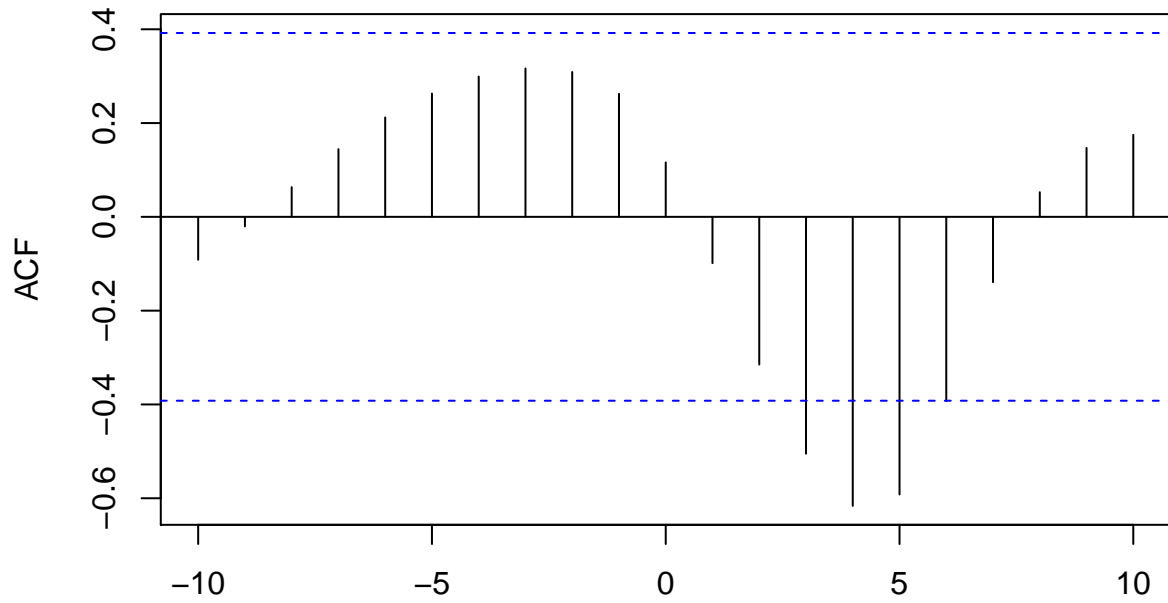


**2 wk ahead – 25**

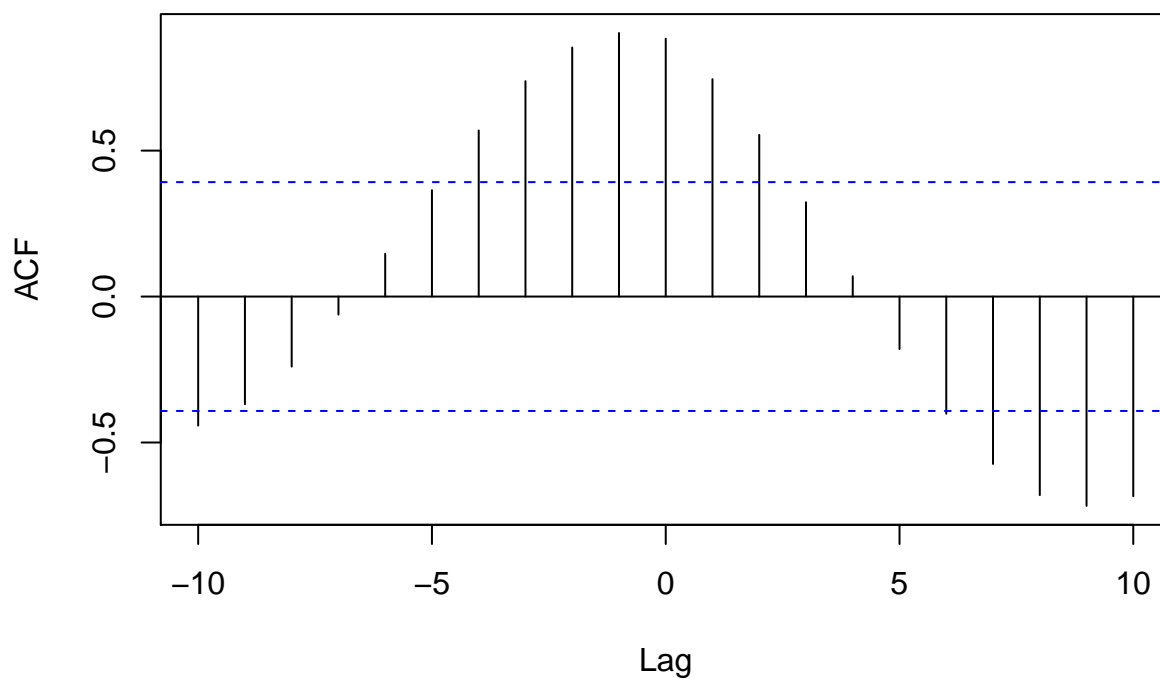




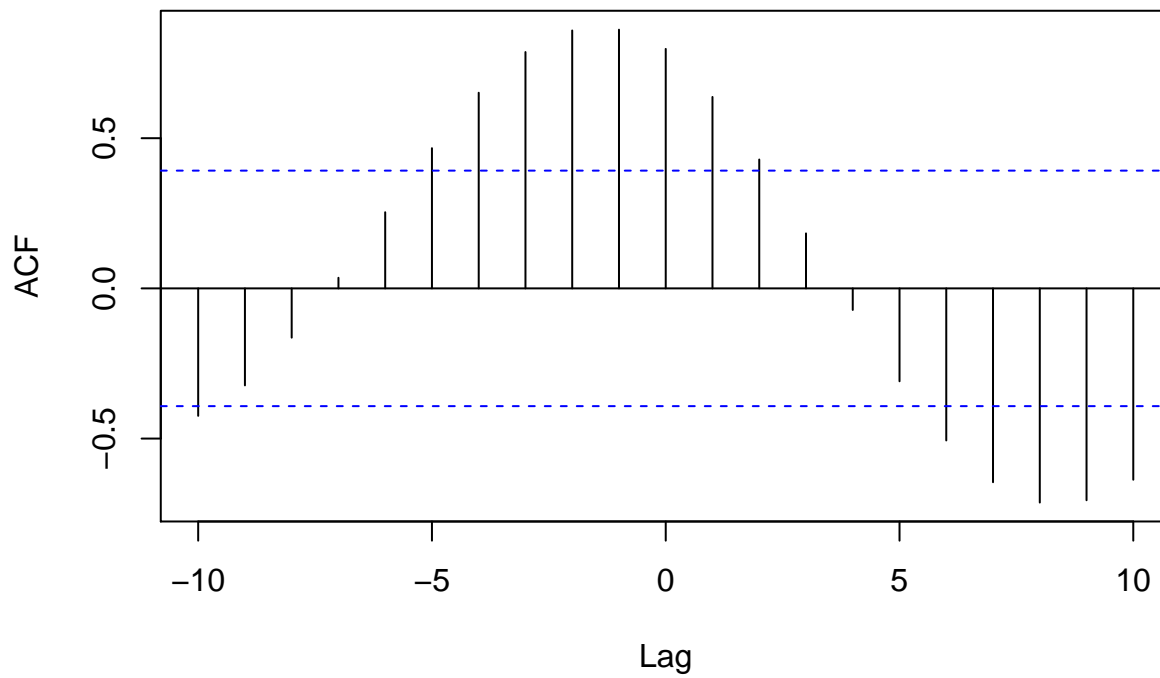
## 4 wk ahead – 25

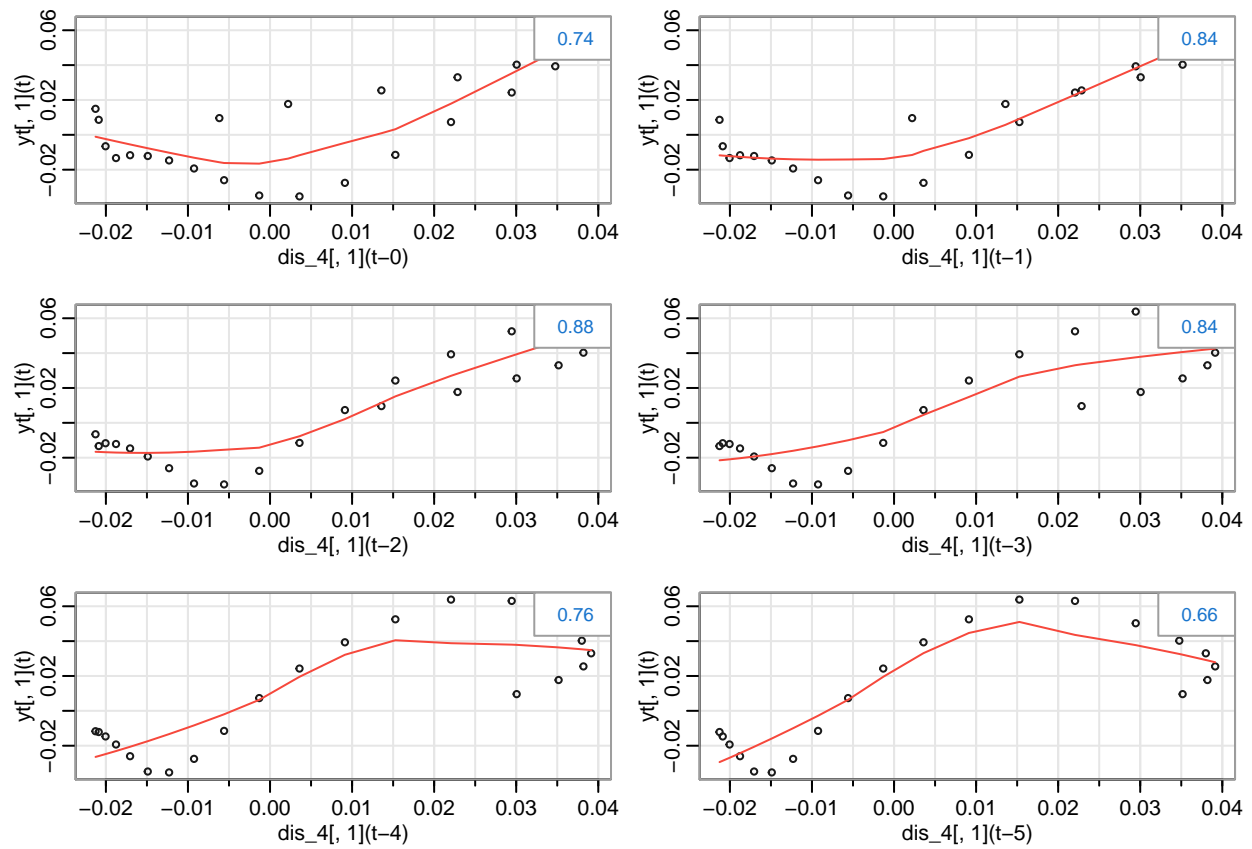


**2 wk ahead – 32**

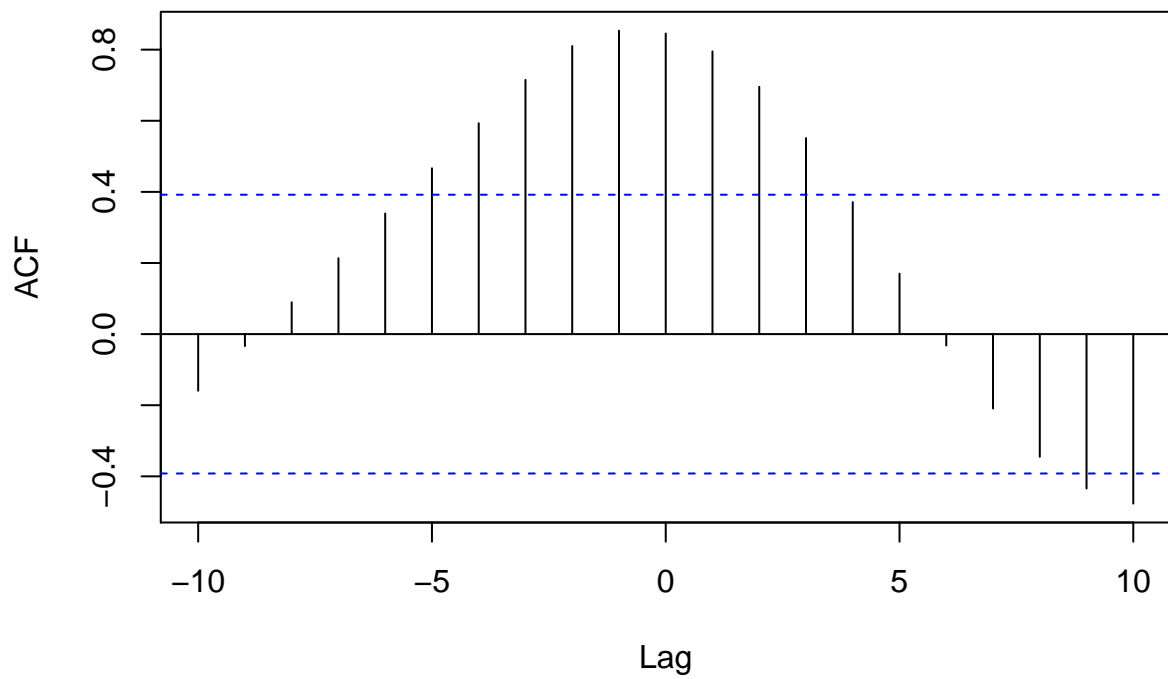


**4 wk ahead – 32**

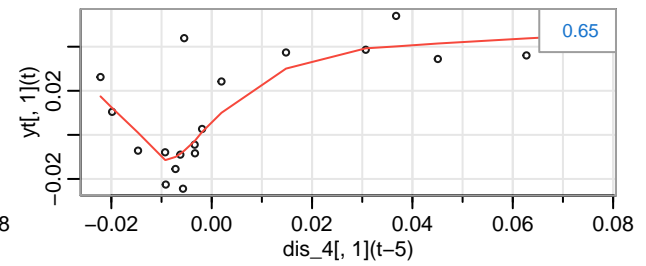
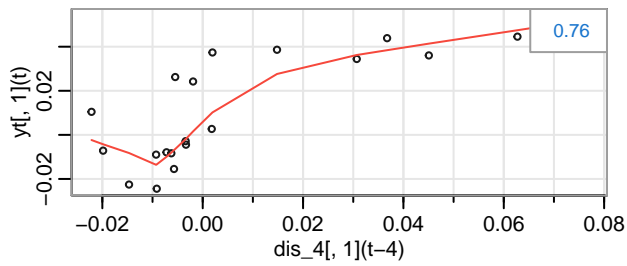
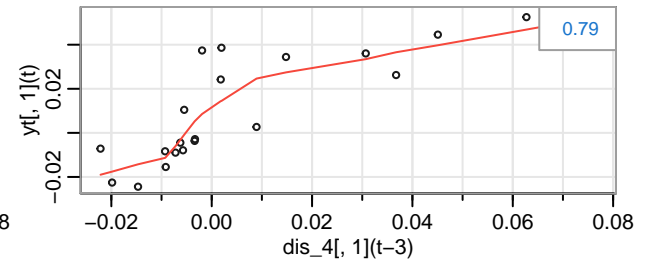
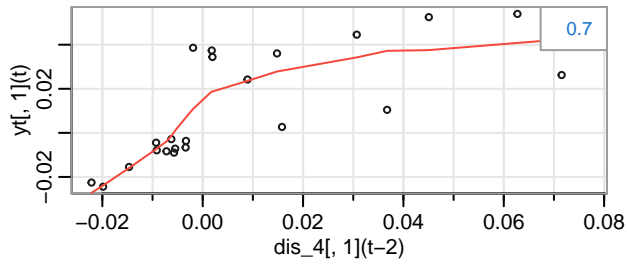
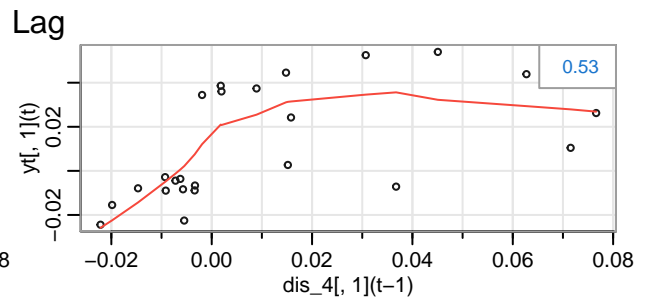
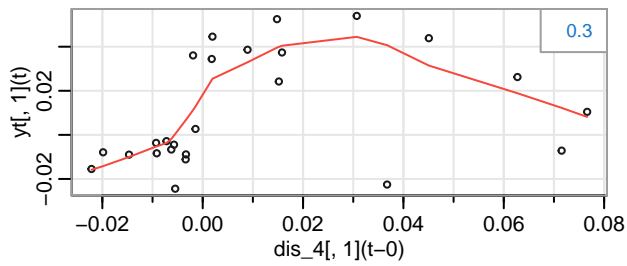
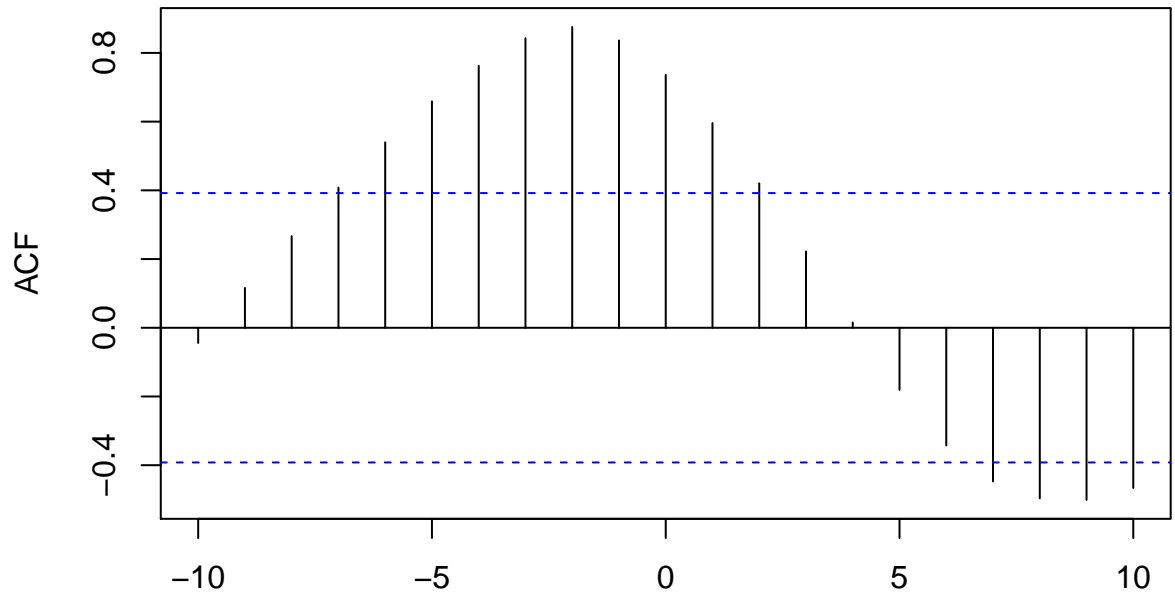




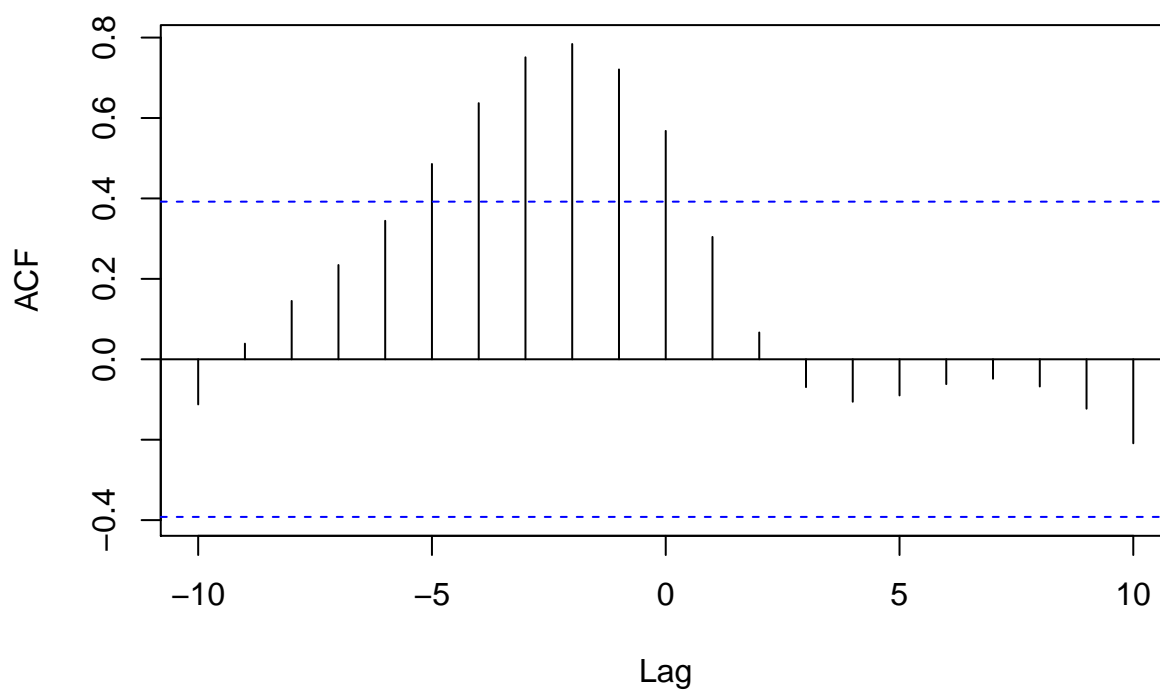
**2 wk ahead – 39**



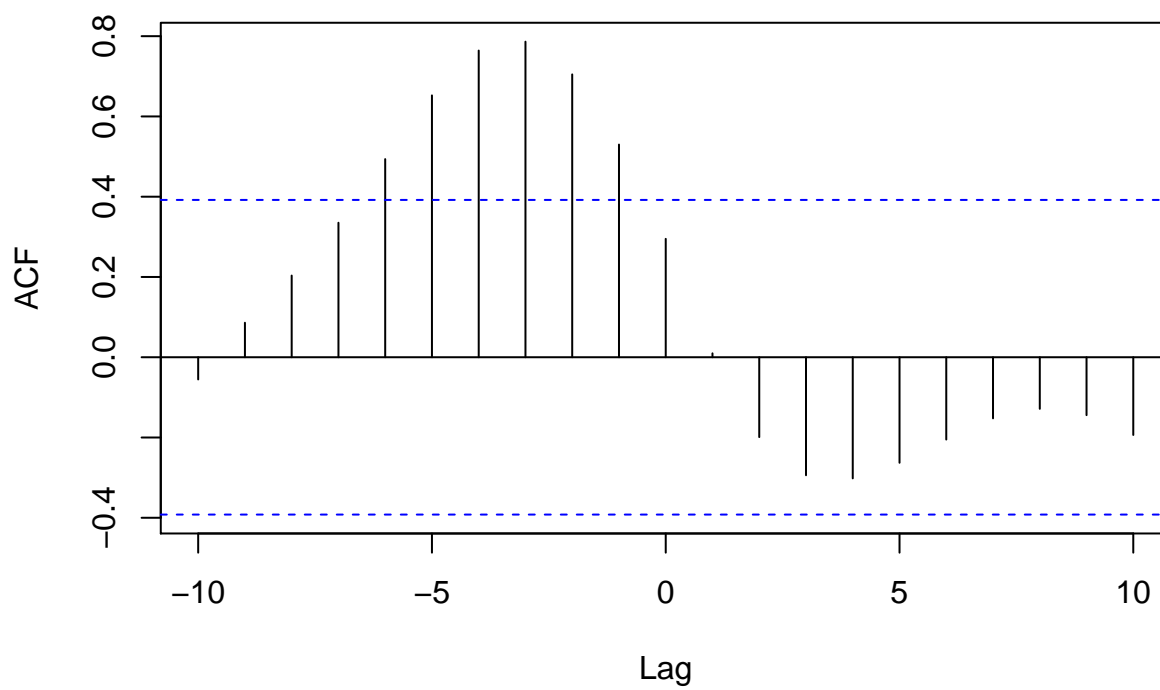
## 4 wk ahead – 39

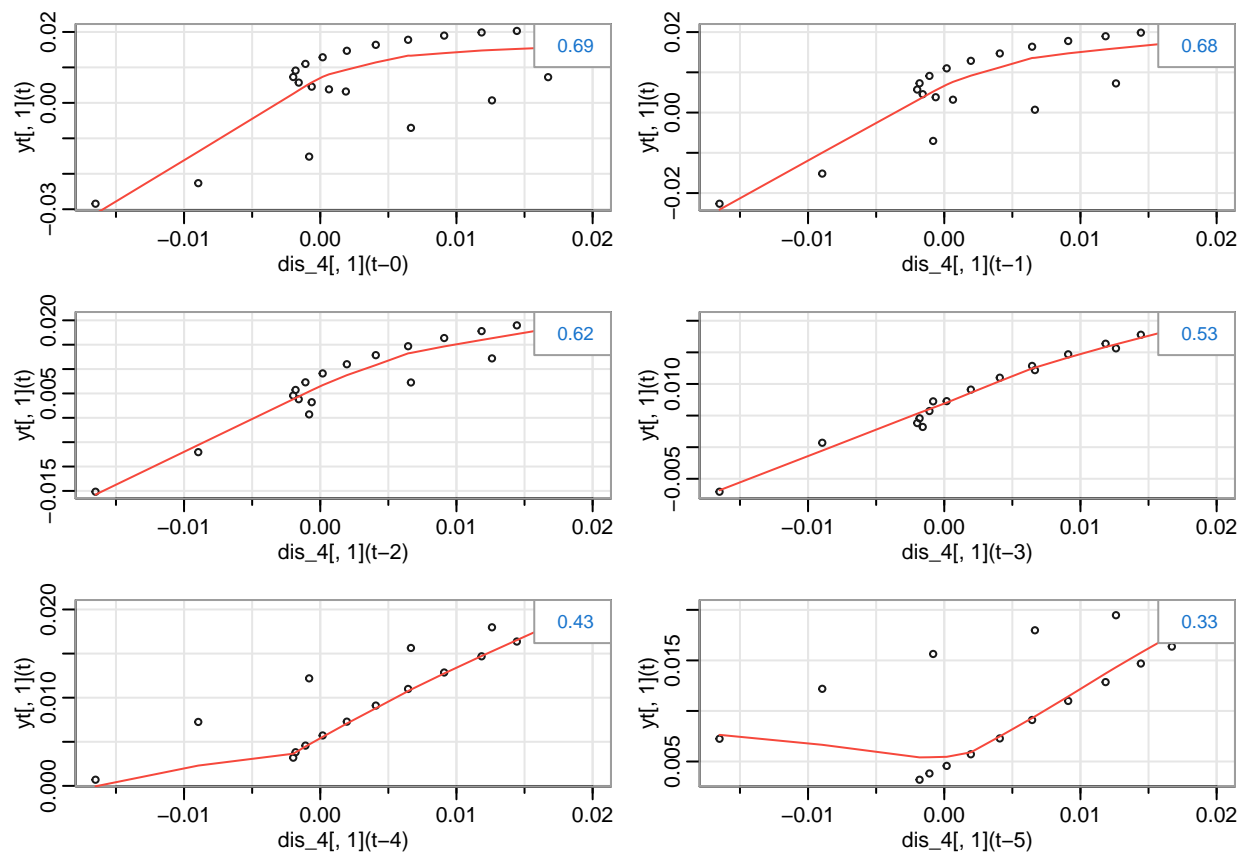


**2 wk ahead – 01**

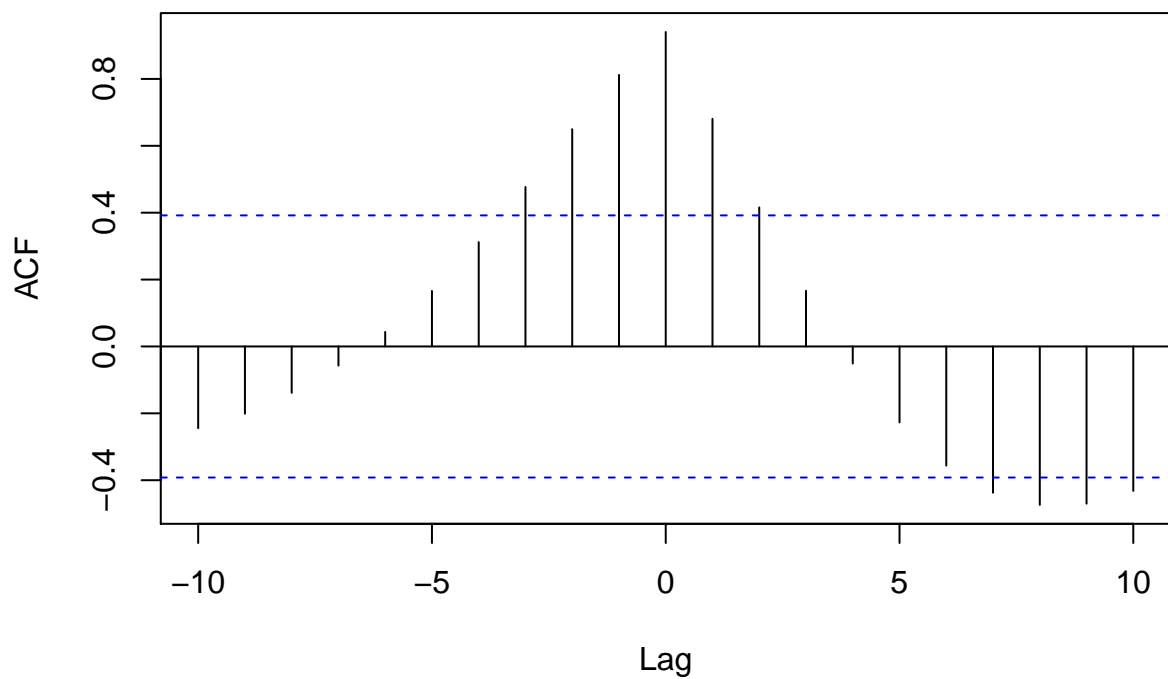


**4 wk ahead – 01**

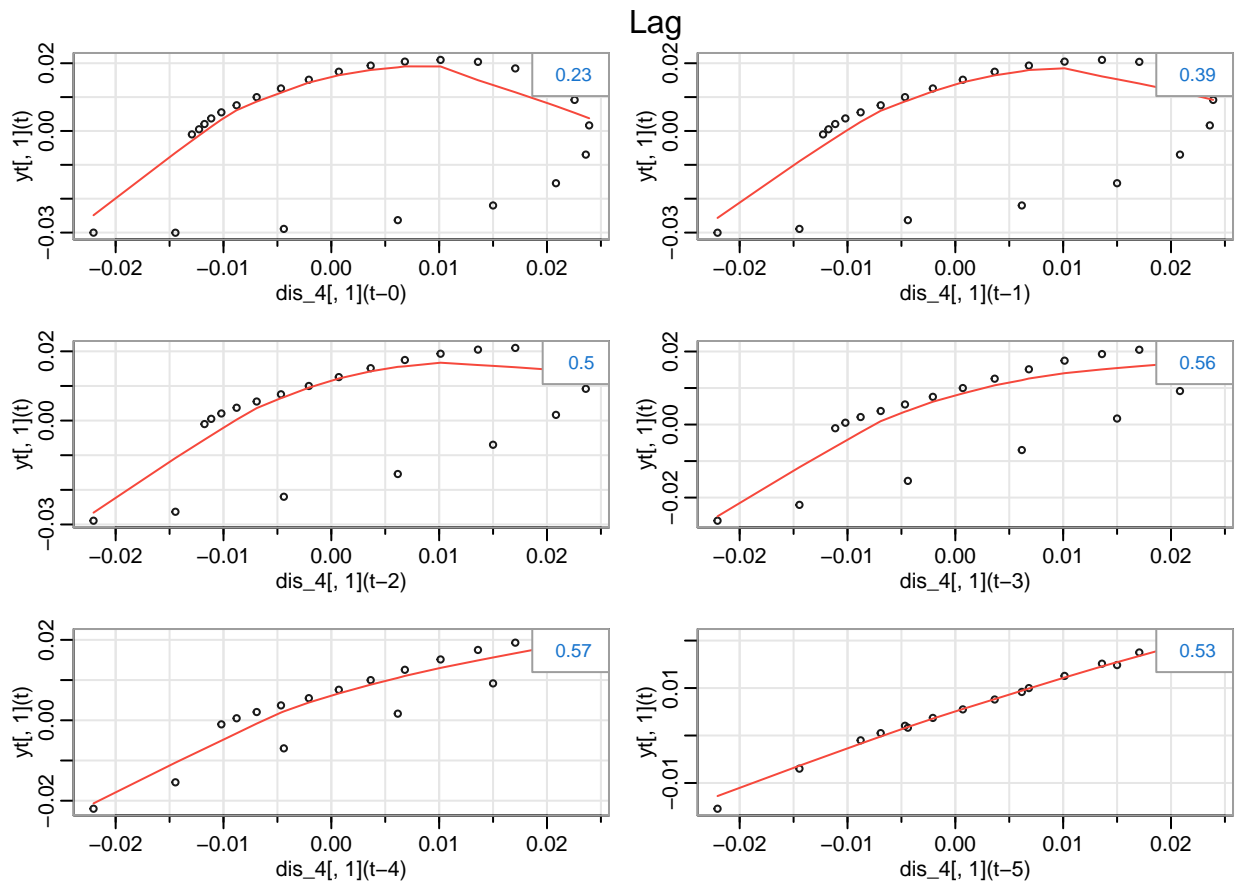
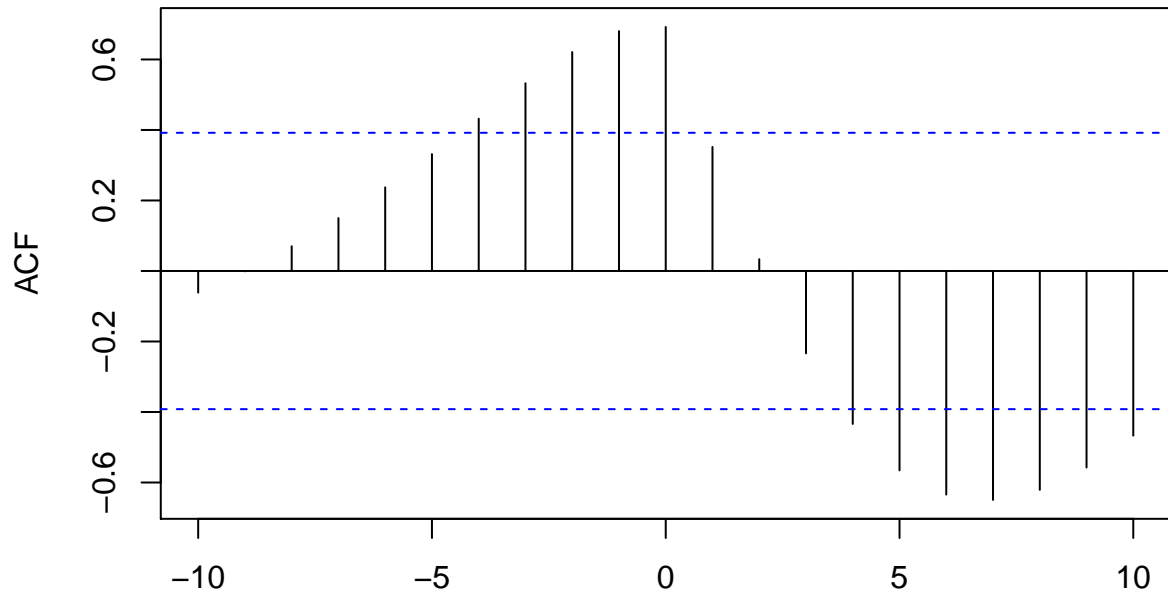




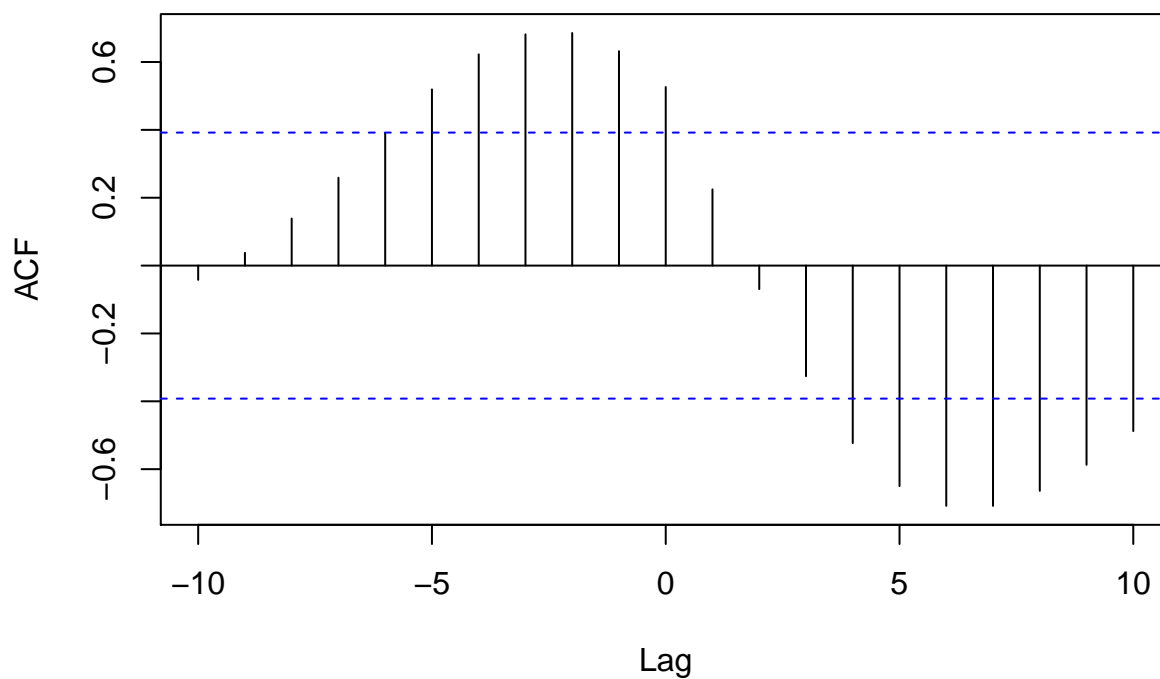
**2 wk ahead – 04**



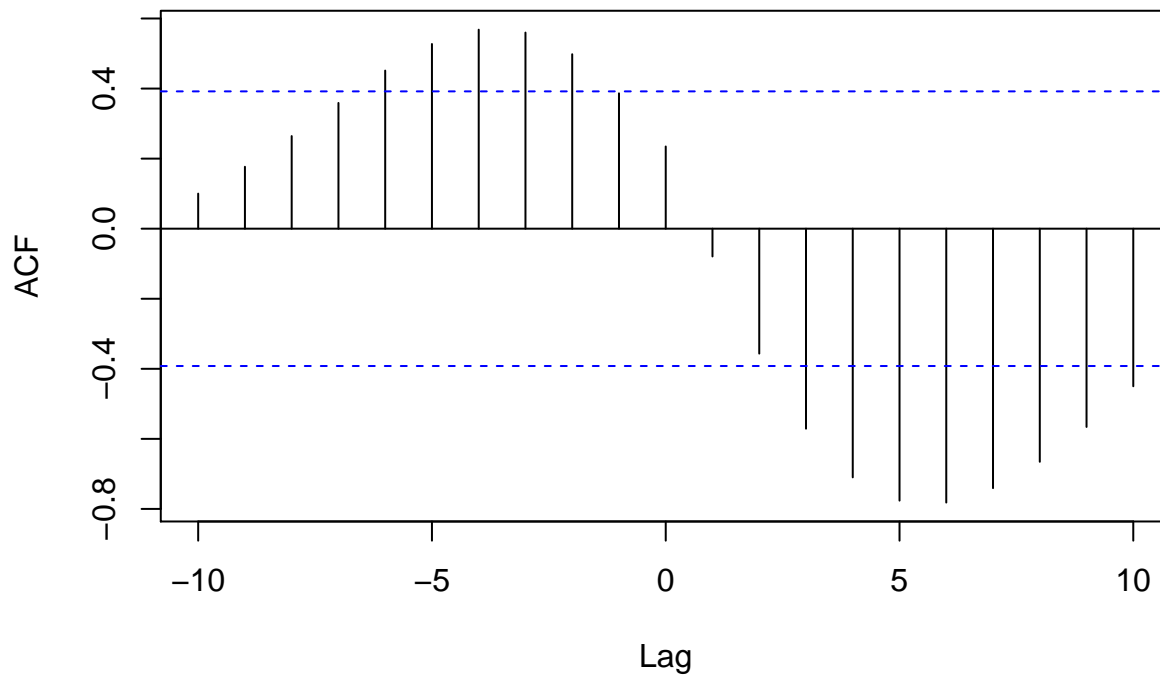
## 4 wk ahead - 04



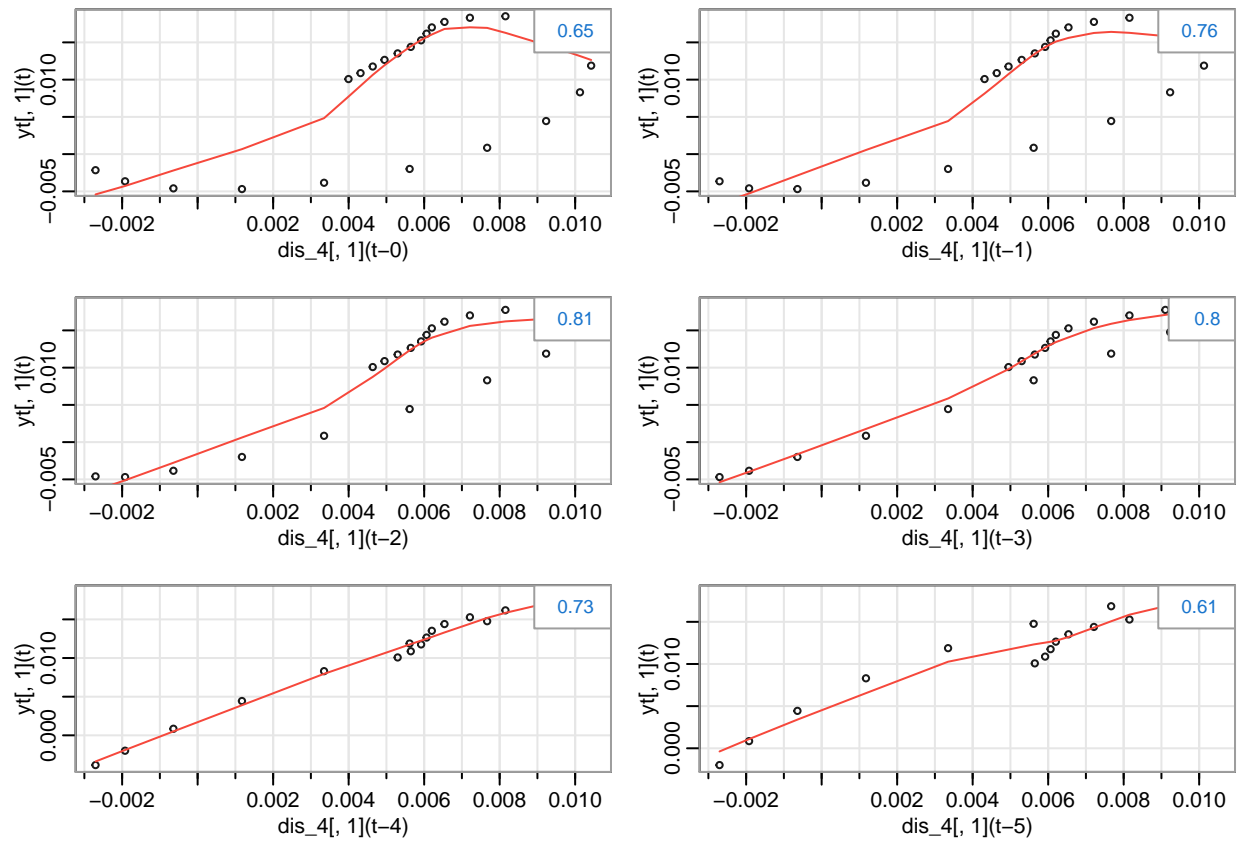
**2 wk ahead – 06**



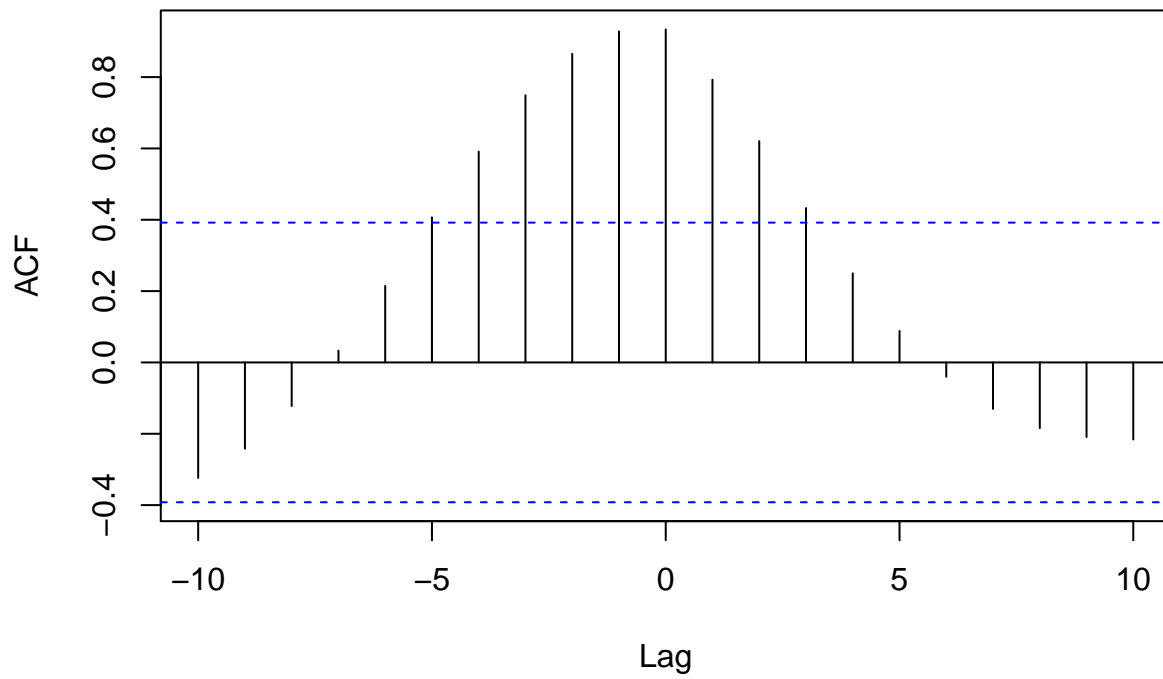
**4 wk ahead – 06**



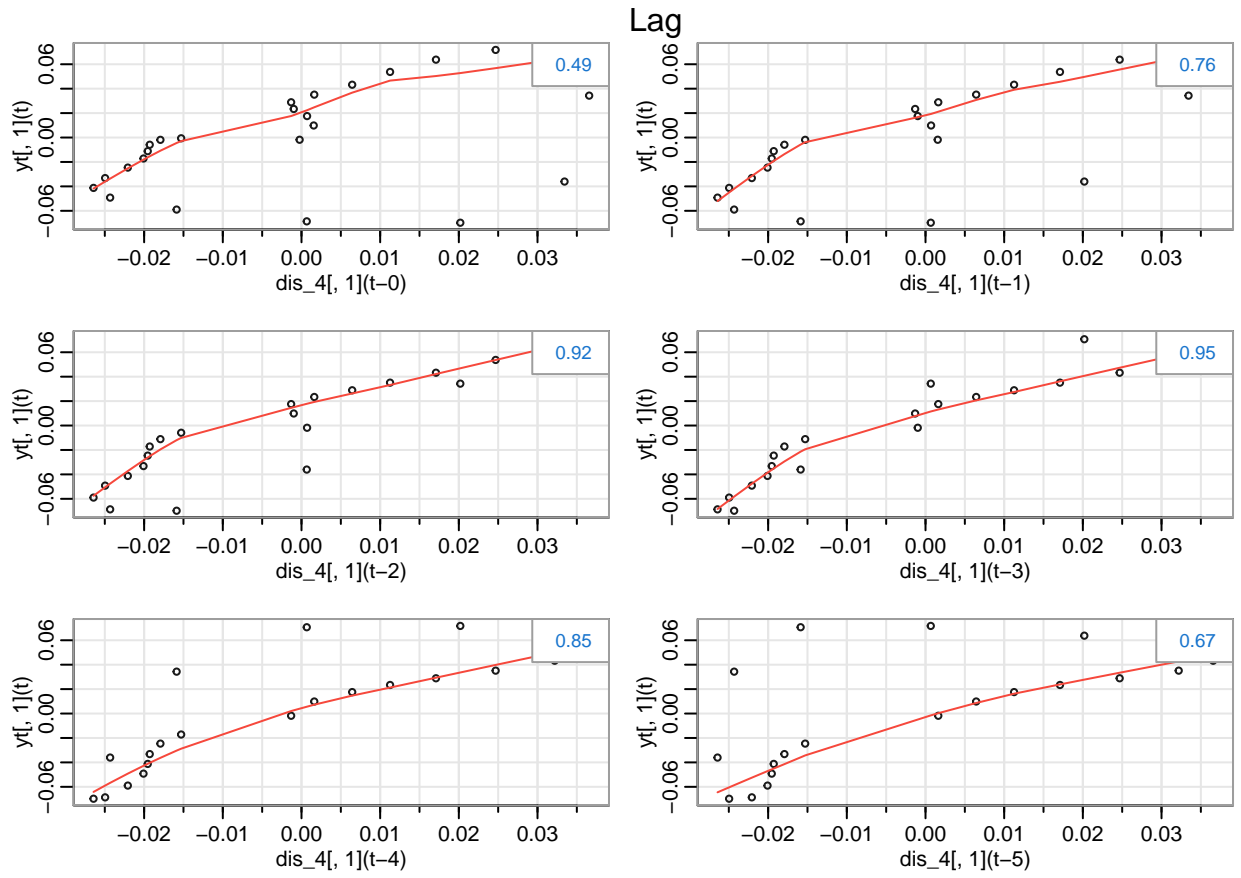
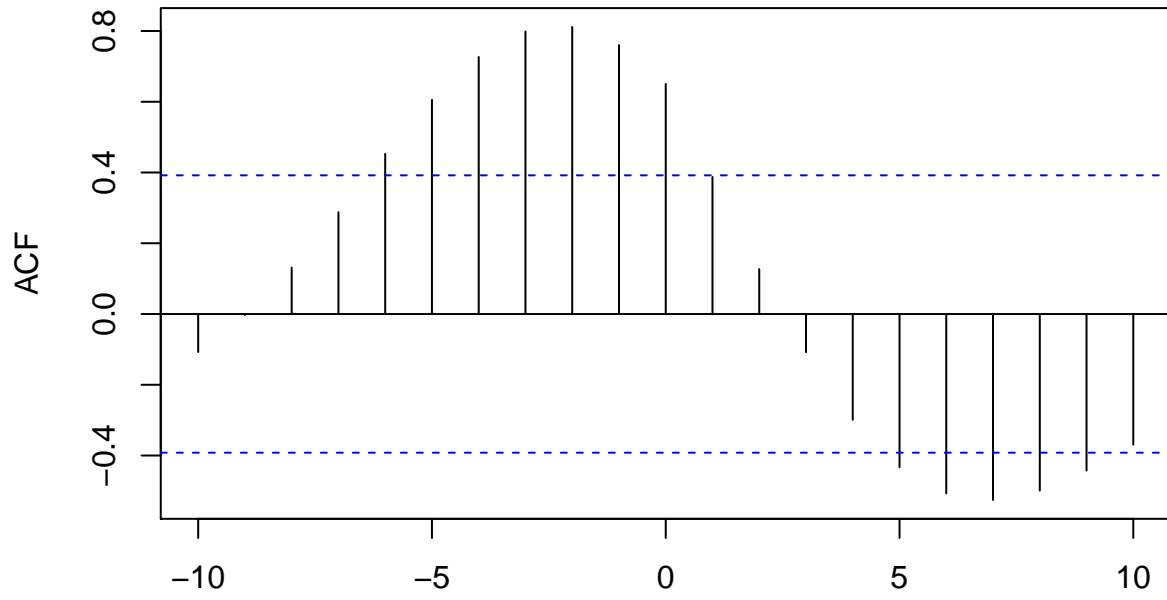




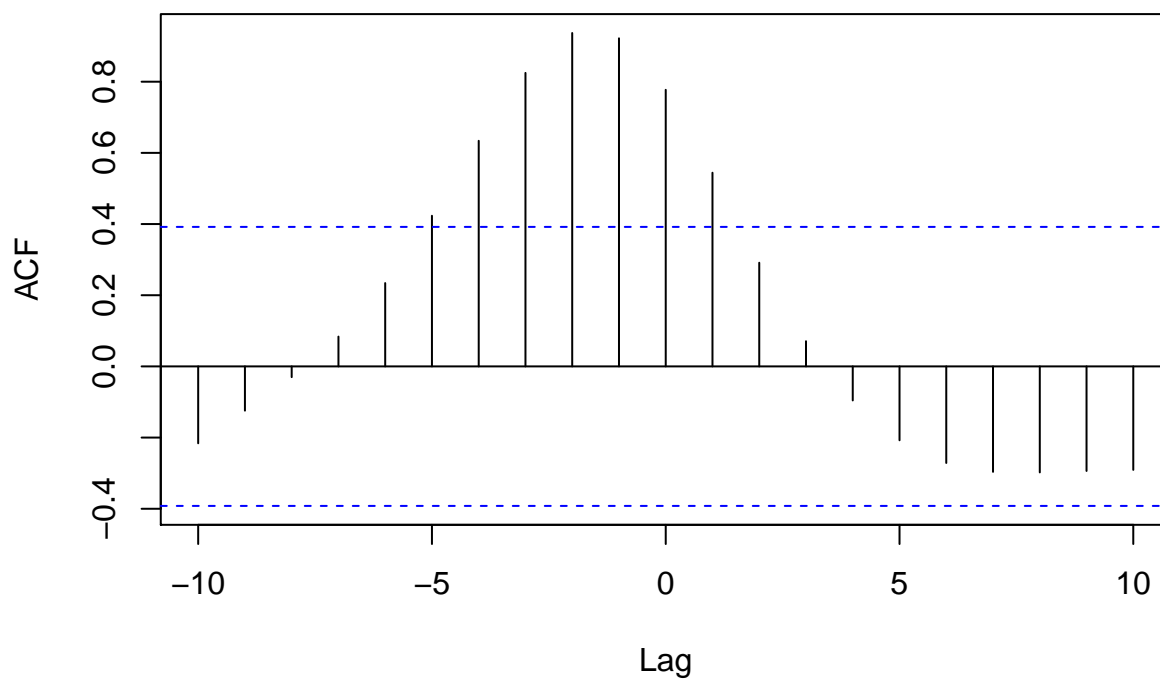
**2 wk ahead – 08**



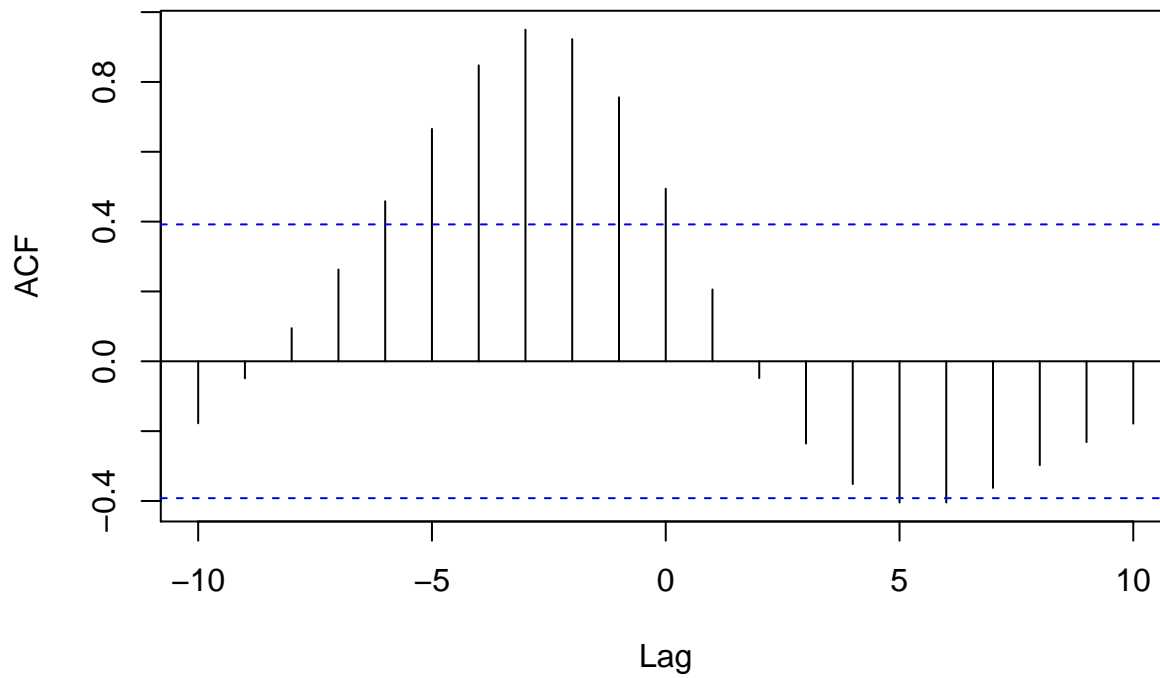
## 4 wk ahead - 08

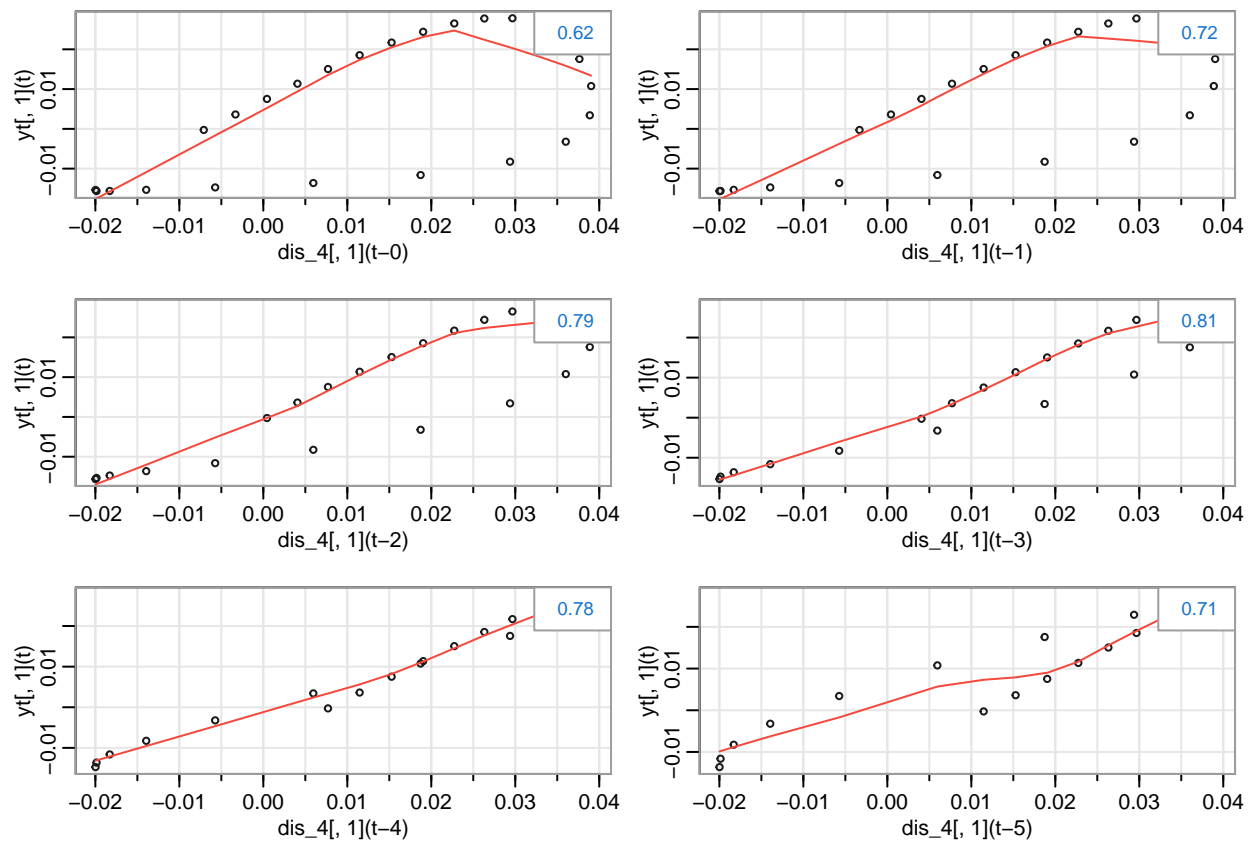


**2 wk ahead – 09**

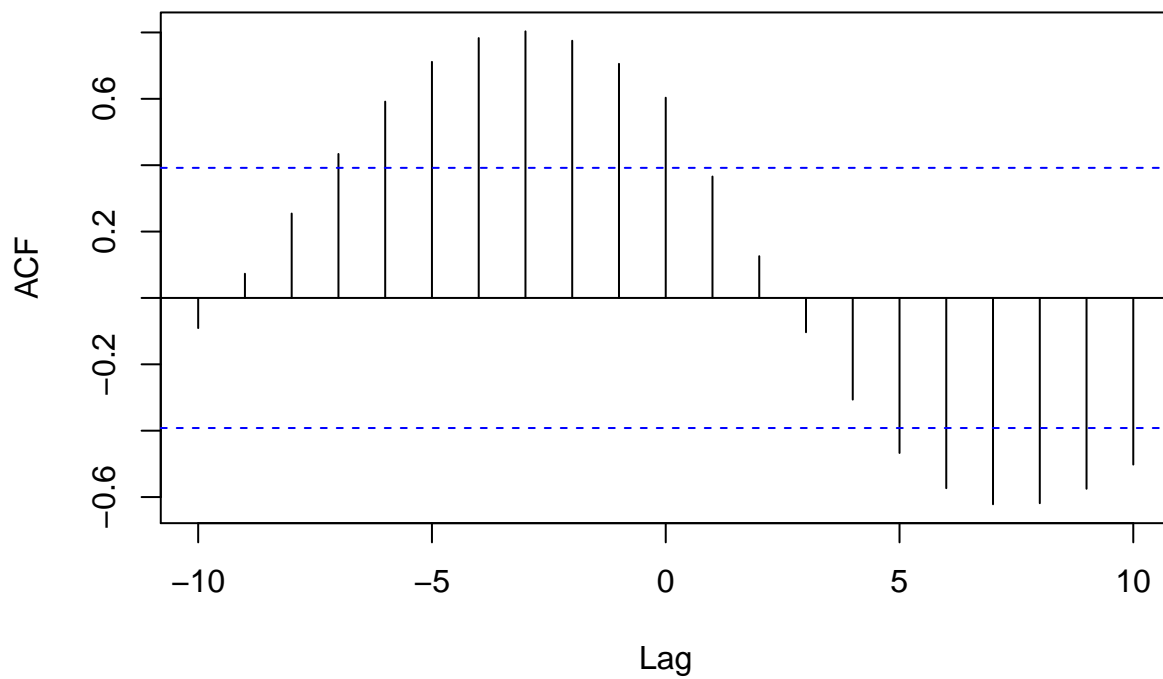


**4 wk ahead – 09**

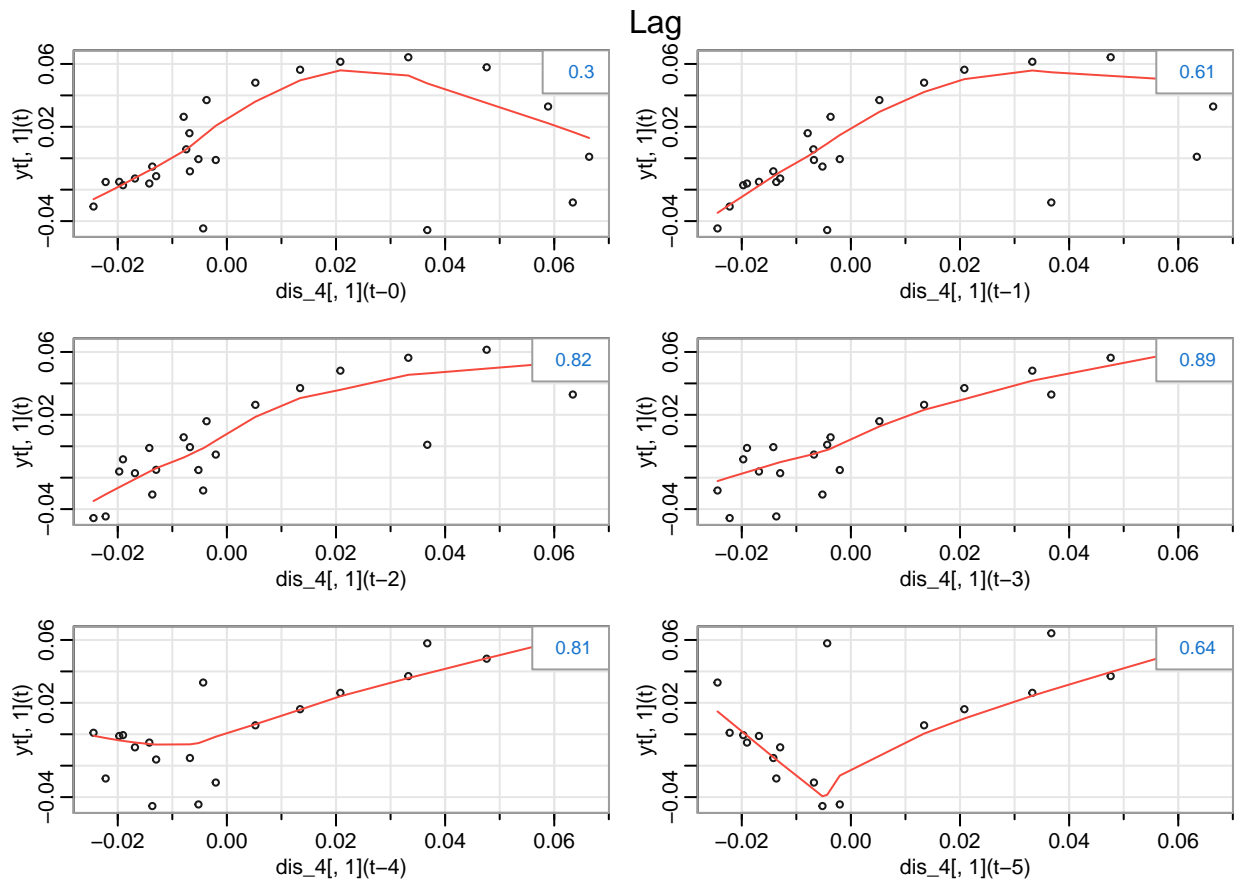
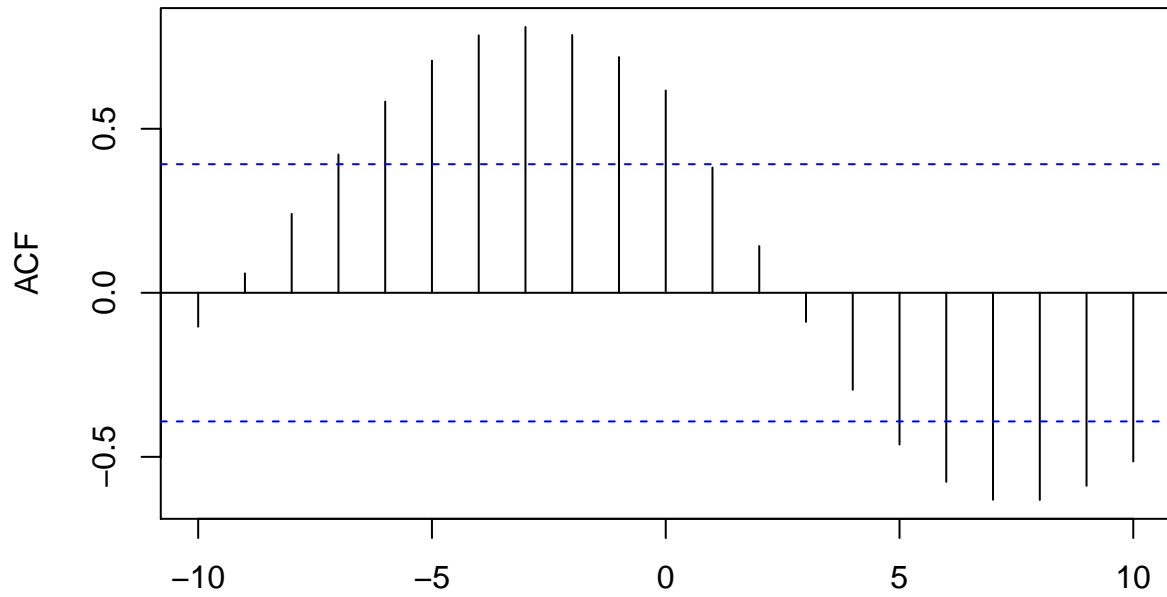




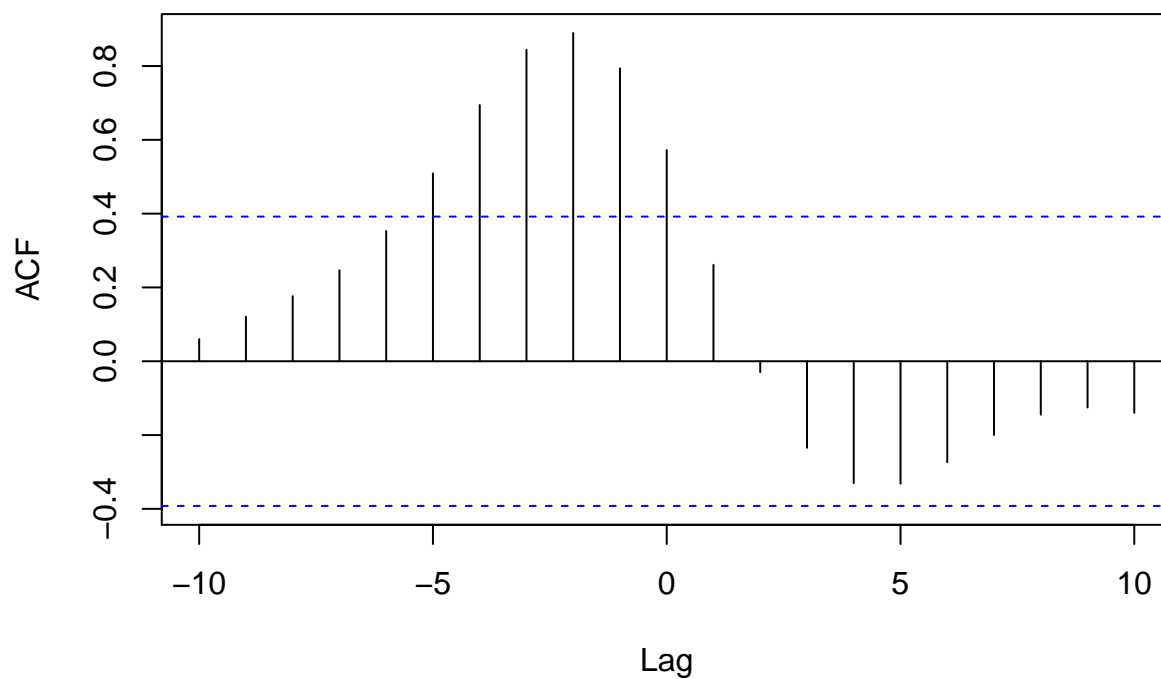
**2 wk ahead – 12**



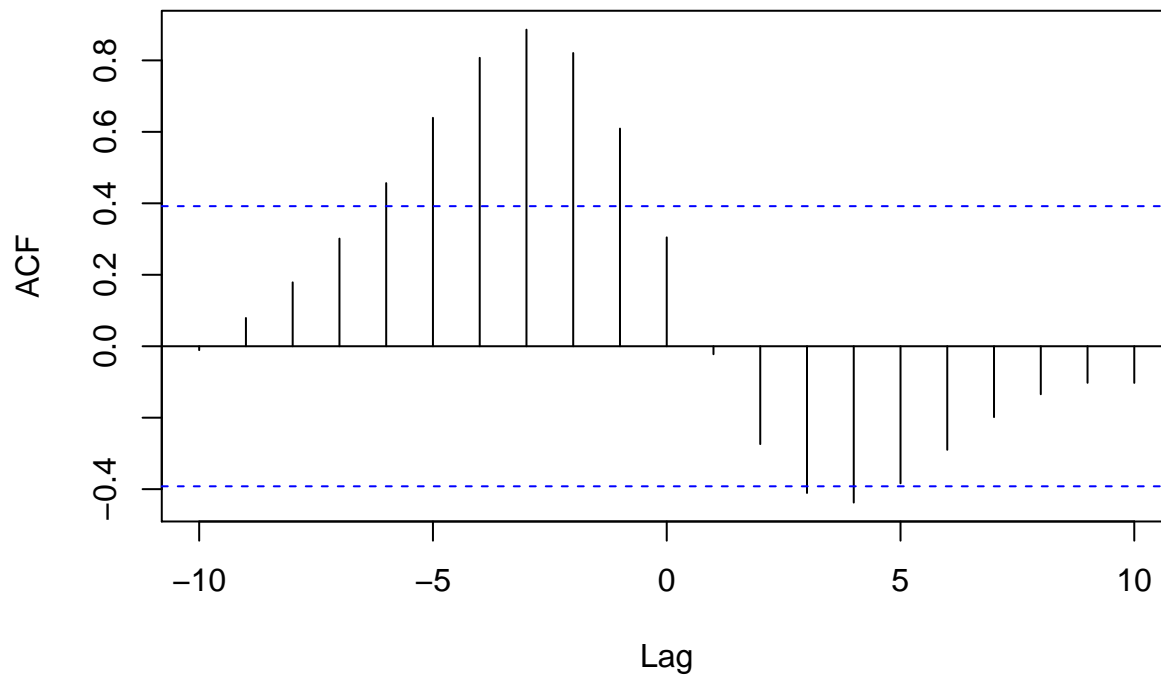
## 4 wk ahead – 12

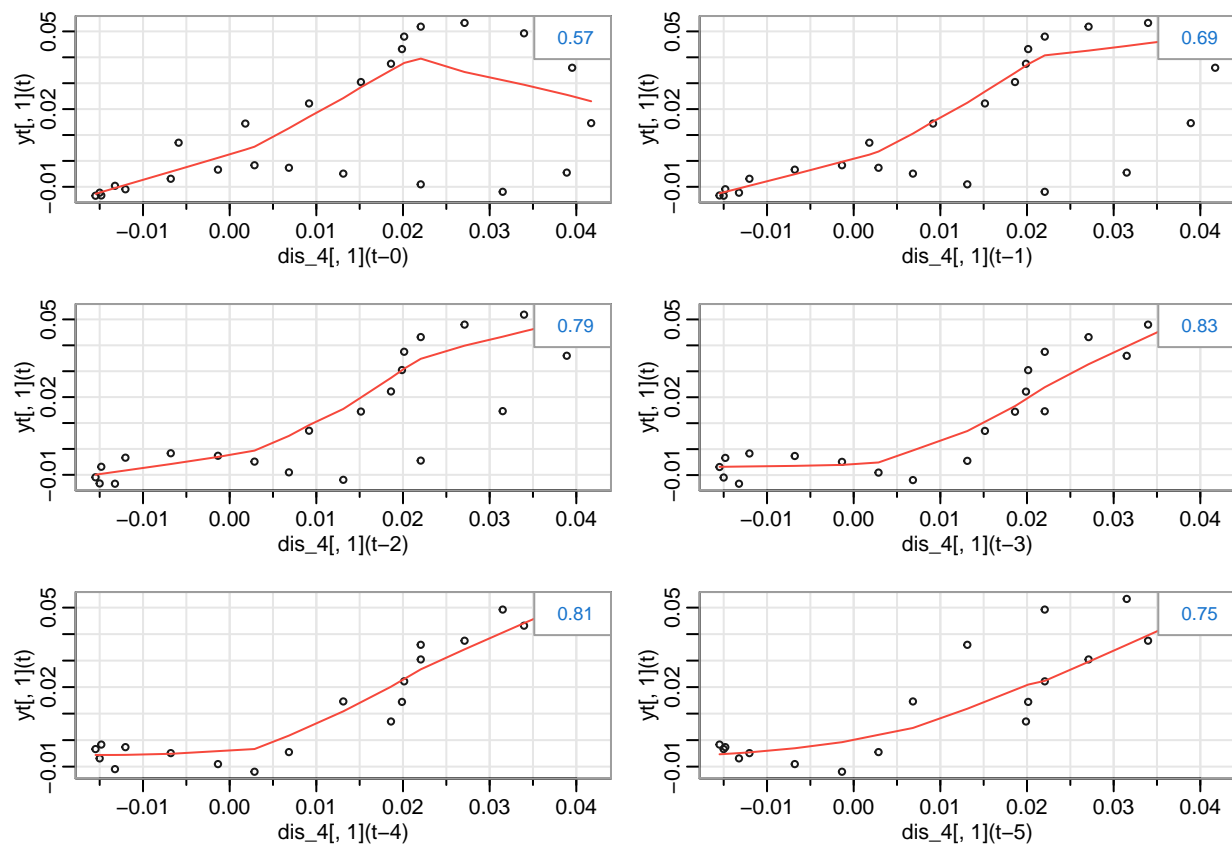


**2 wk ahead – 13**

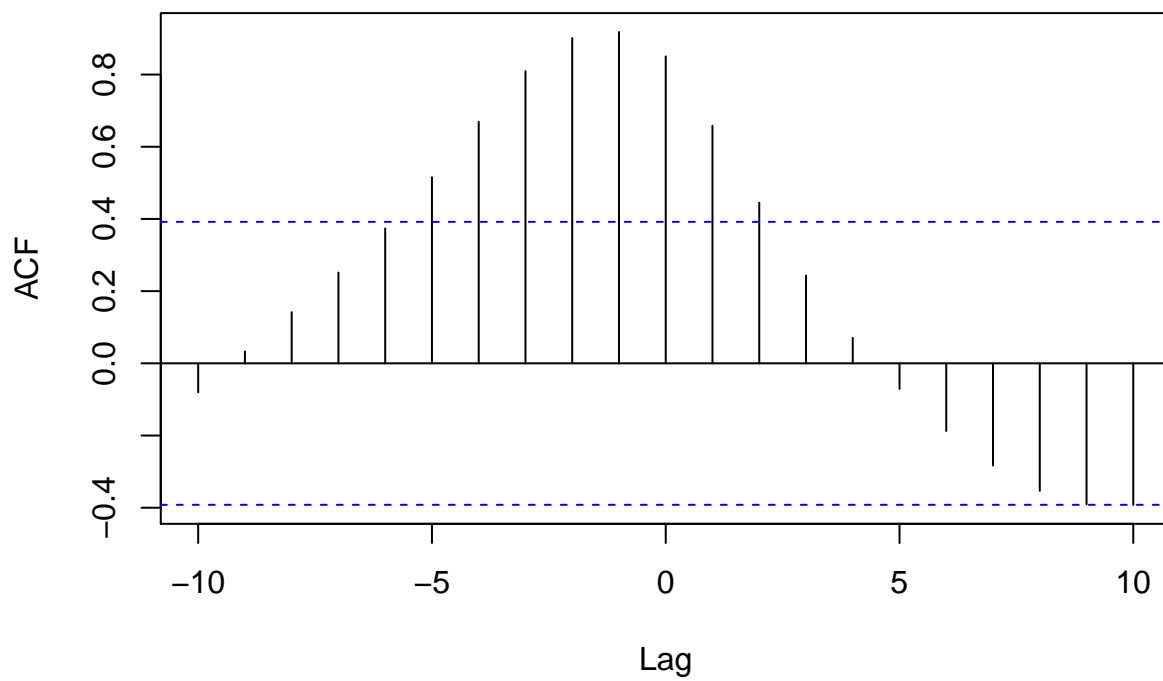


**4 wk ahead – 13**

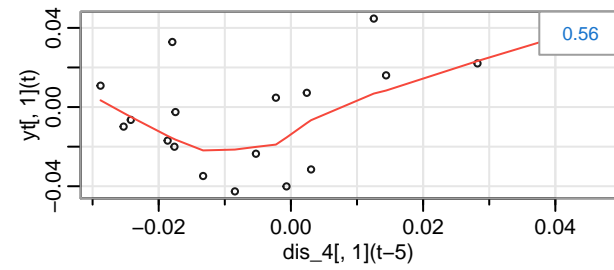
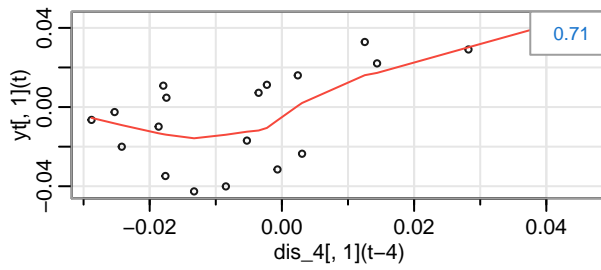
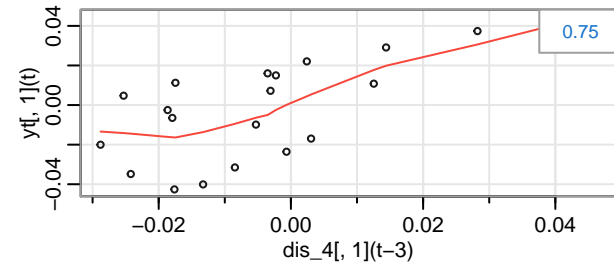
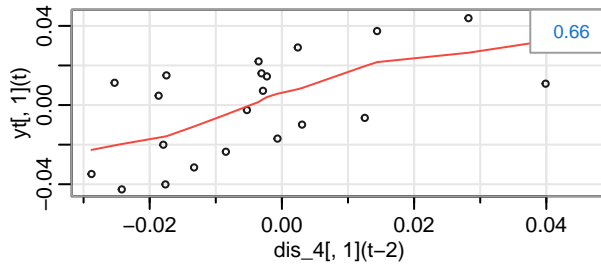
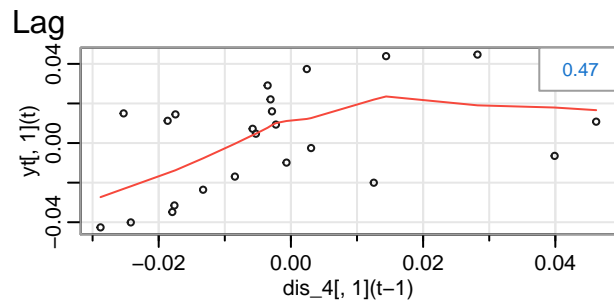
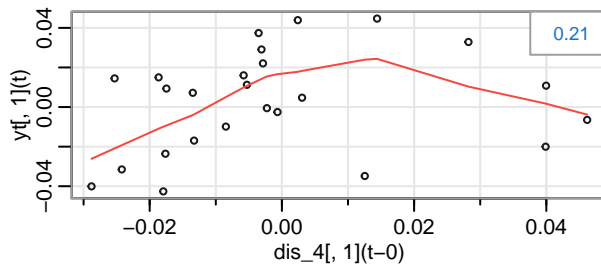
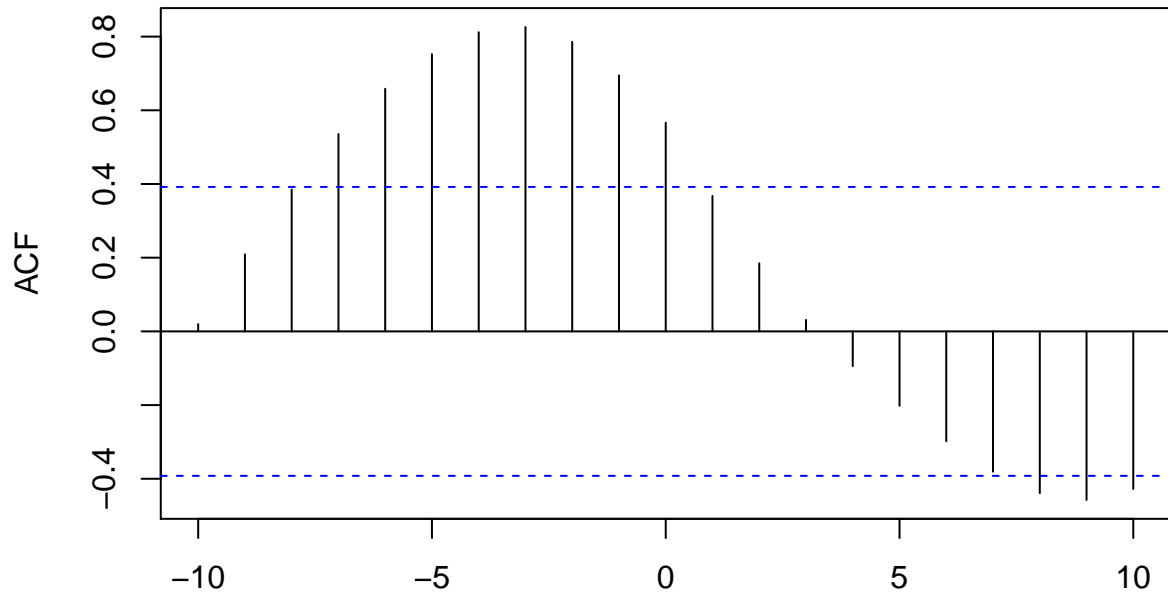




**2 wk ahead – 16**

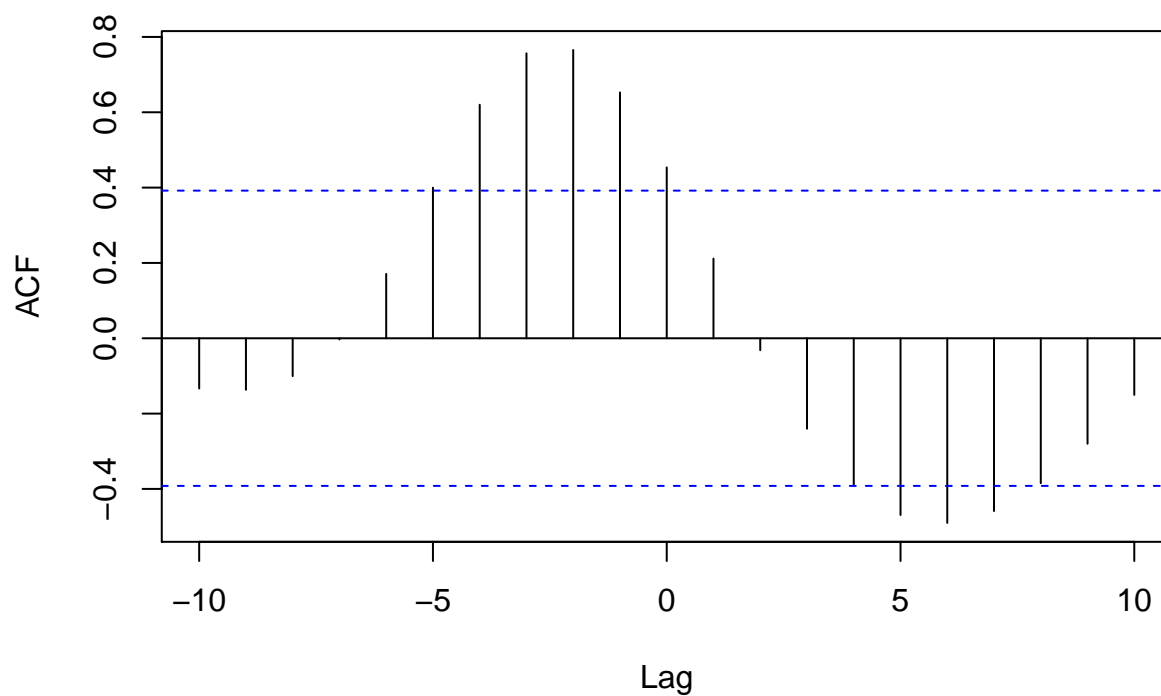


## 4 wk ahead – 16

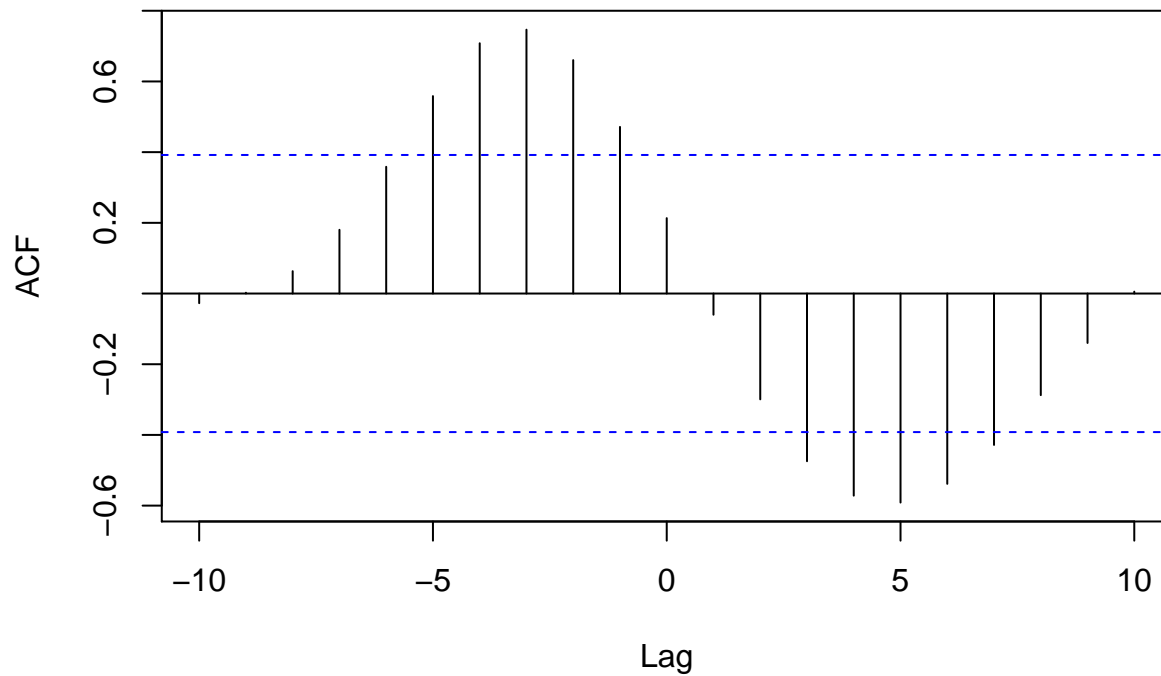


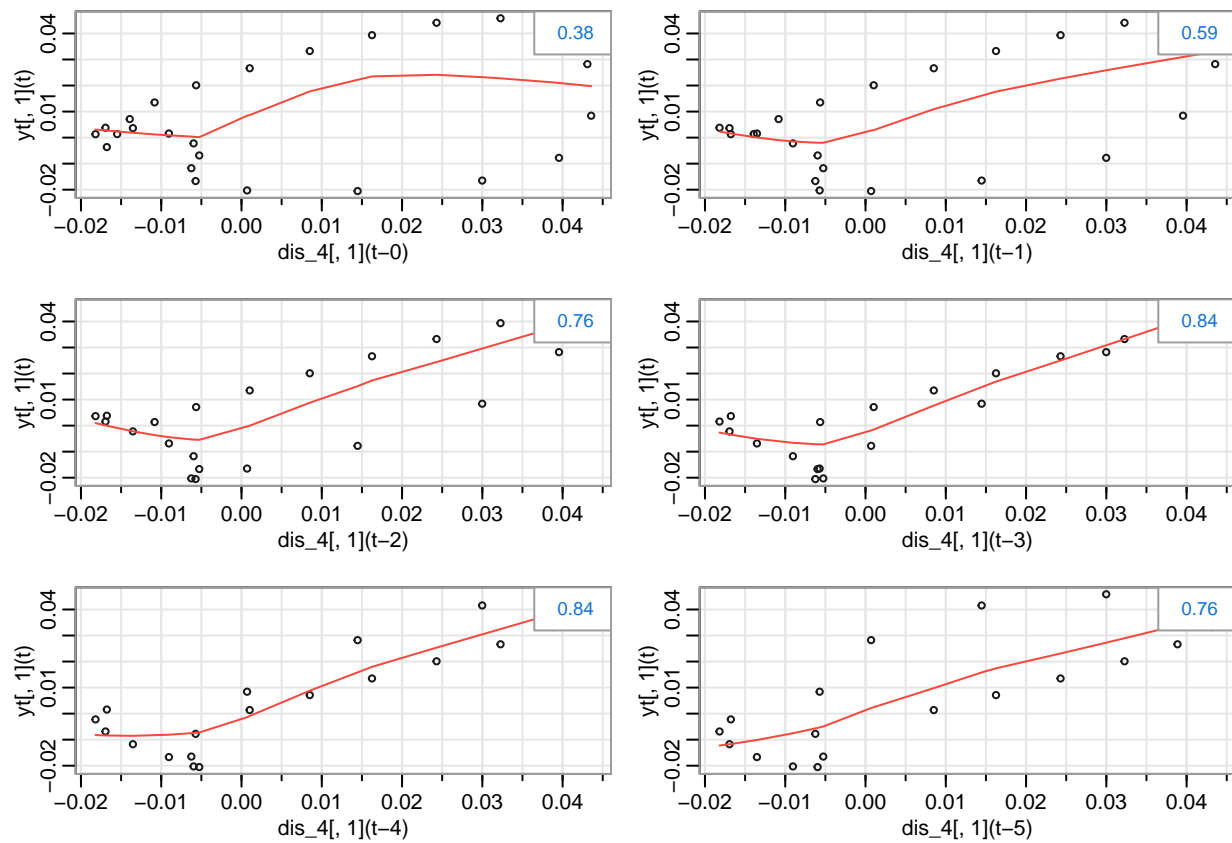


### 2 wk ahead – 17

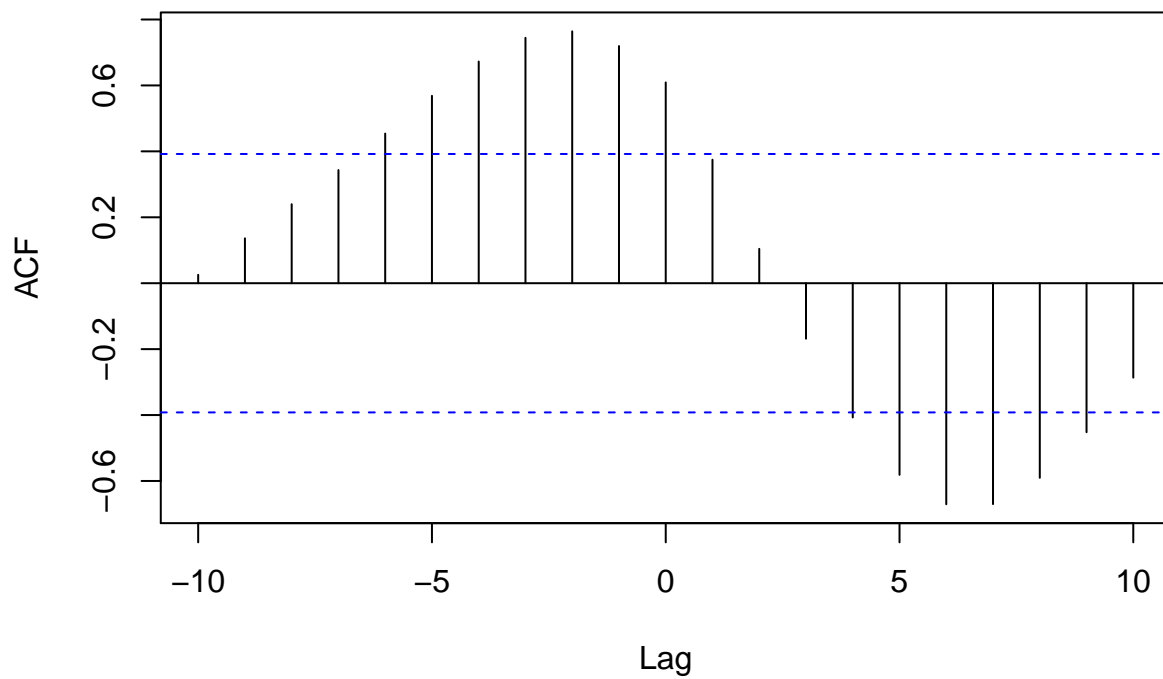


### 4 wk ahead – 17

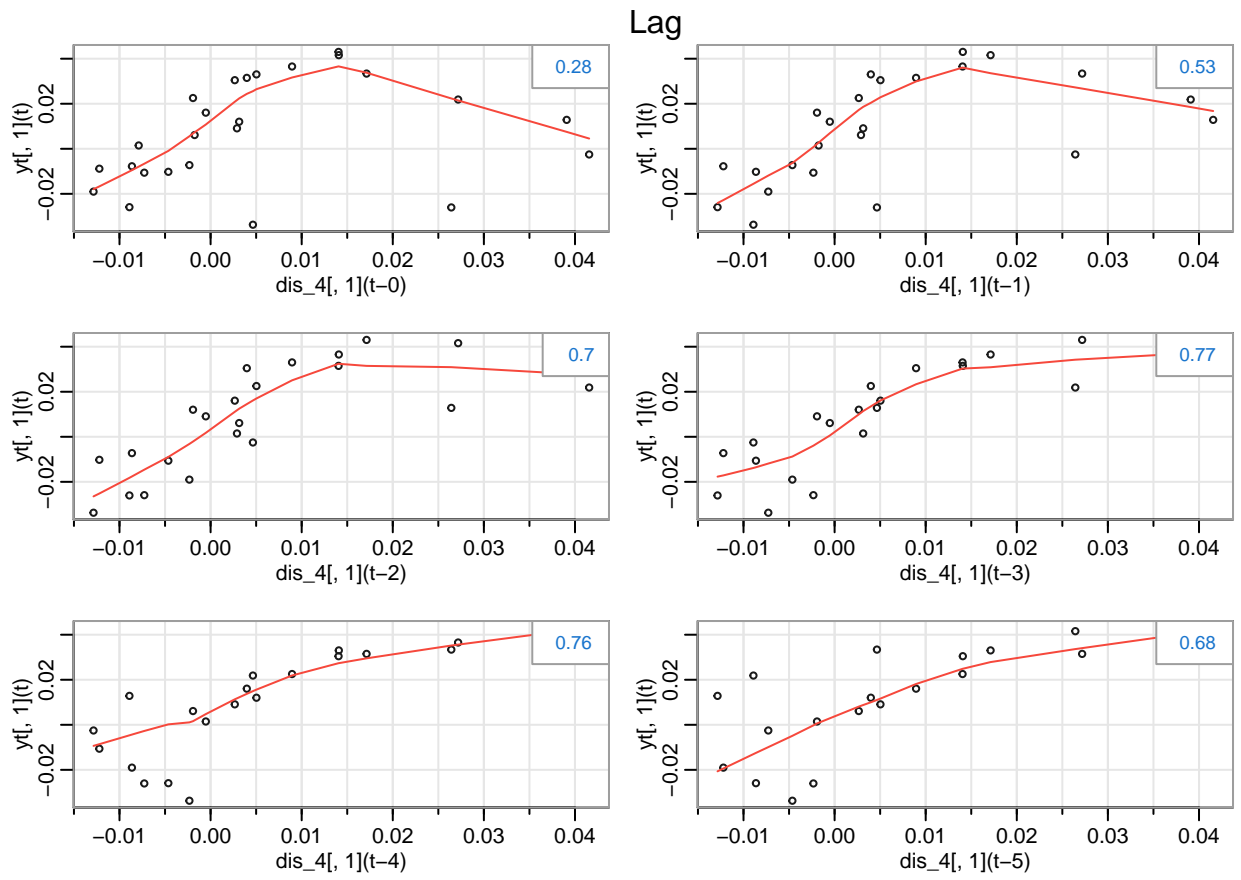
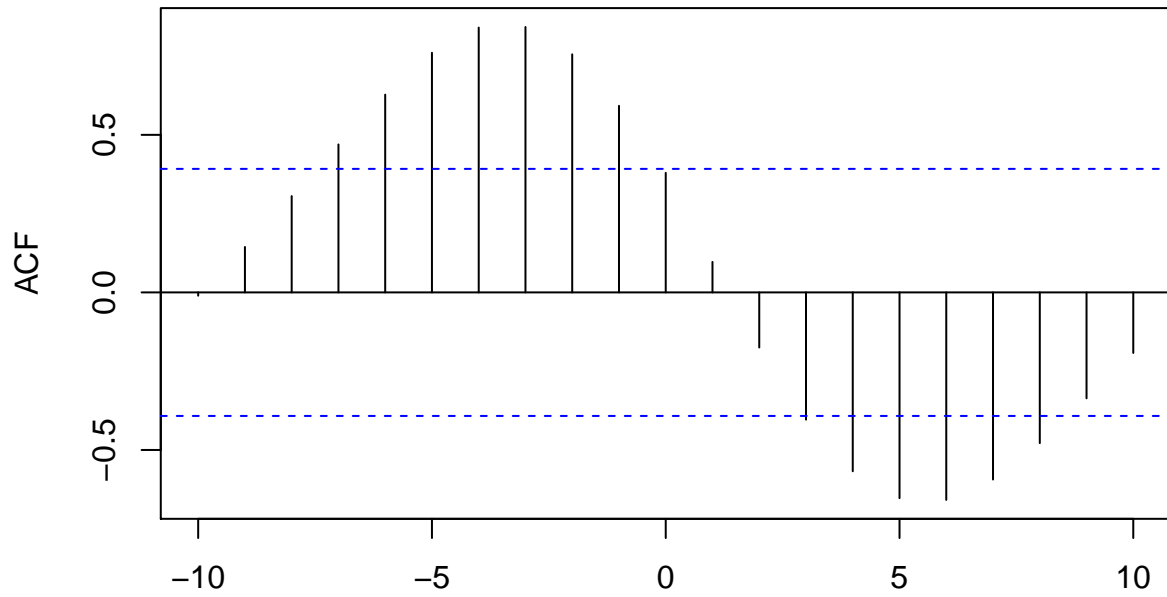




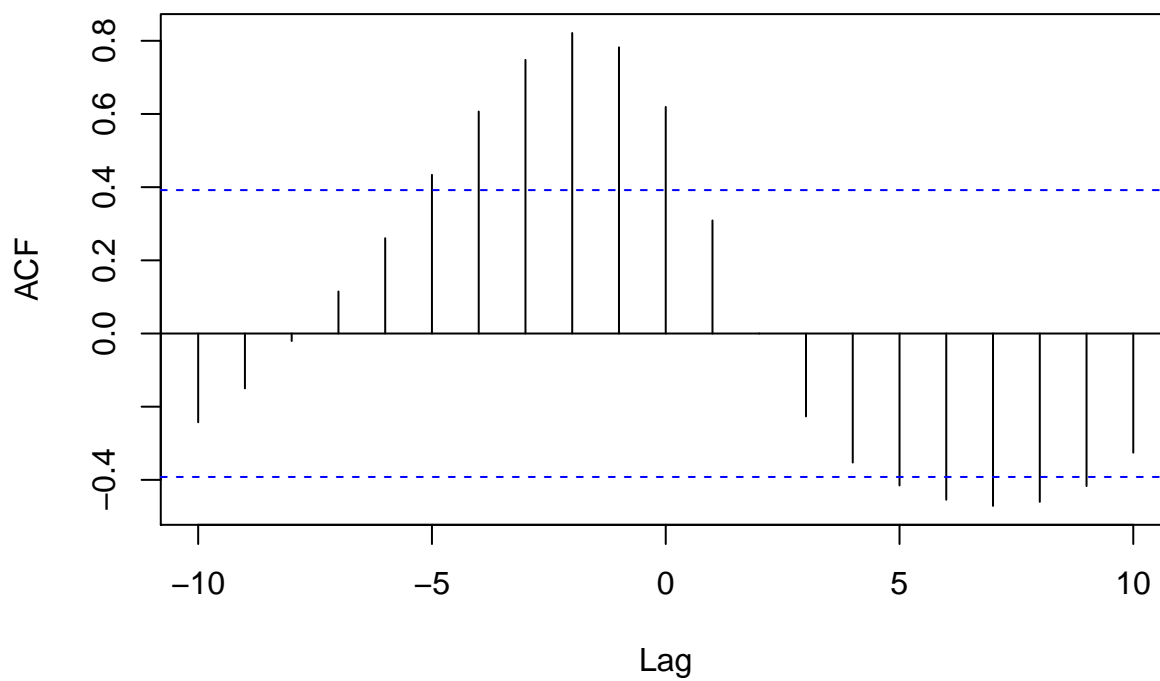
**2 wk ahead – 18**



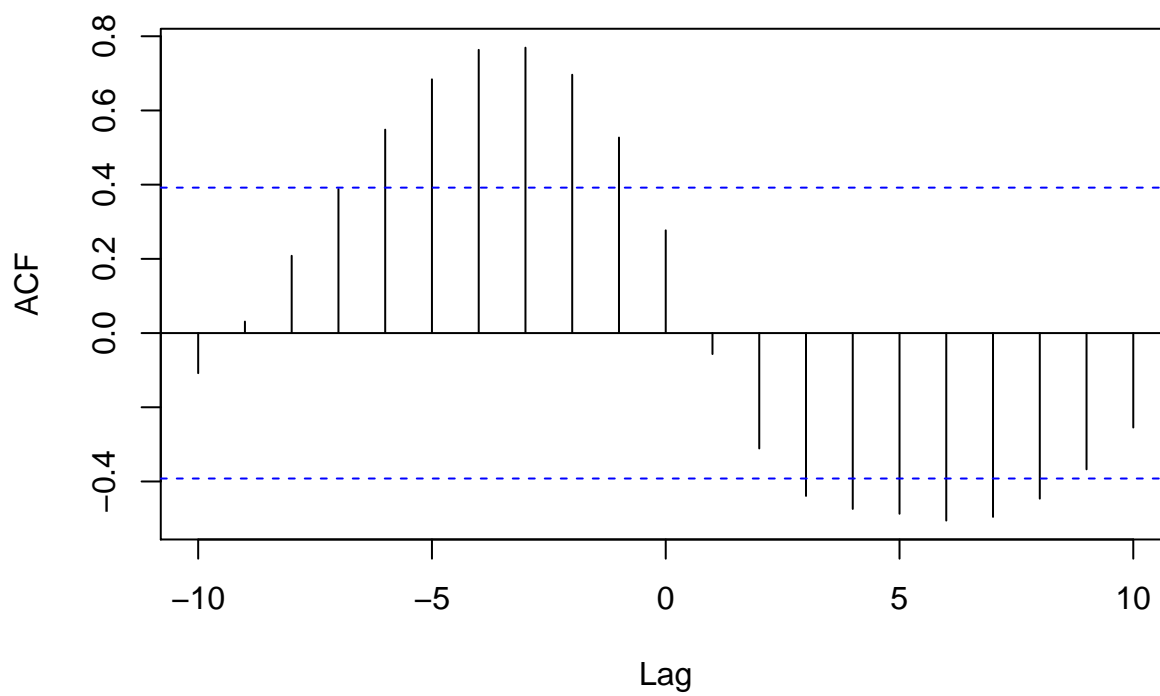
## 4 wk ahead – 18

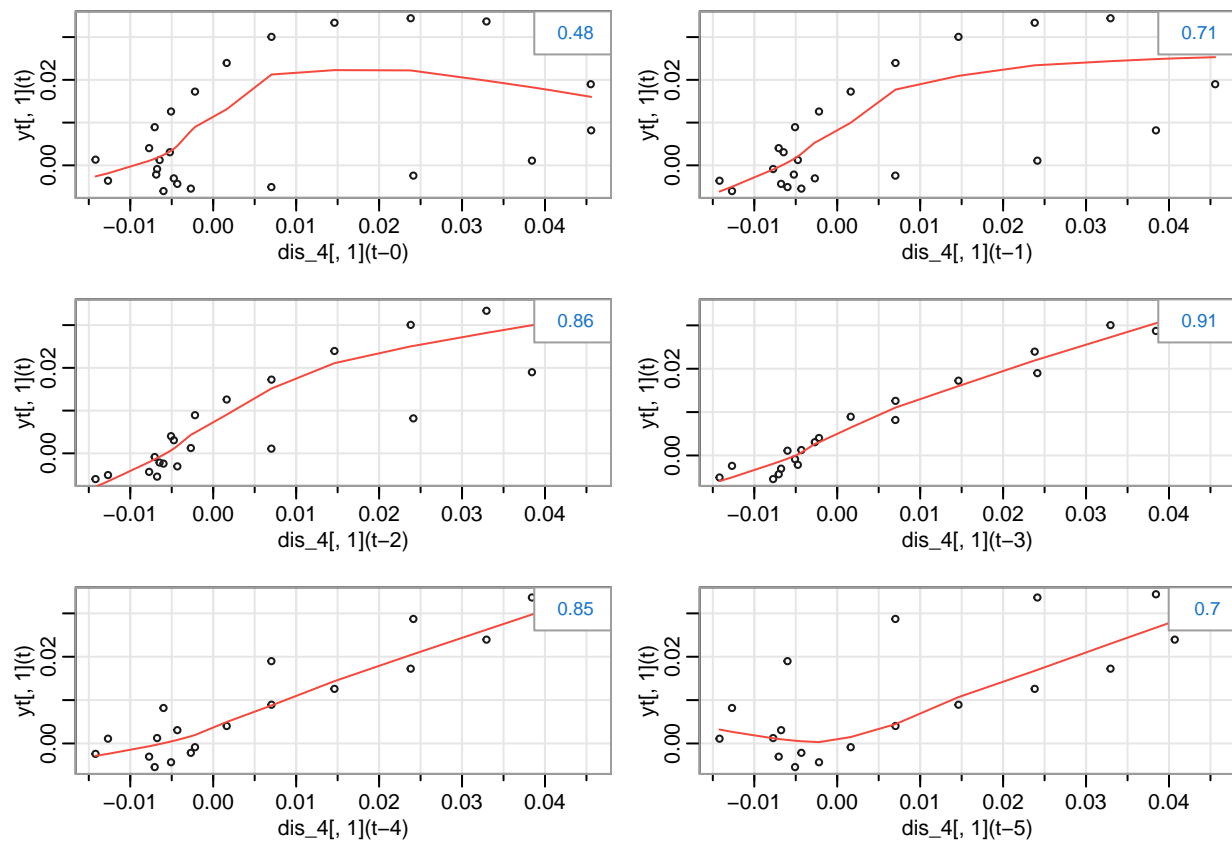


**2 wk ahead – 19**

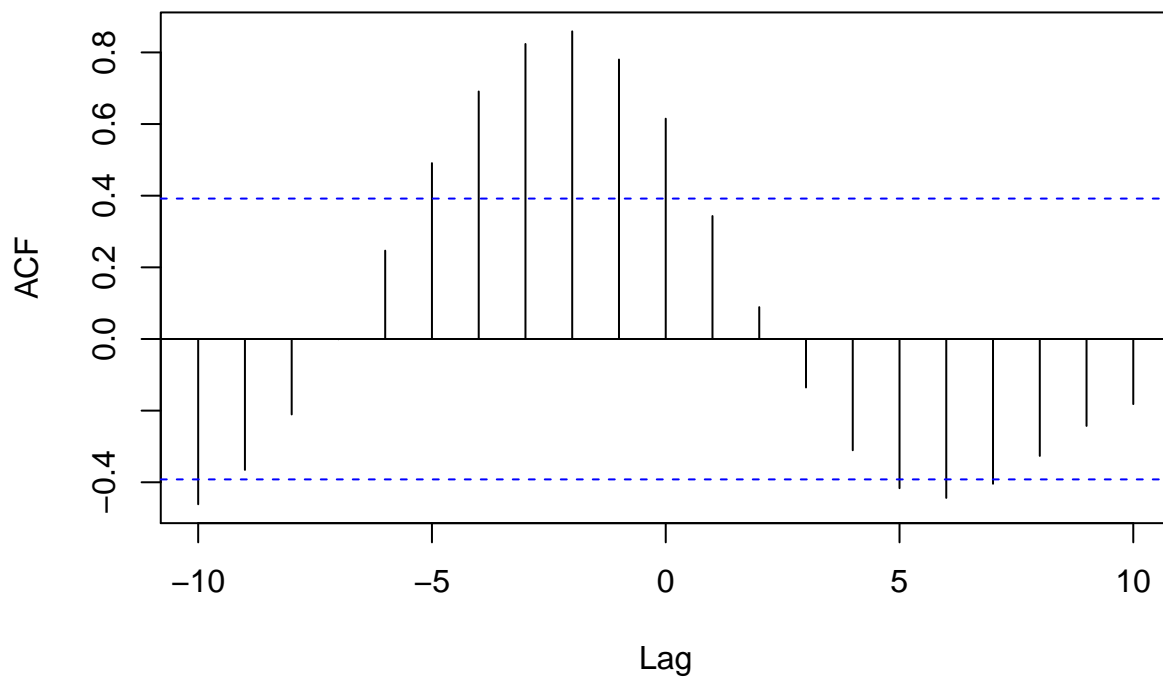


**4 wk ahead – 19**

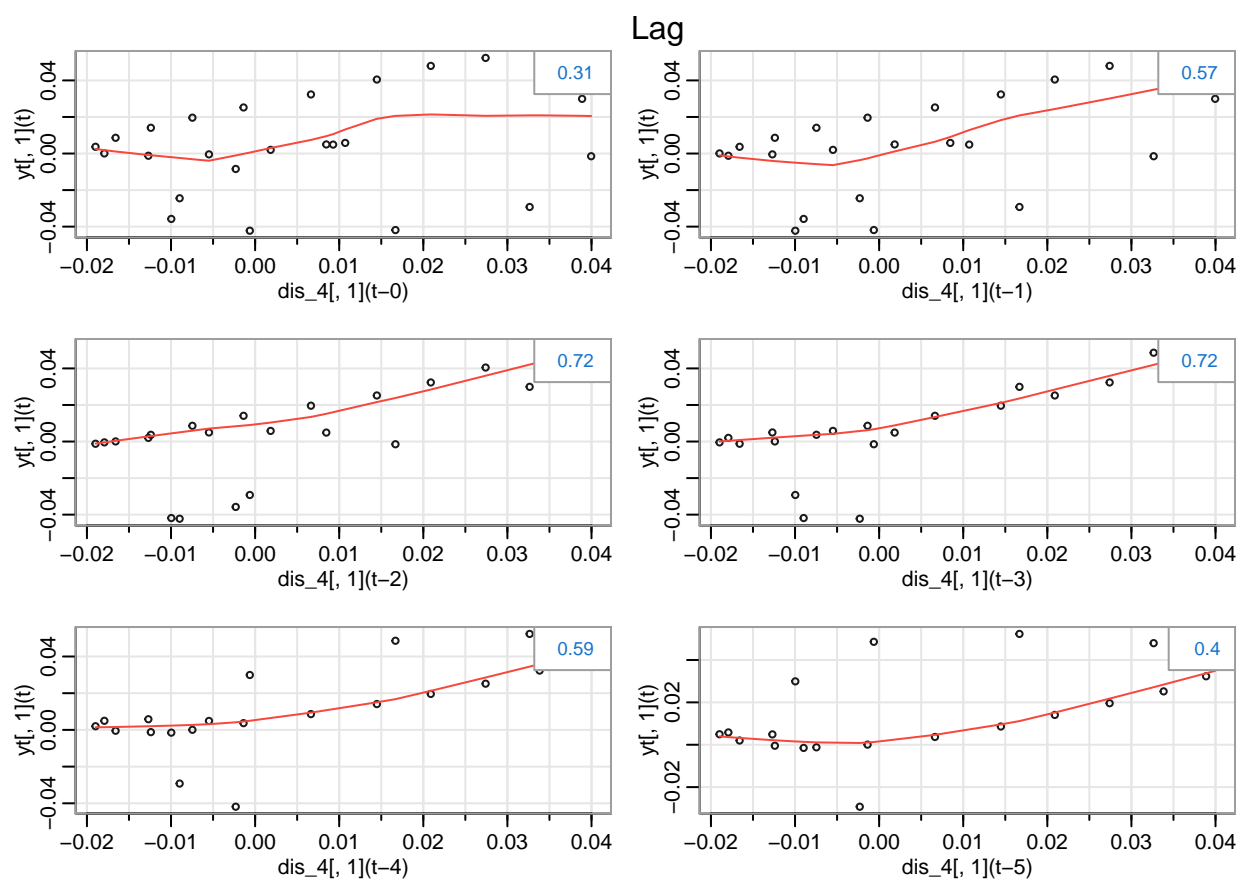
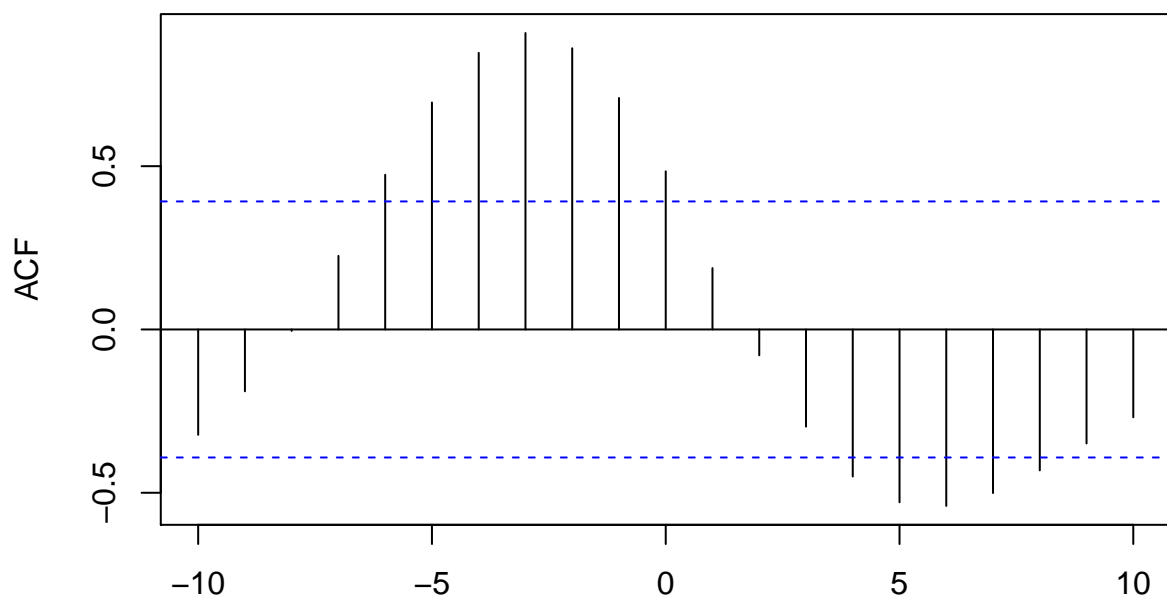




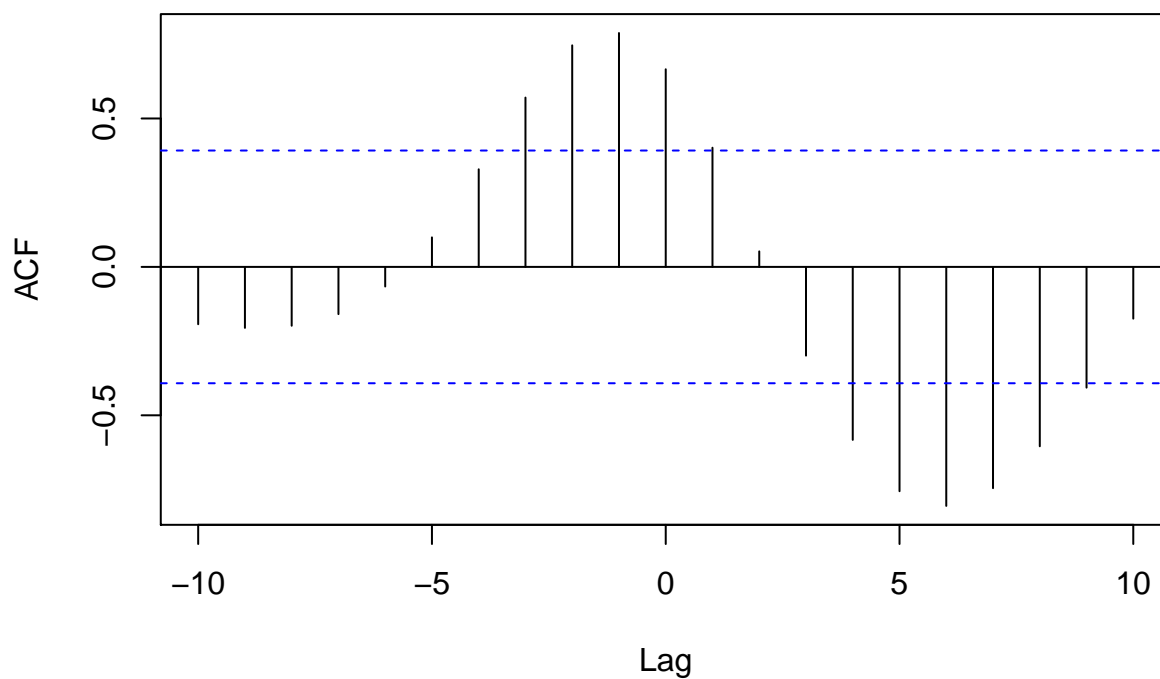
**2 wk ahead – 20**



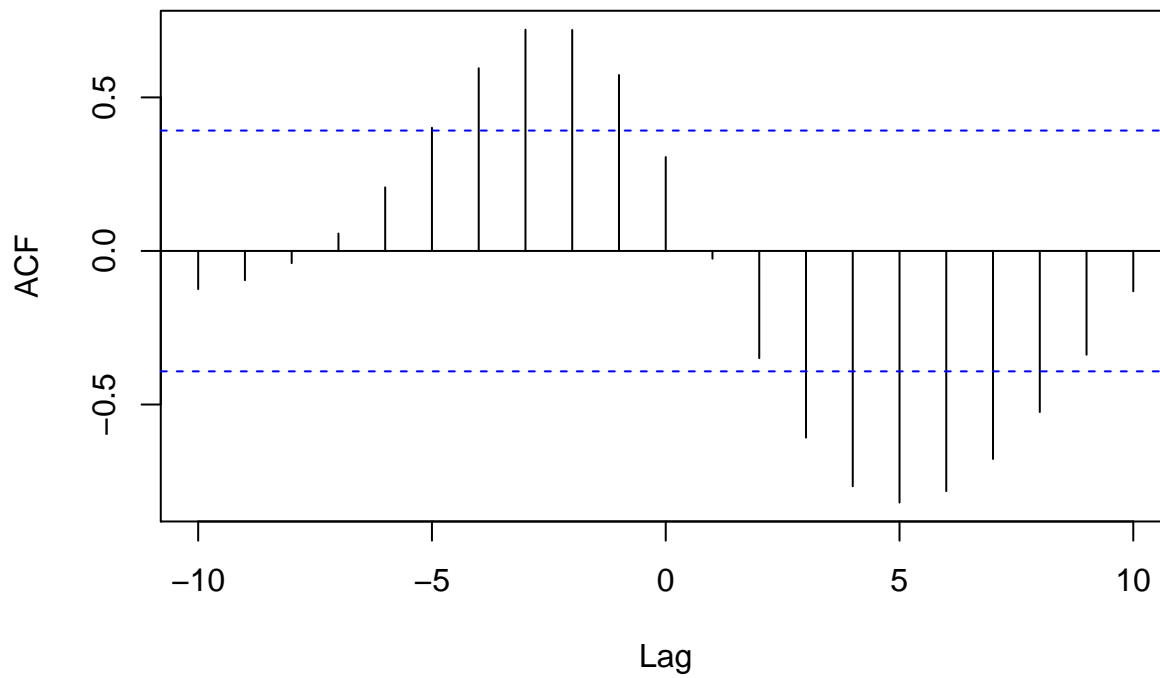
## 4 wk ahead – 20

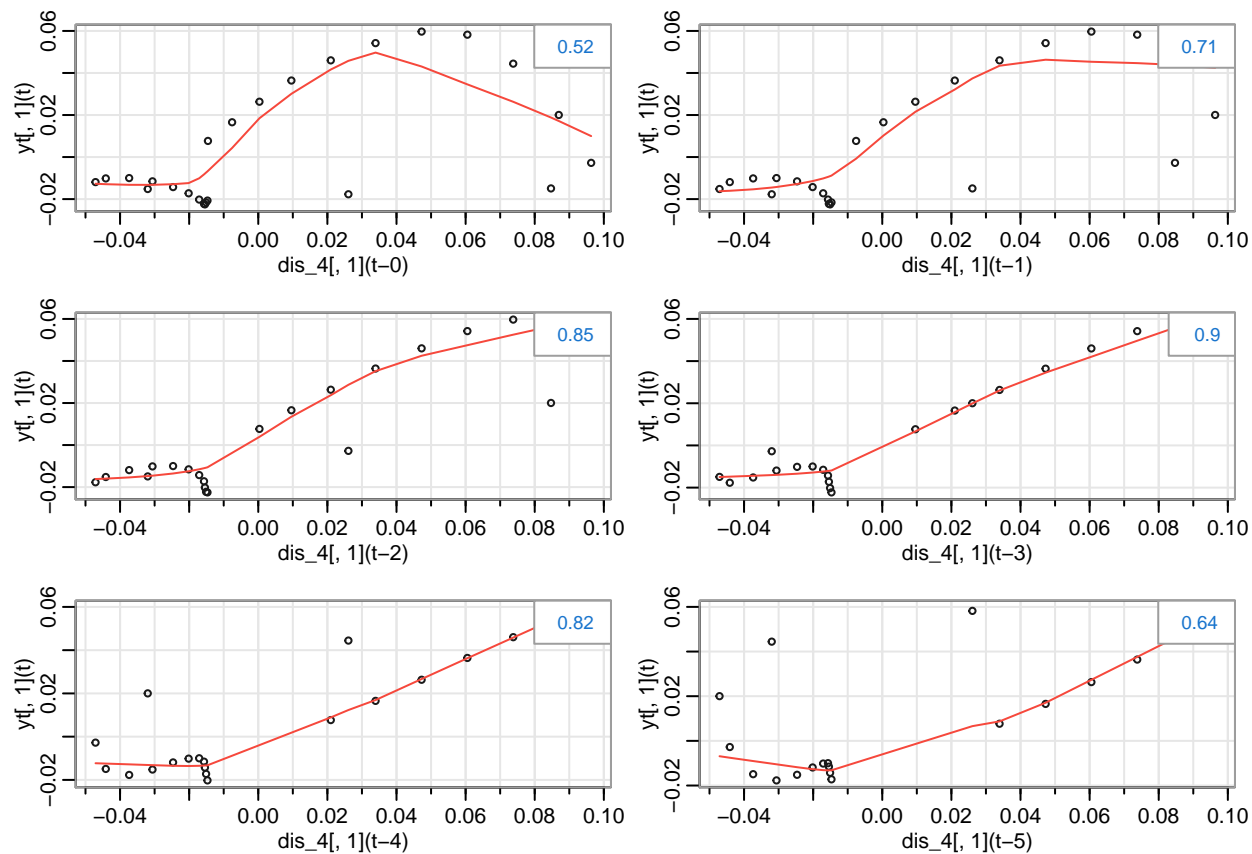


**2 wk ahead – 21**

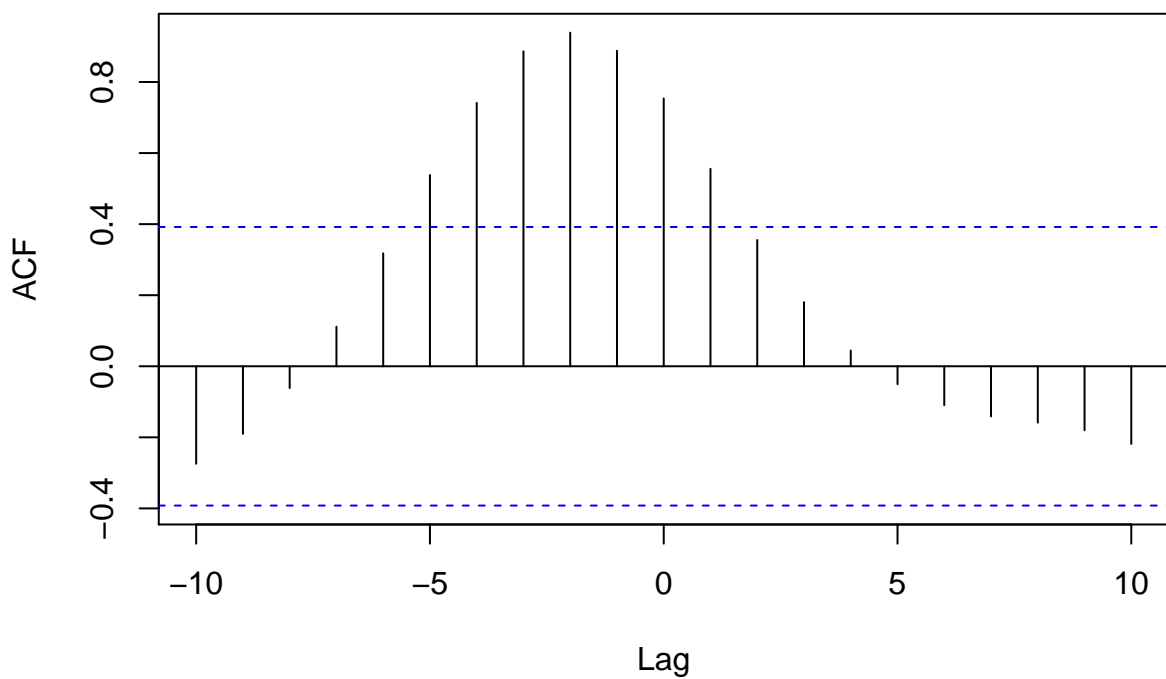


**4 wk ahead – 21**



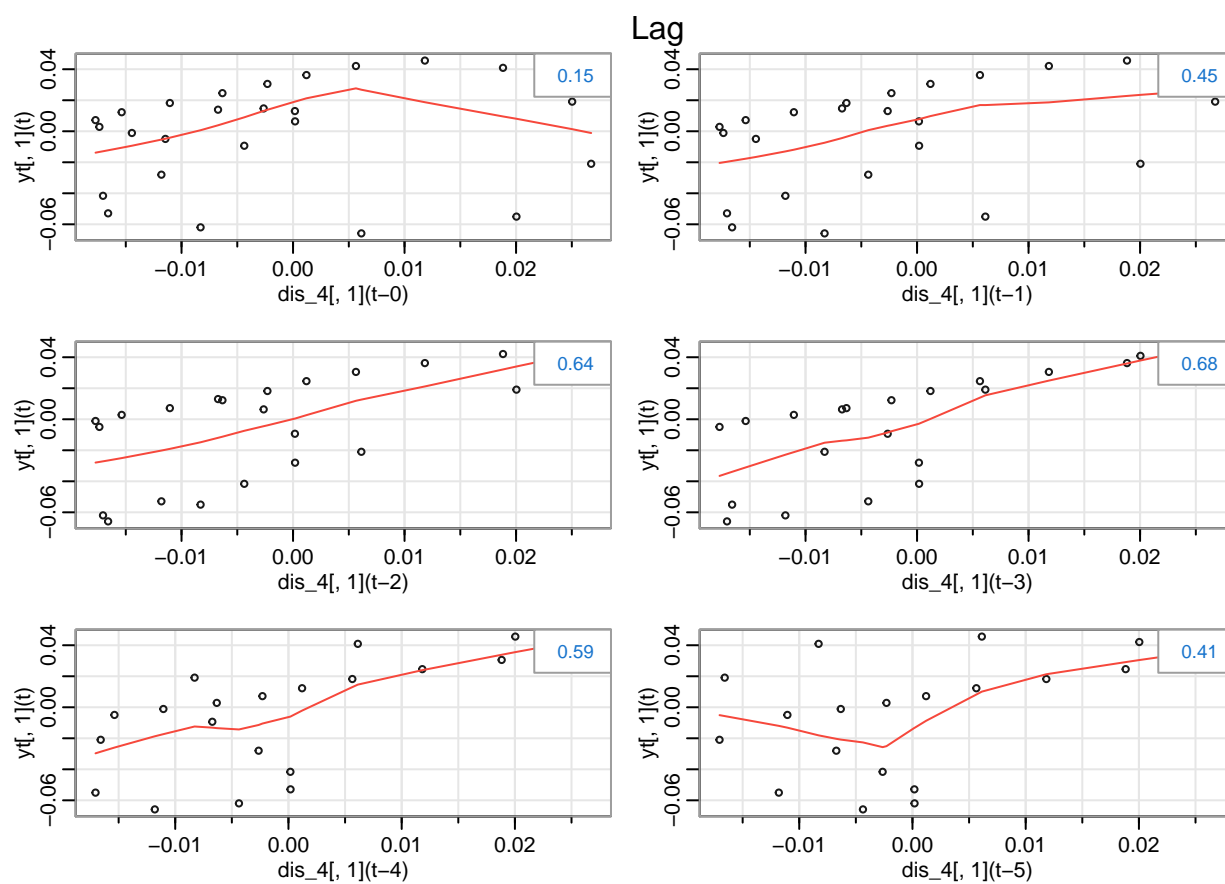
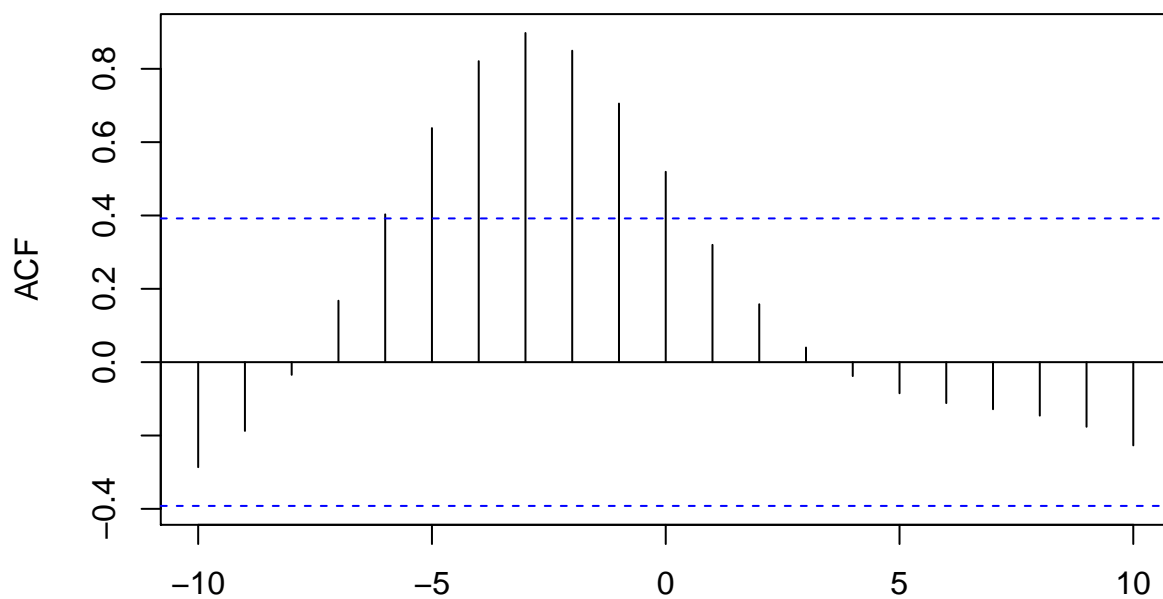


**2 wk ahead – 22**

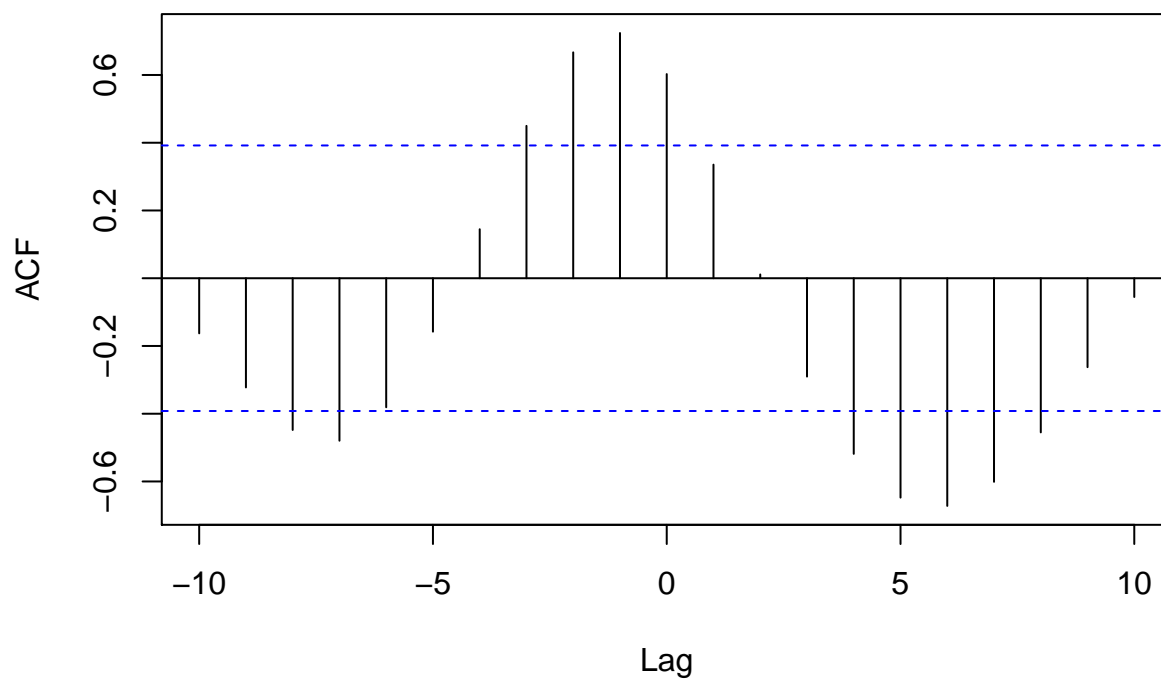




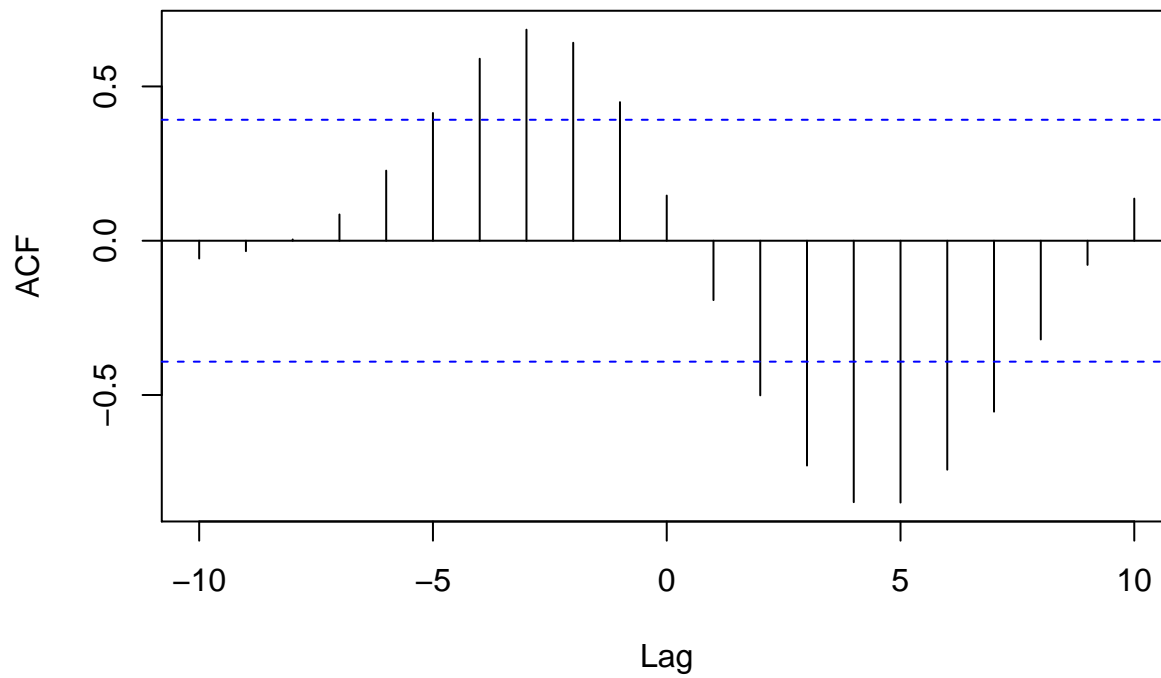
## 4 wk ahead – 22

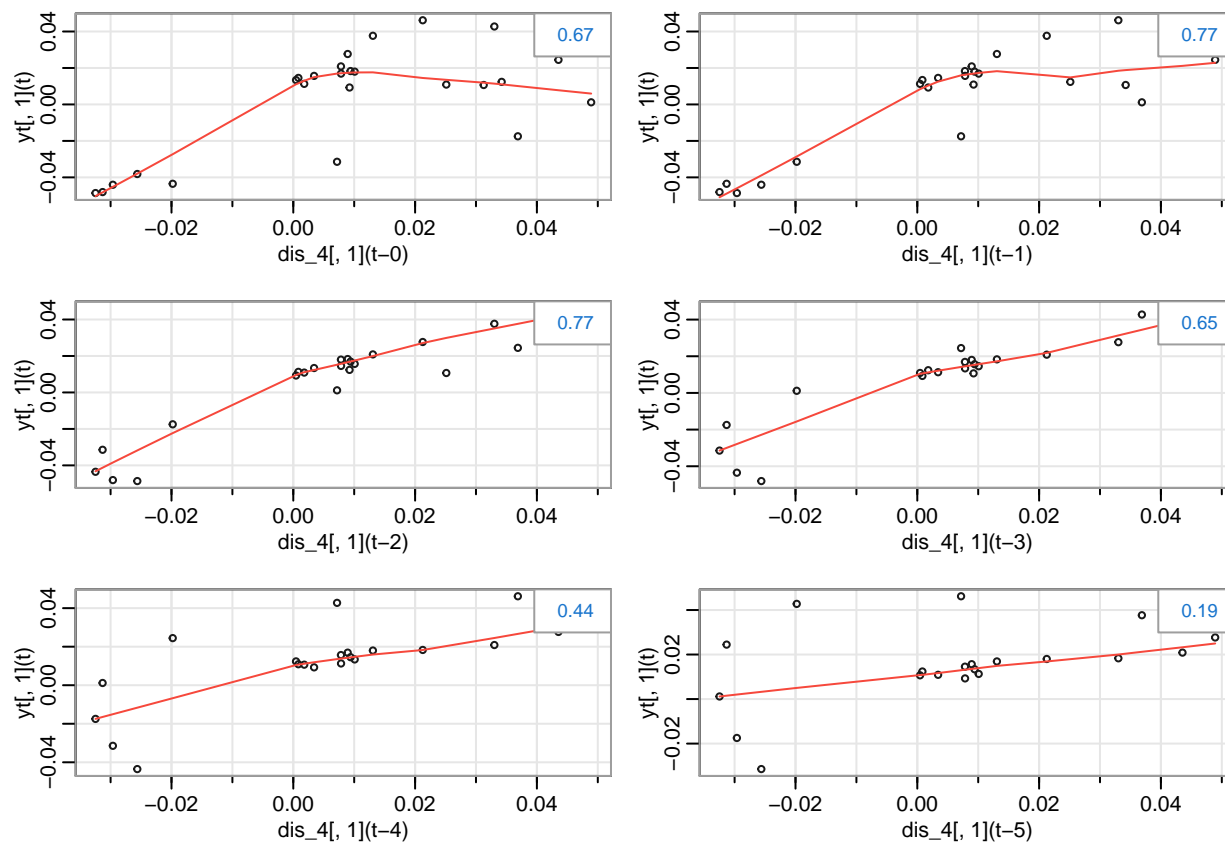


**2 wk ahead – 24**

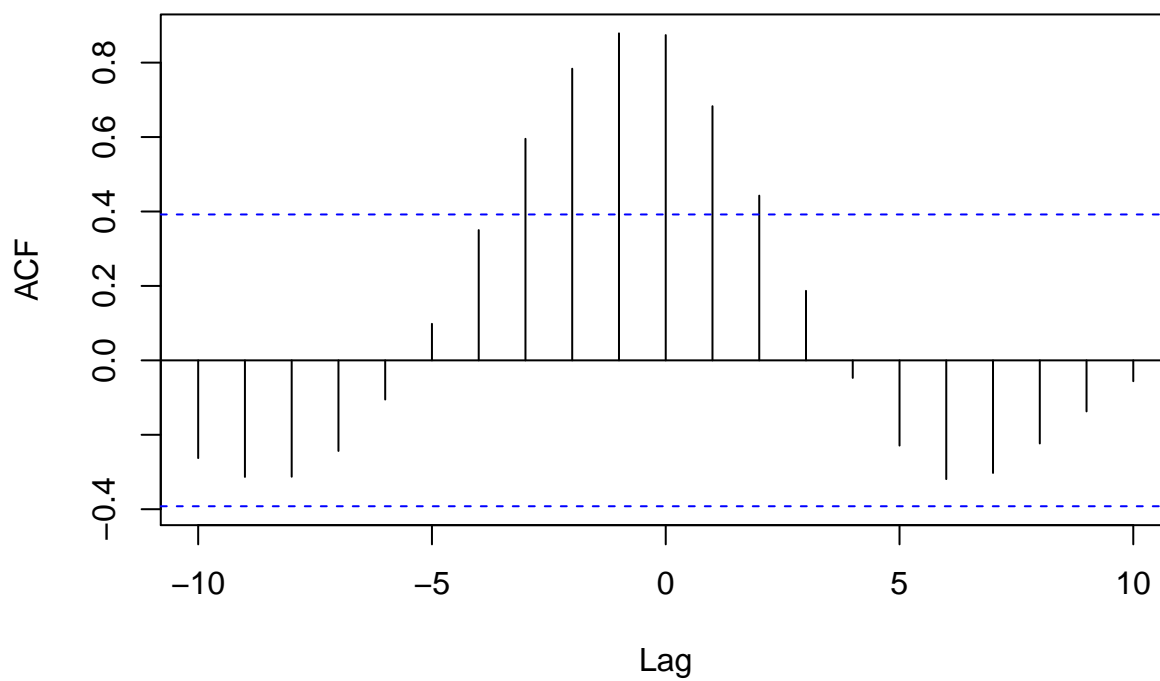


**4 wk ahead – 24**

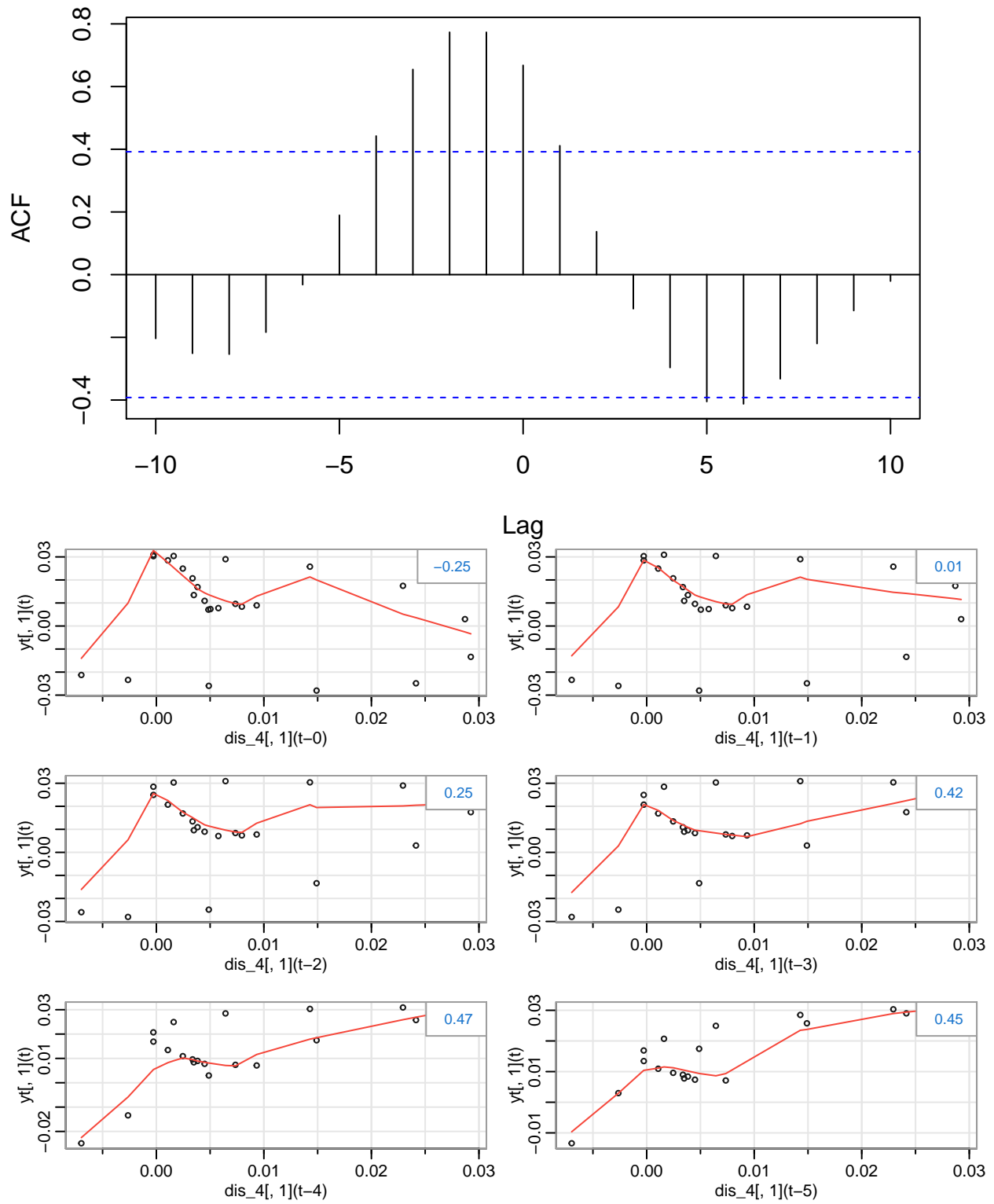




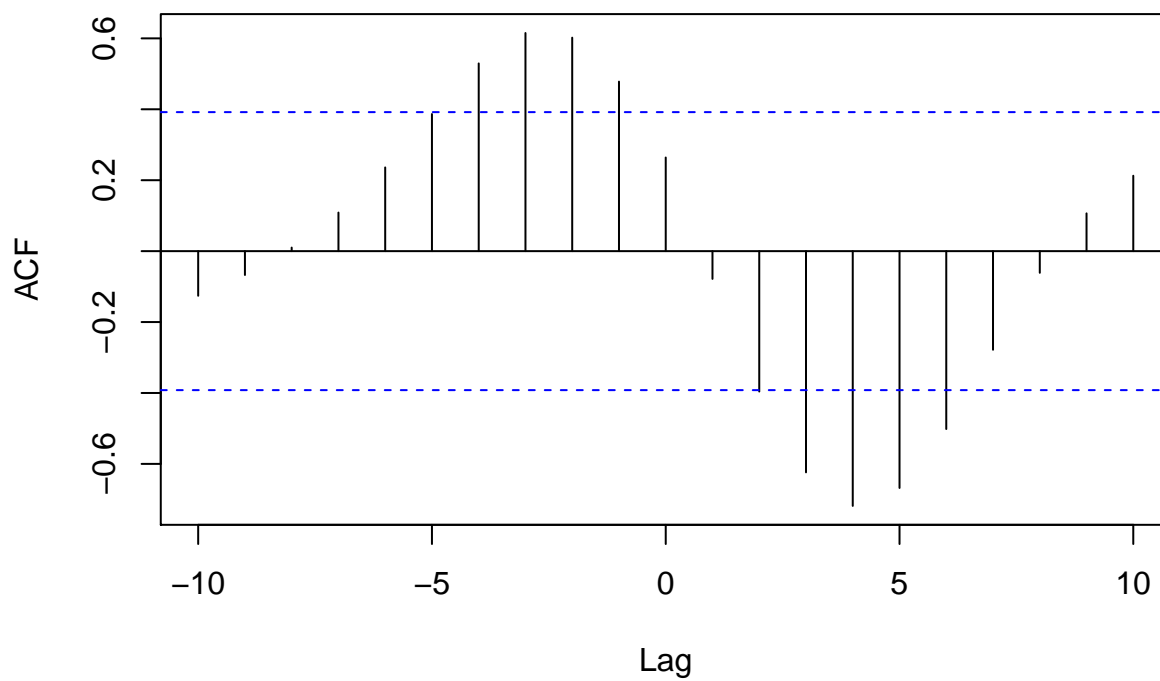
**2 wk ahead – 26**



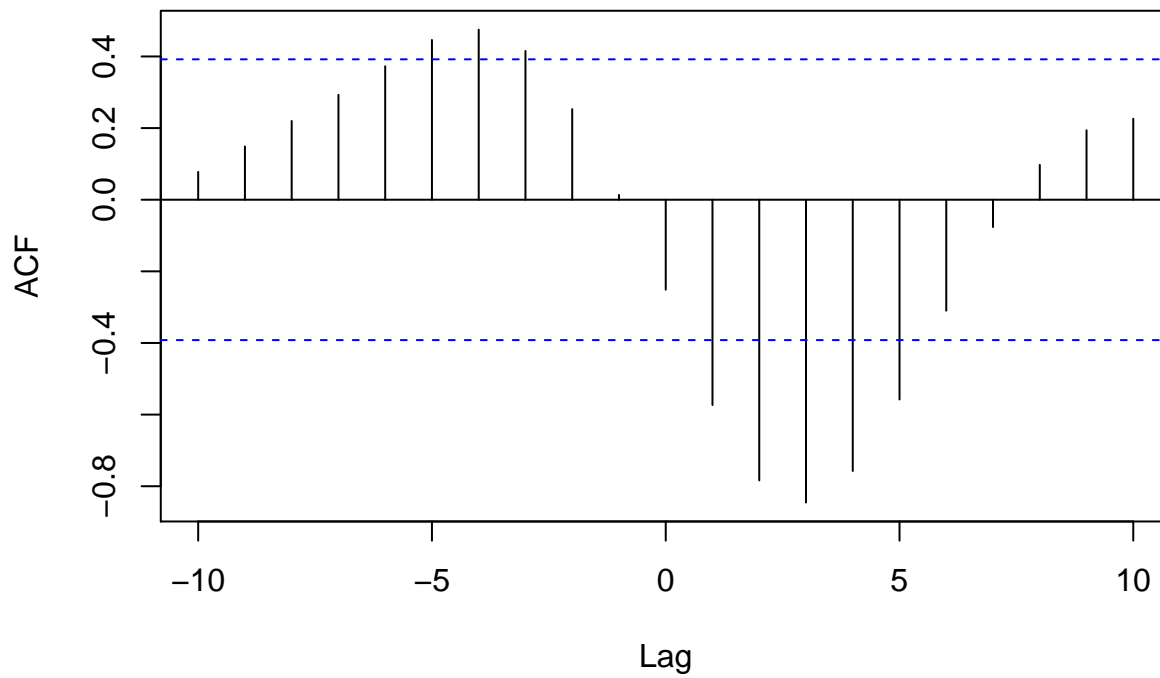
## 4 wk ahead – 26

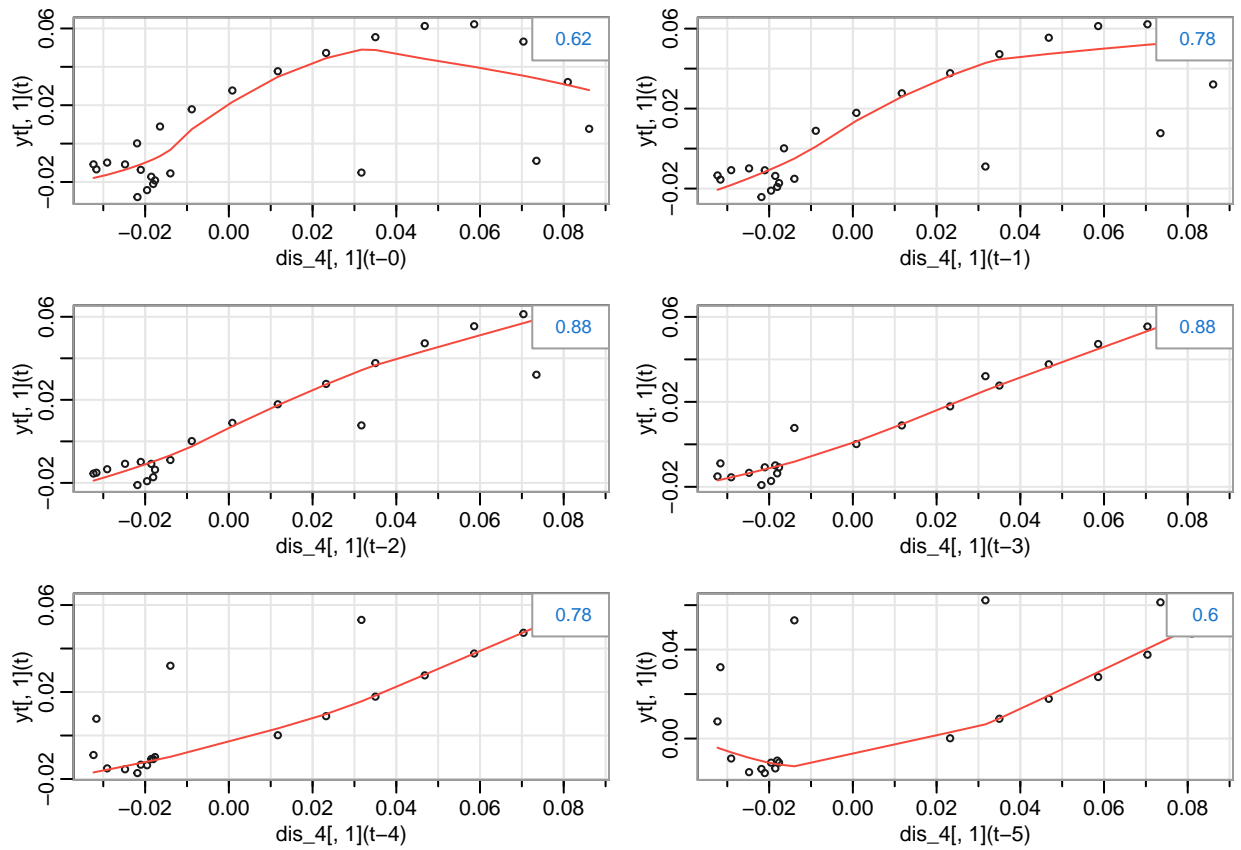


**2 wk ahead – 27**

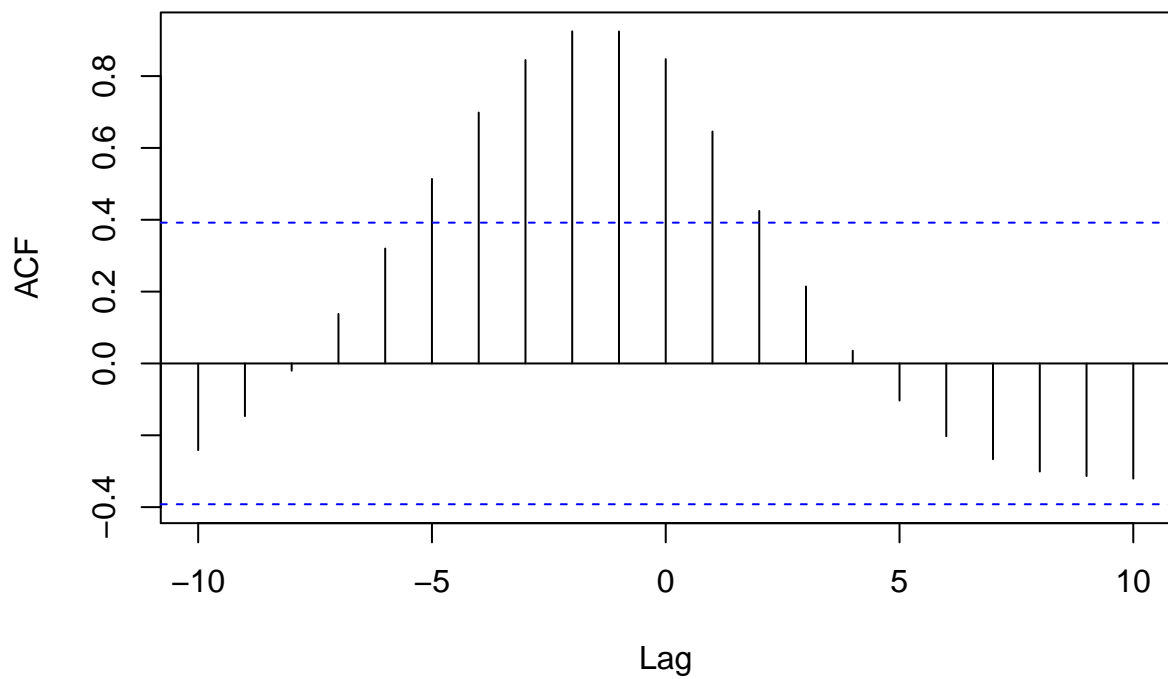


**4 wk ahead – 27**

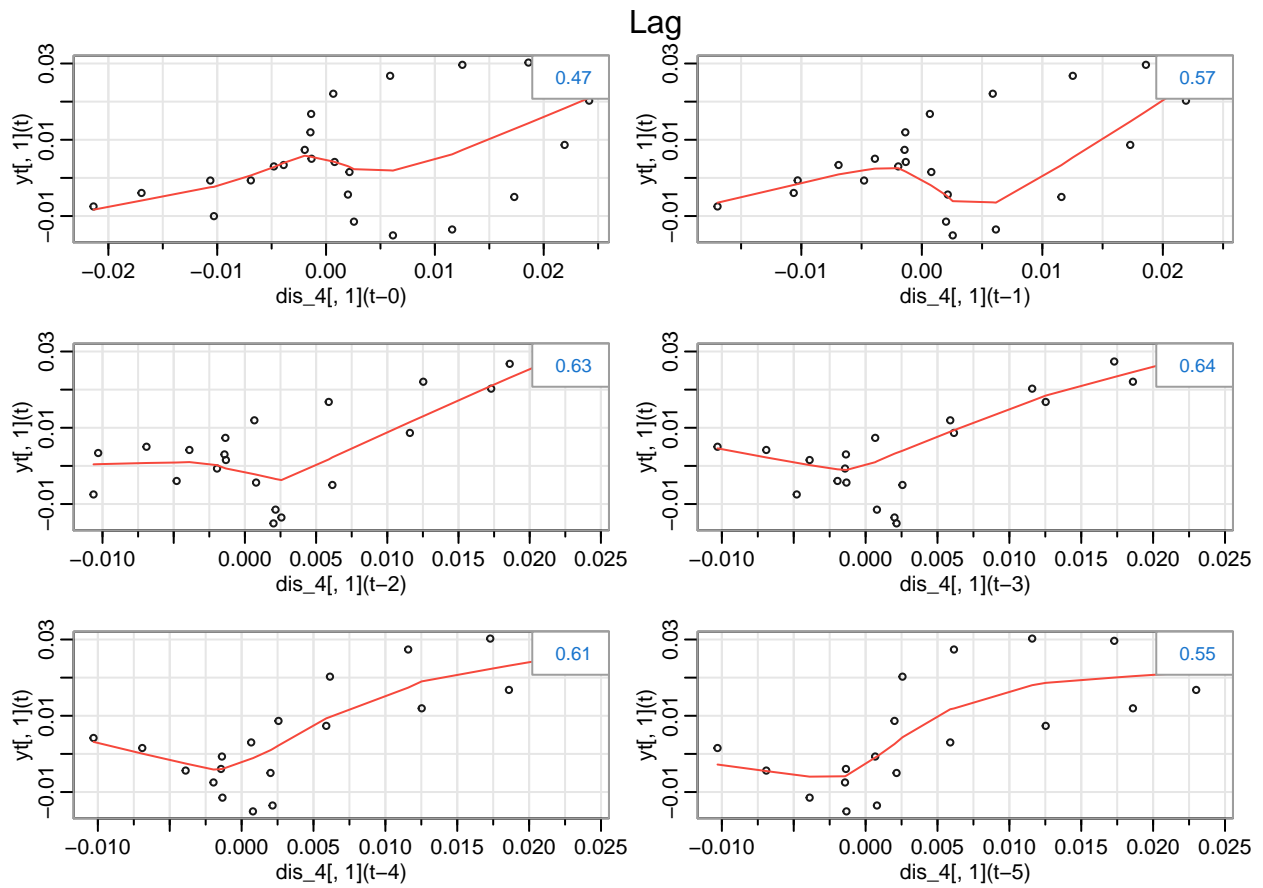
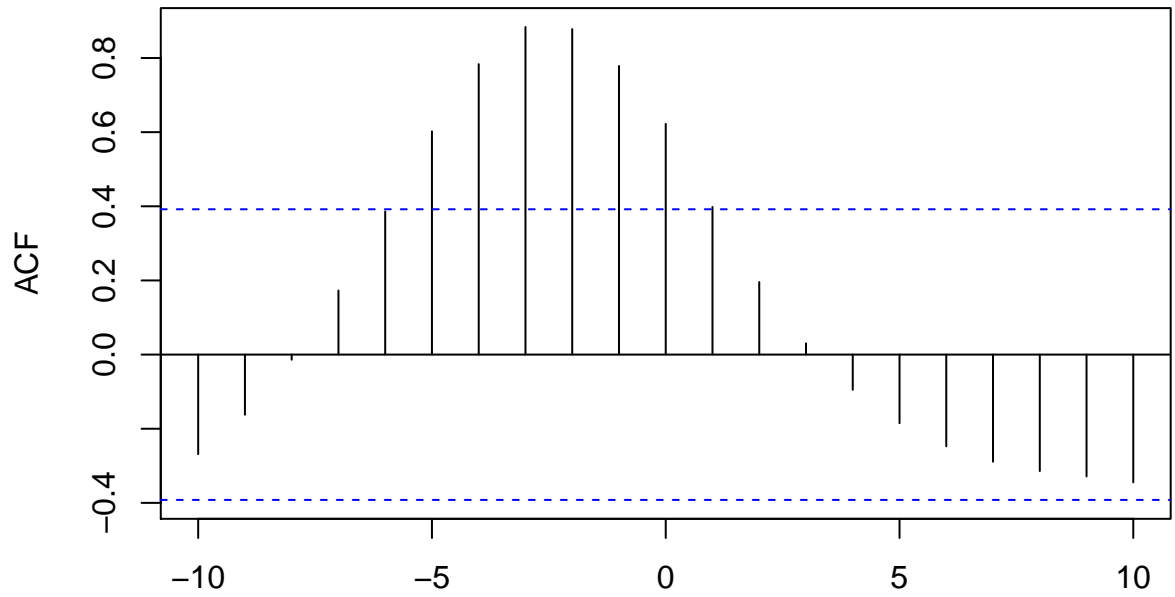




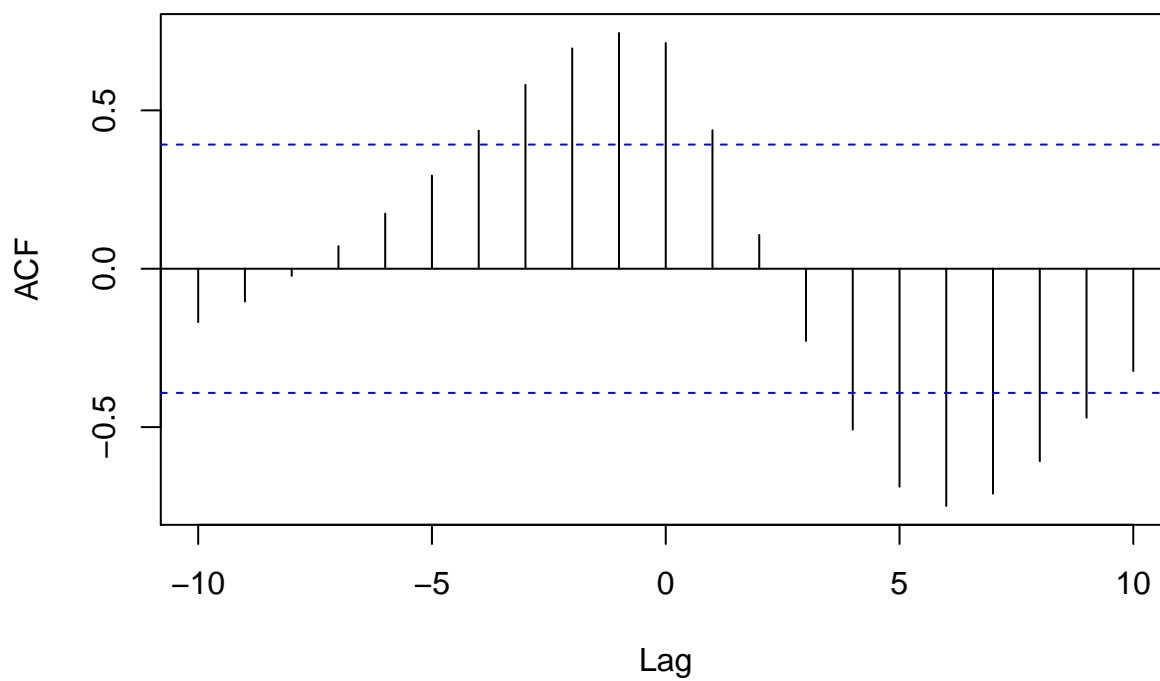
**2 wk ahead – 28**



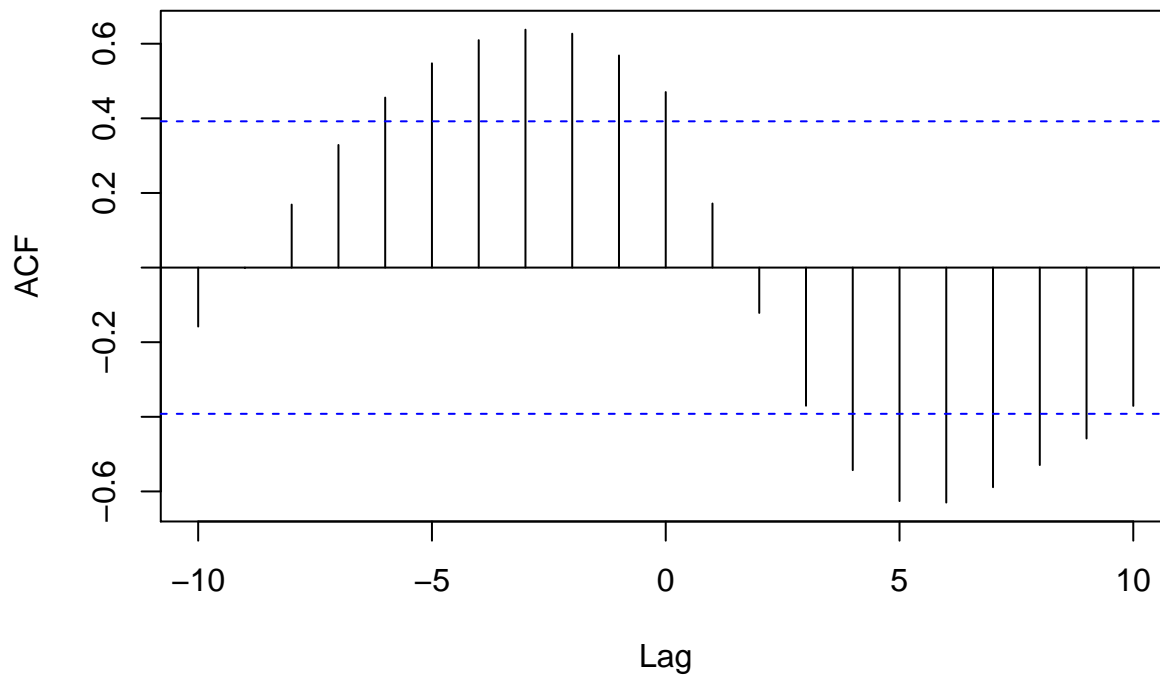
## 4 wk ahead – 28



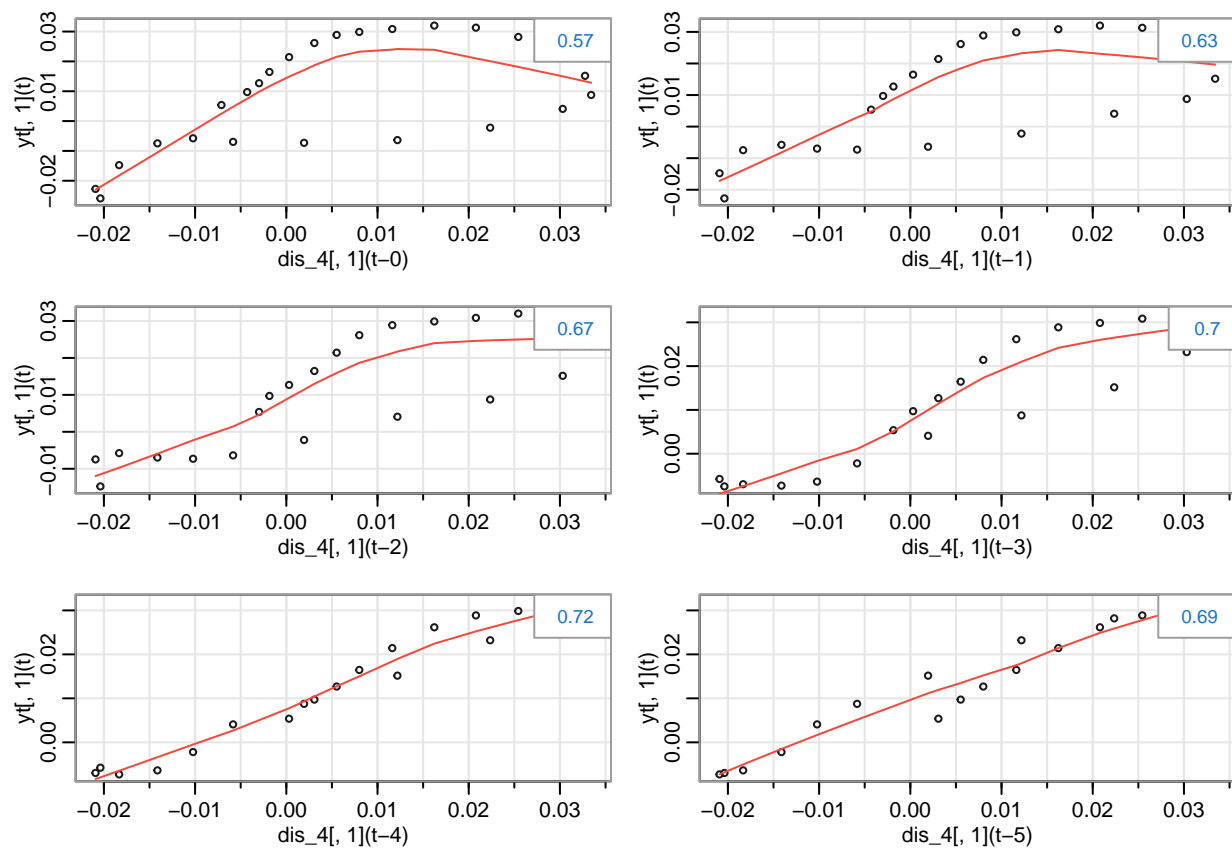
**2 wk ahead – 29**



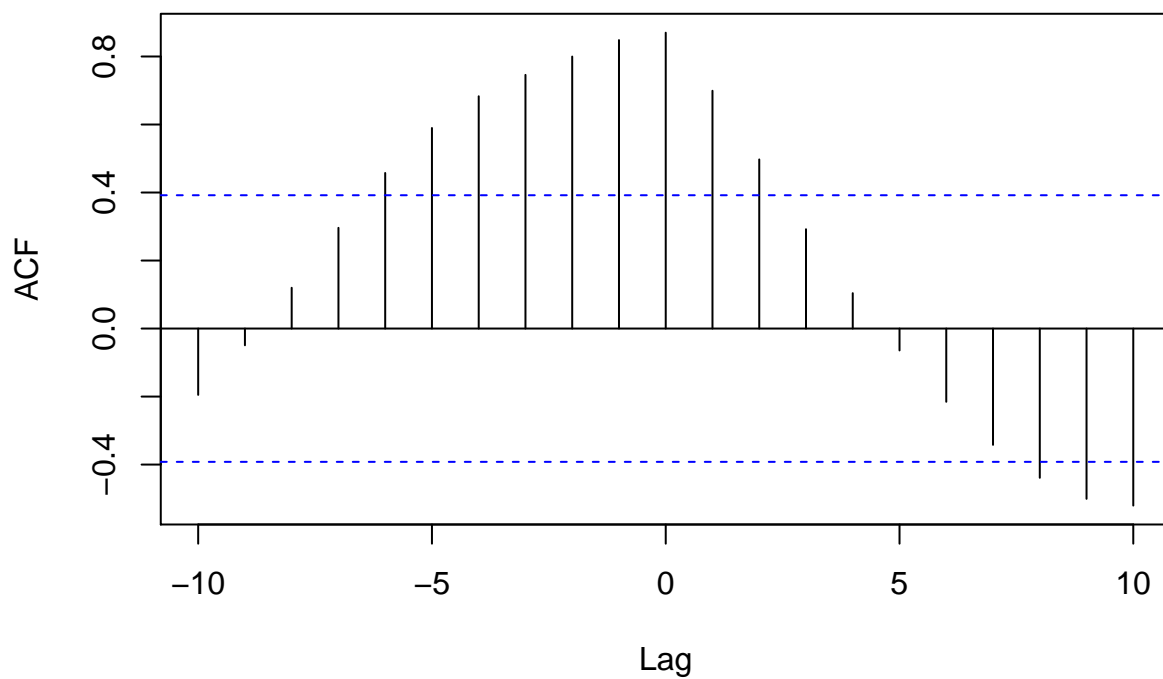
**4 wk ahead – 29**



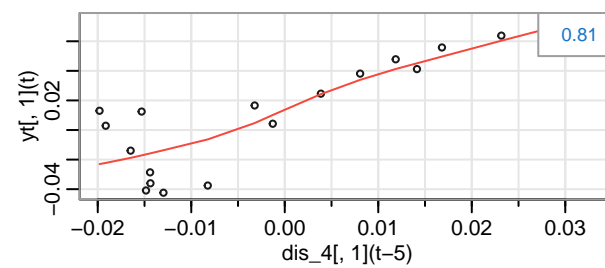
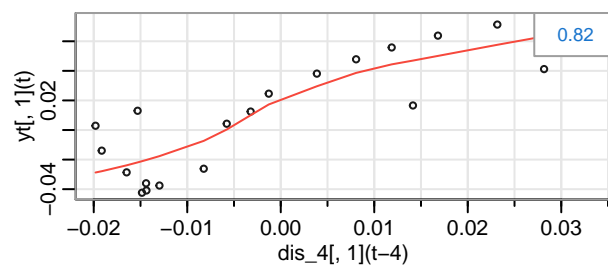
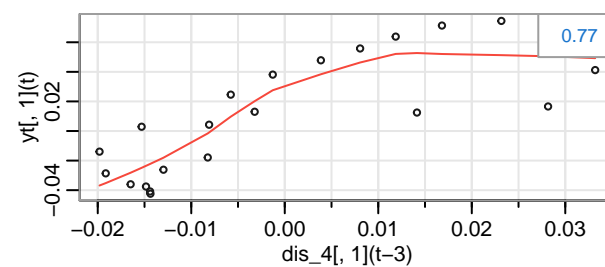
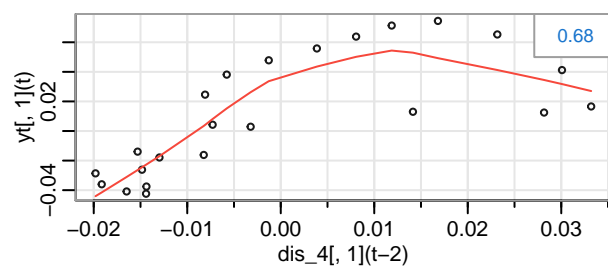
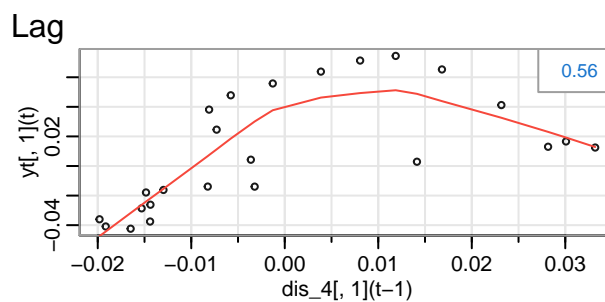
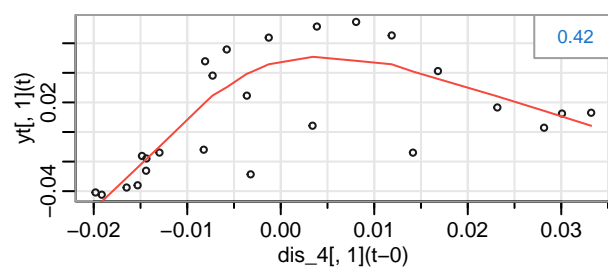
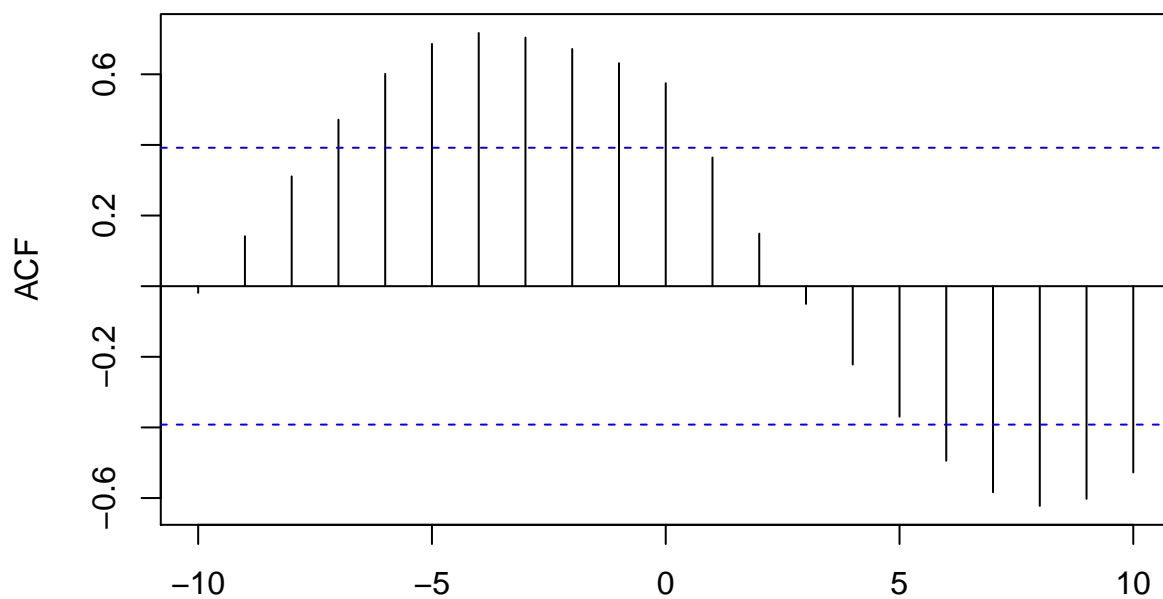




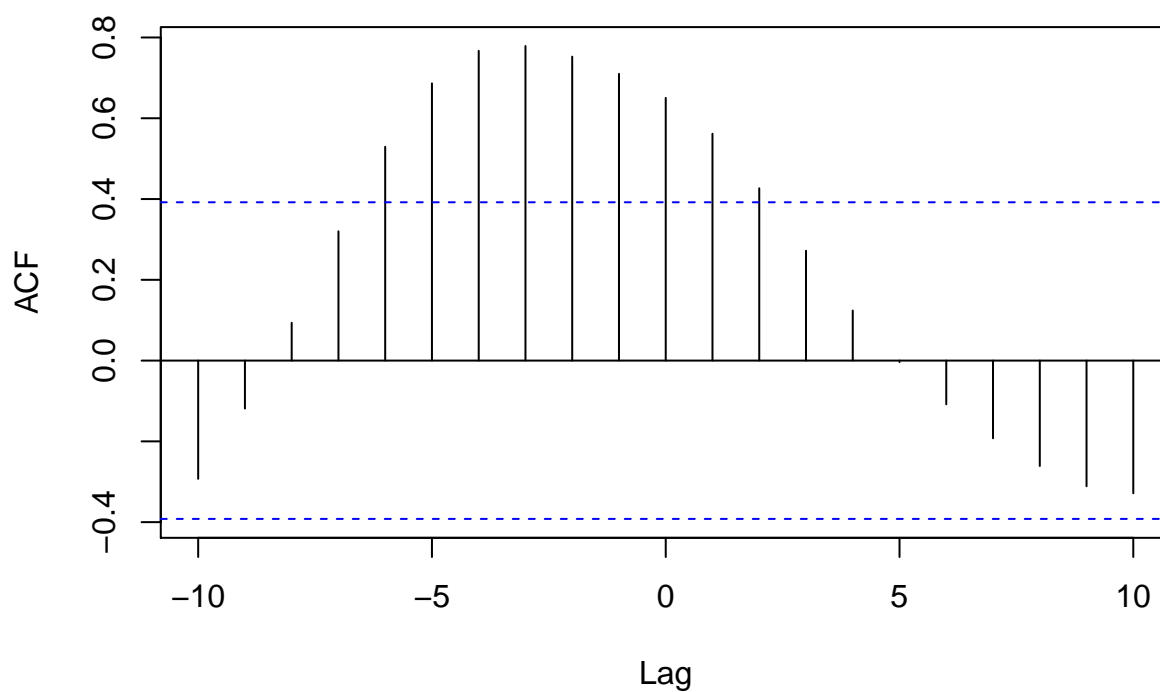
**2 wk ahead – 30**



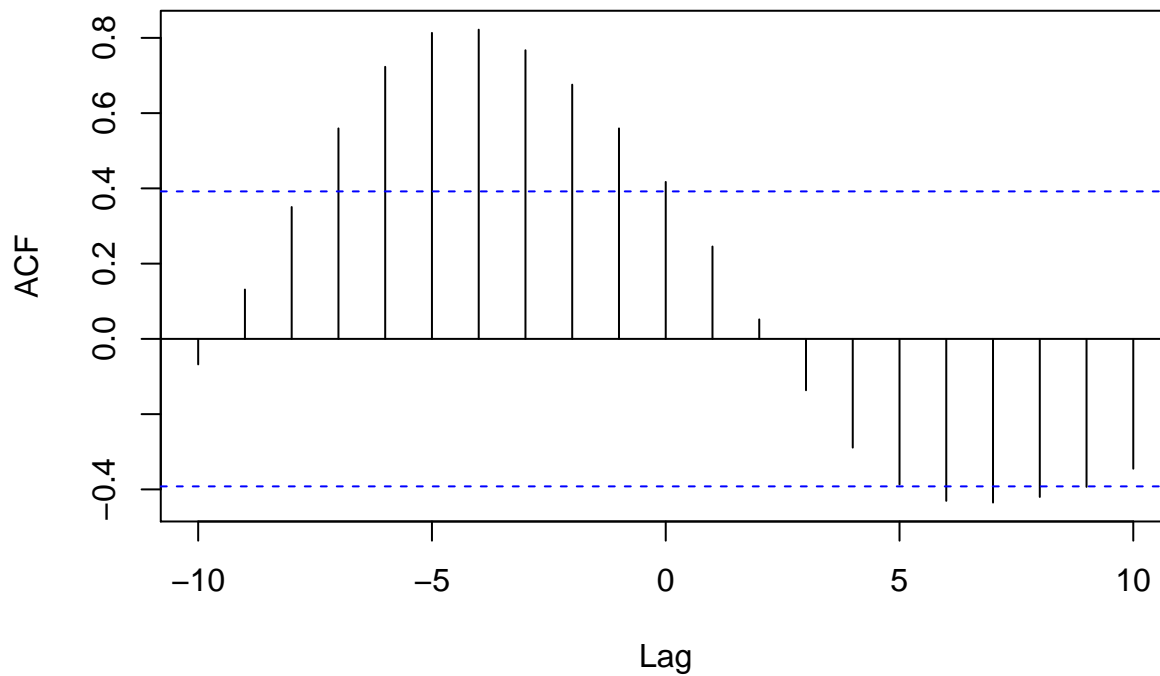
## 4 wk ahead – 30

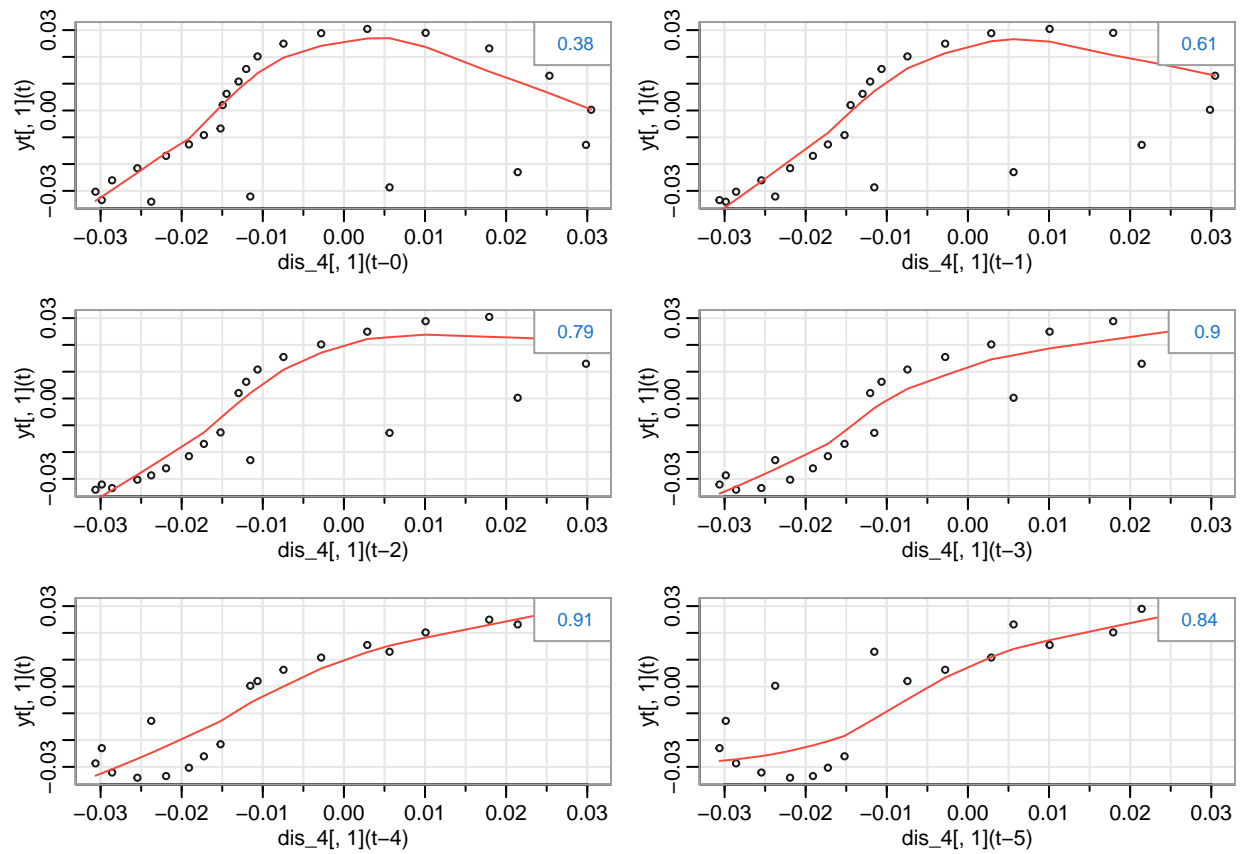


**2 wk ahead – 31**

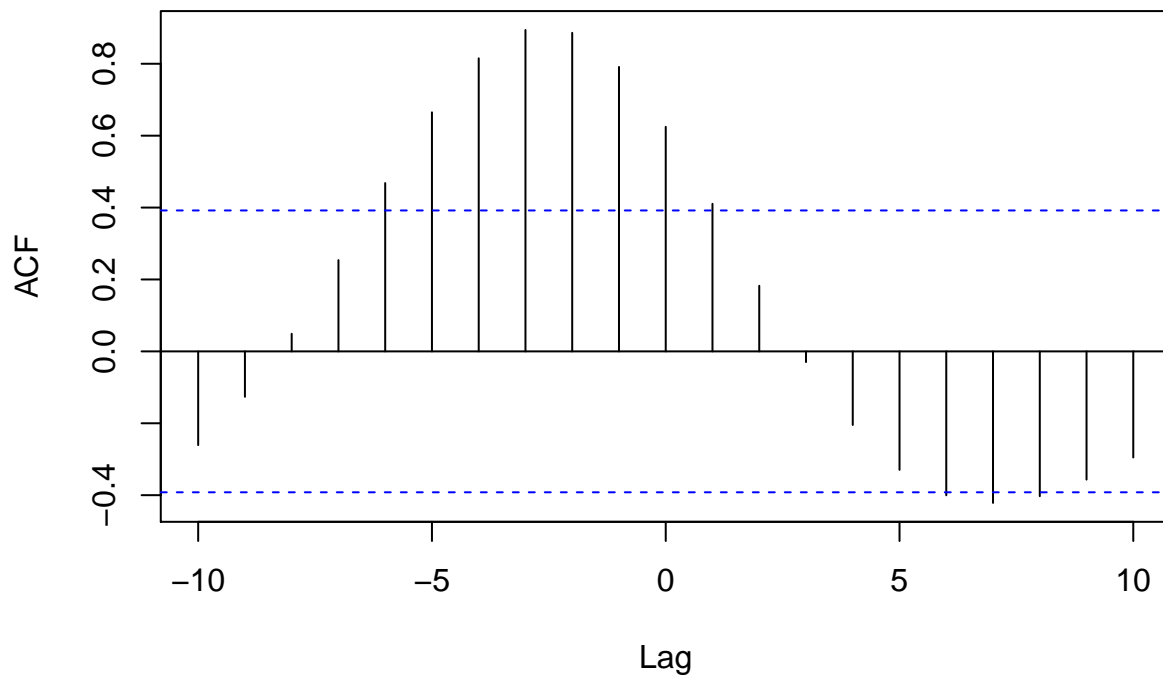


**4 wk ahead – 31**

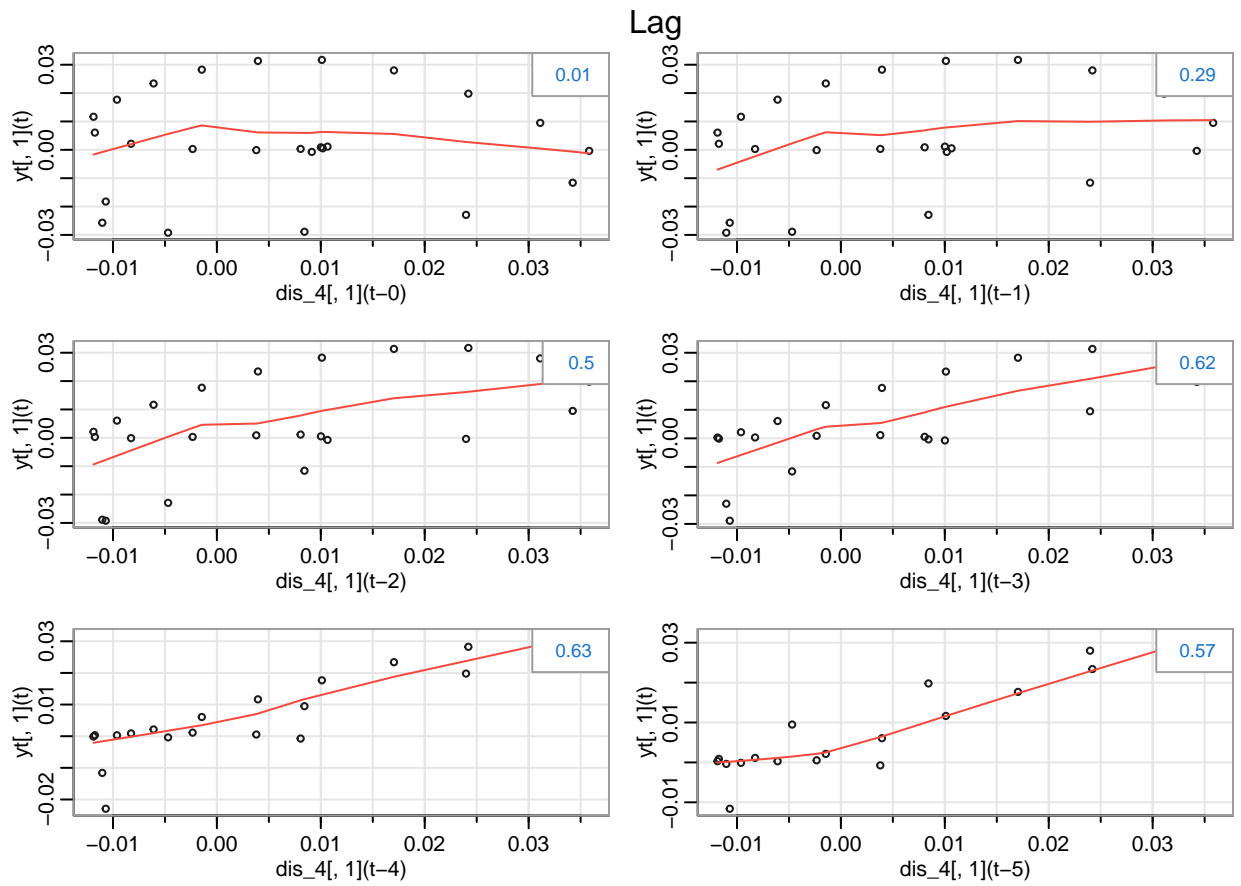
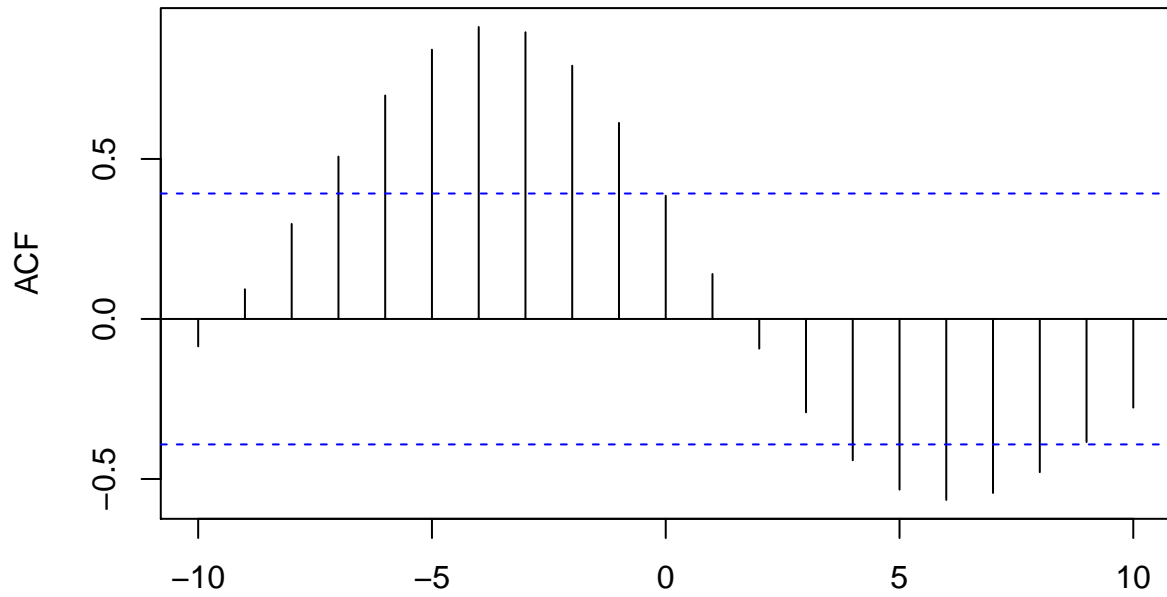




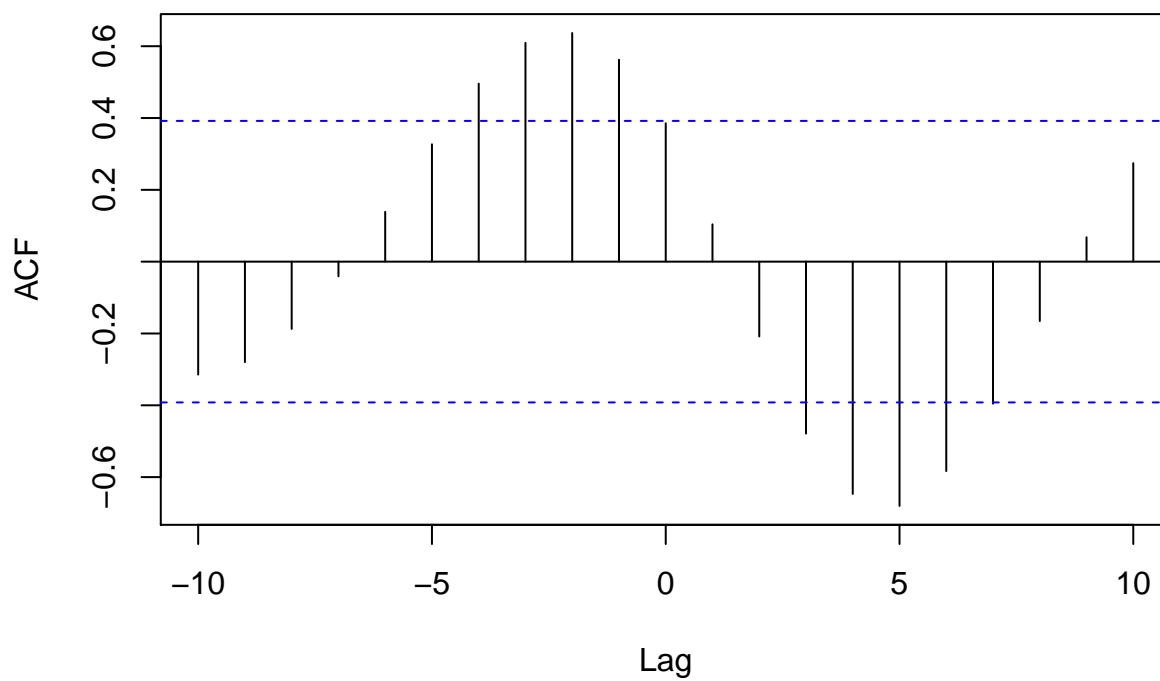
**2 wk ahead – 34**



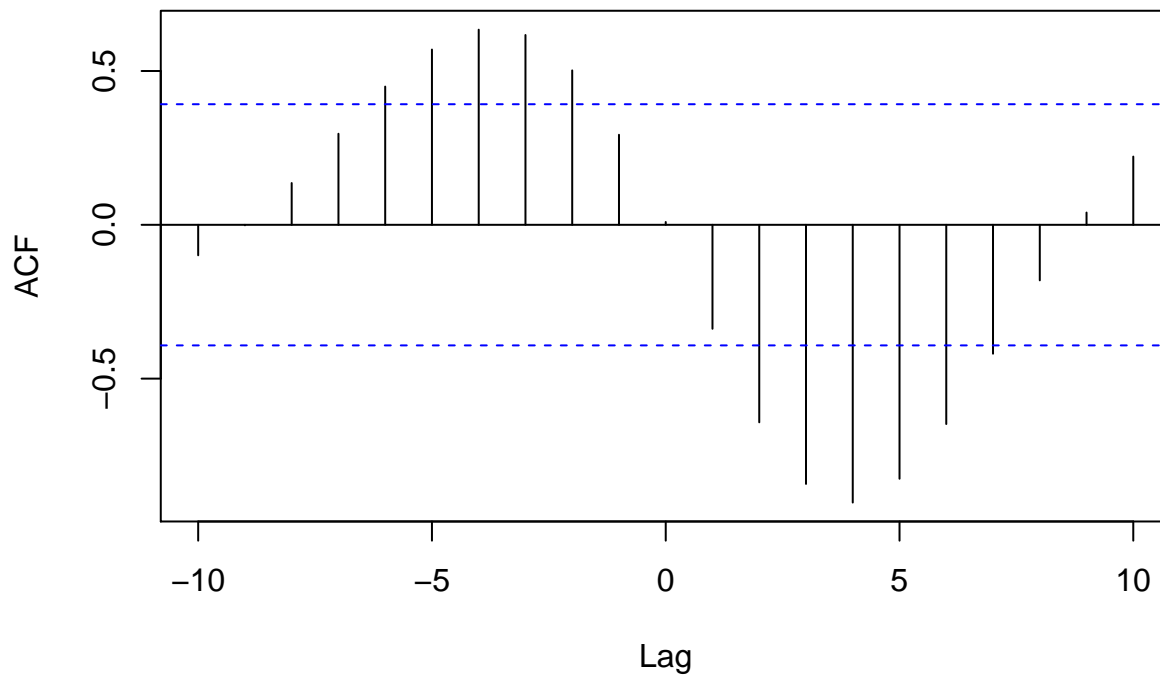
## 4 wk ahead – 34

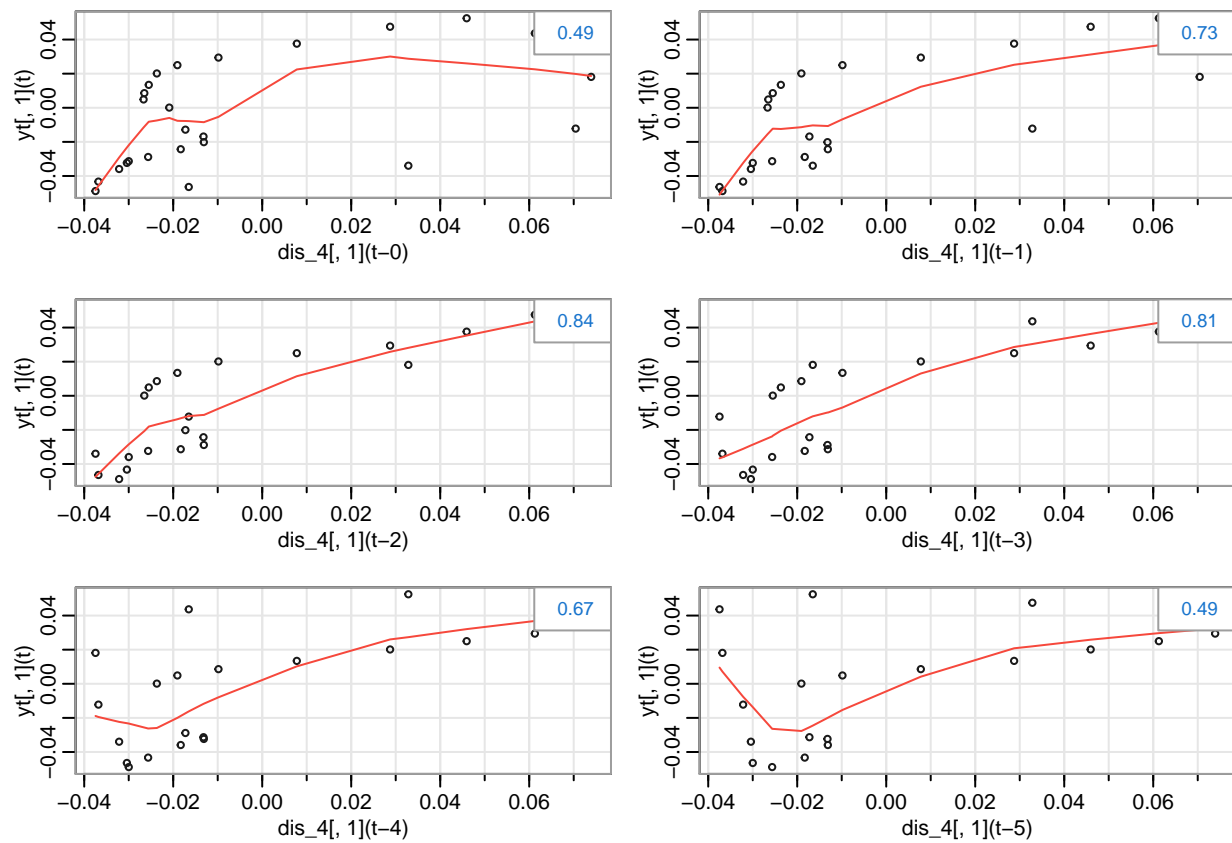


**2 wk ahead – 35**

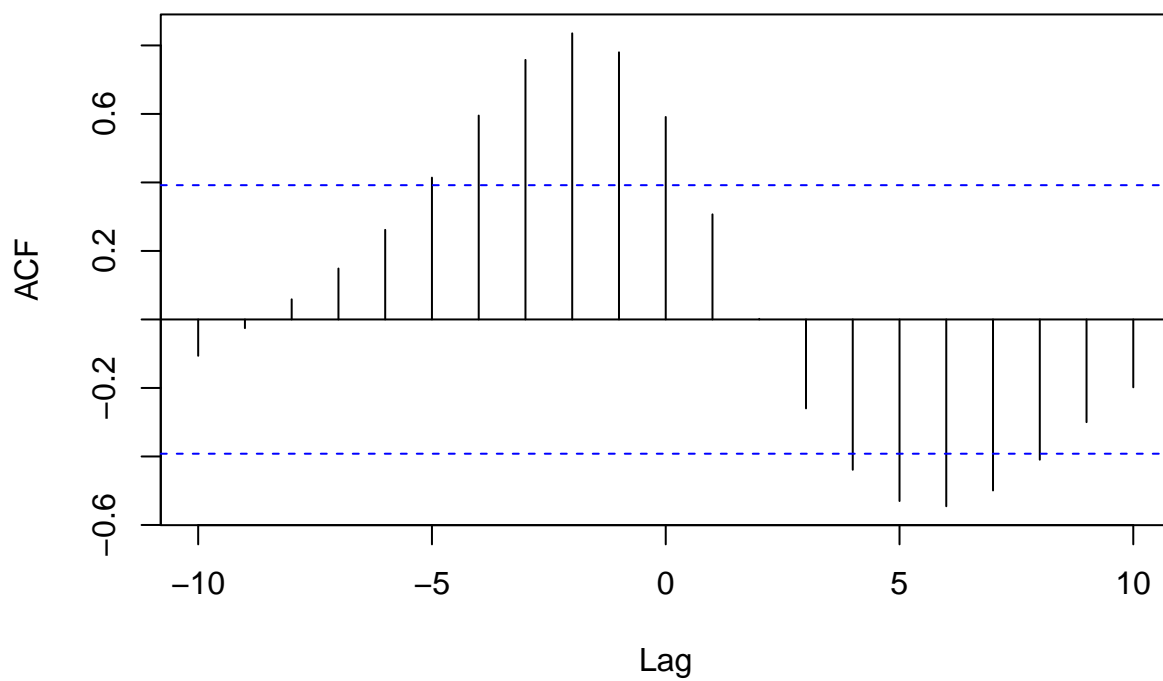


**4 wk ahead – 35**

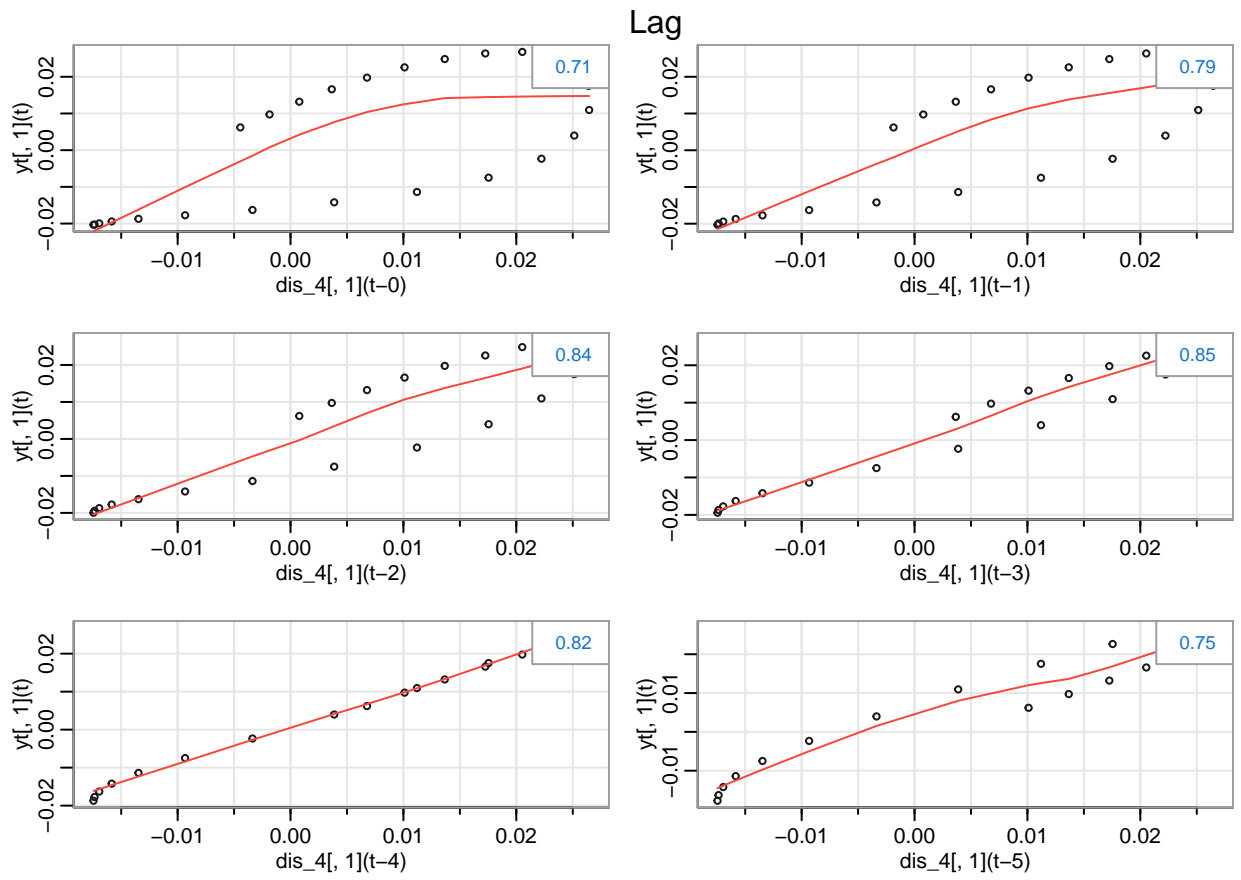
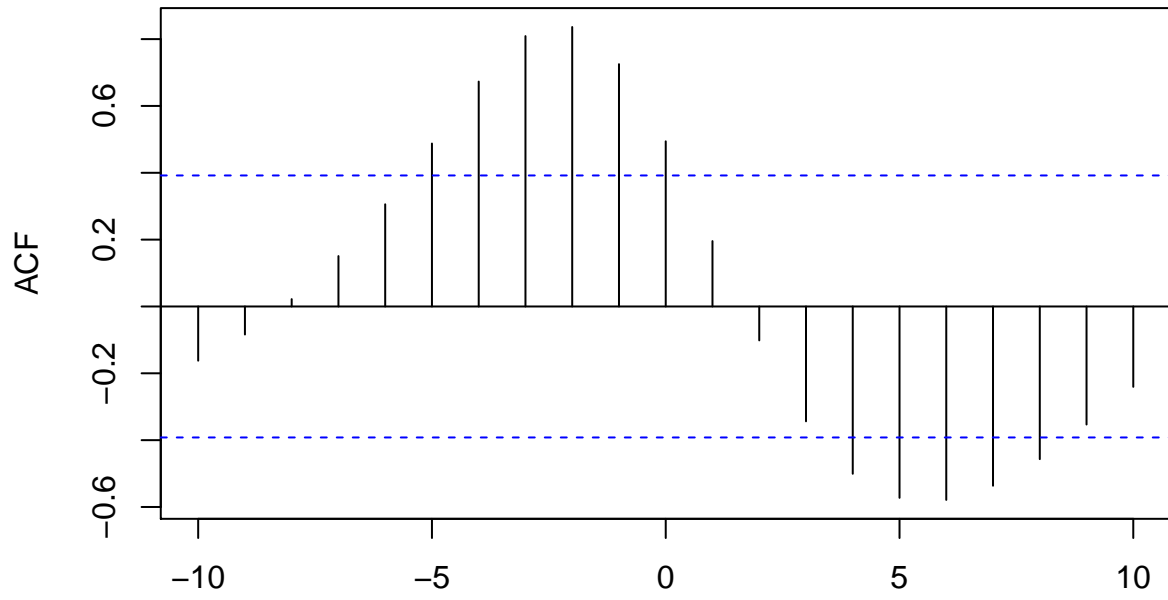




**2 wk ahead – 36**

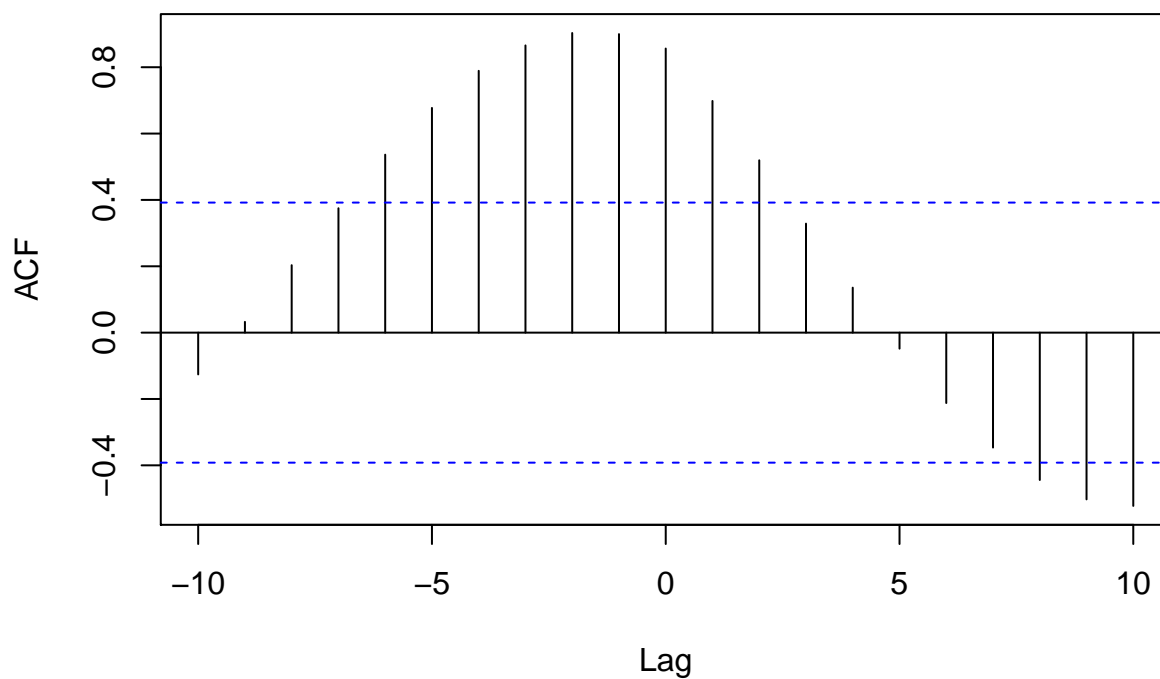


## 4 wk ahead – 36

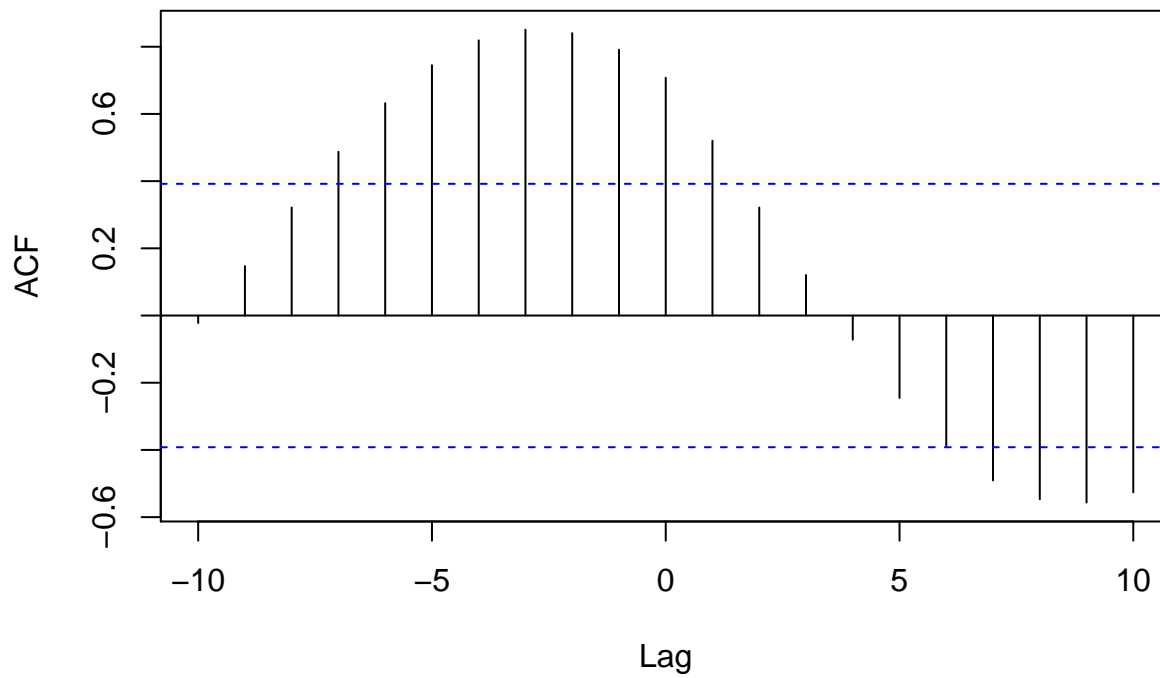


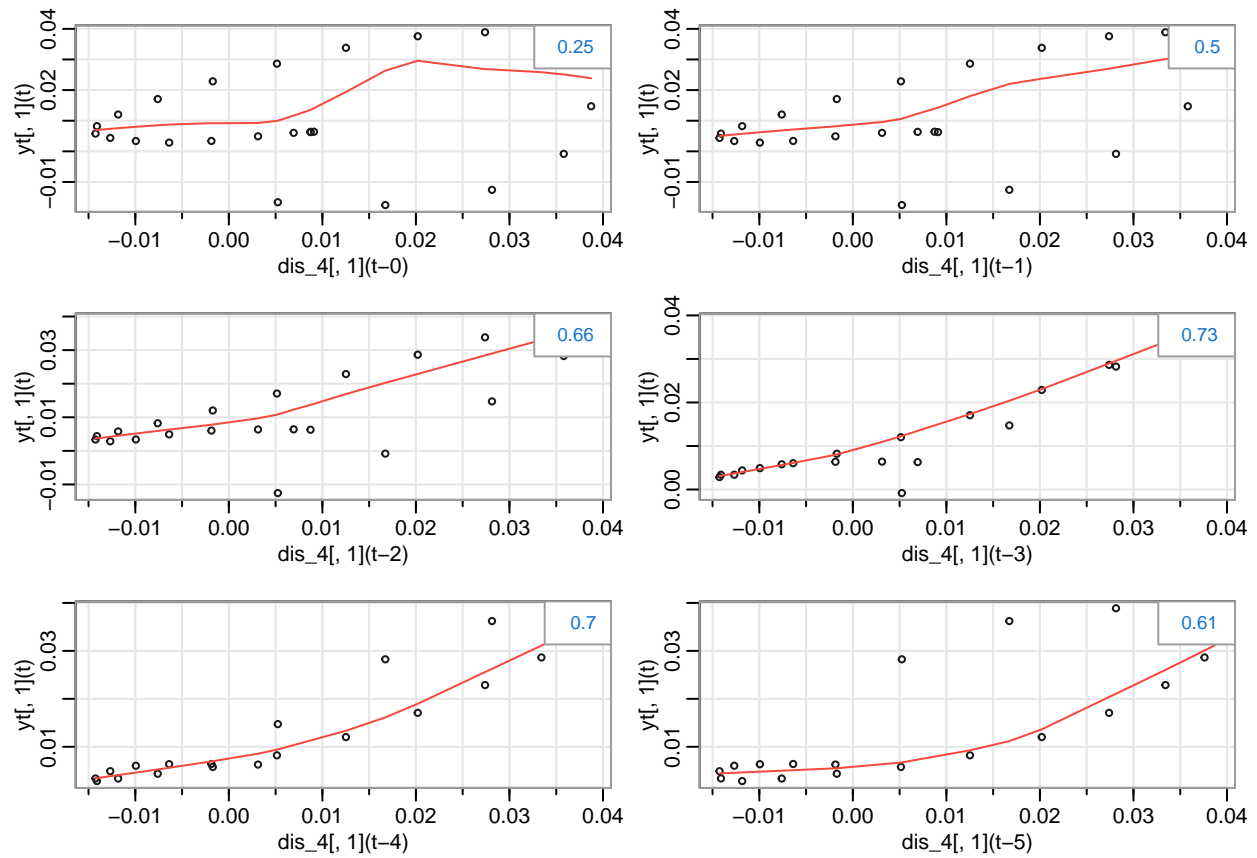


**2 wk ahead – 37**

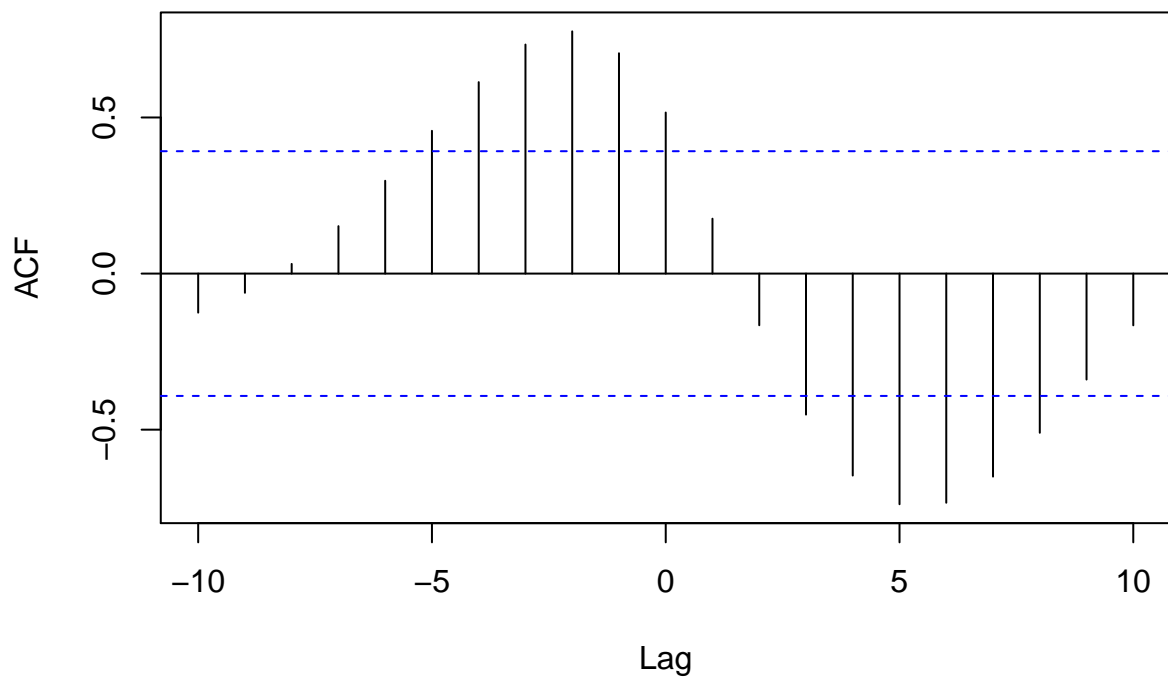


**4 wk ahead – 37**

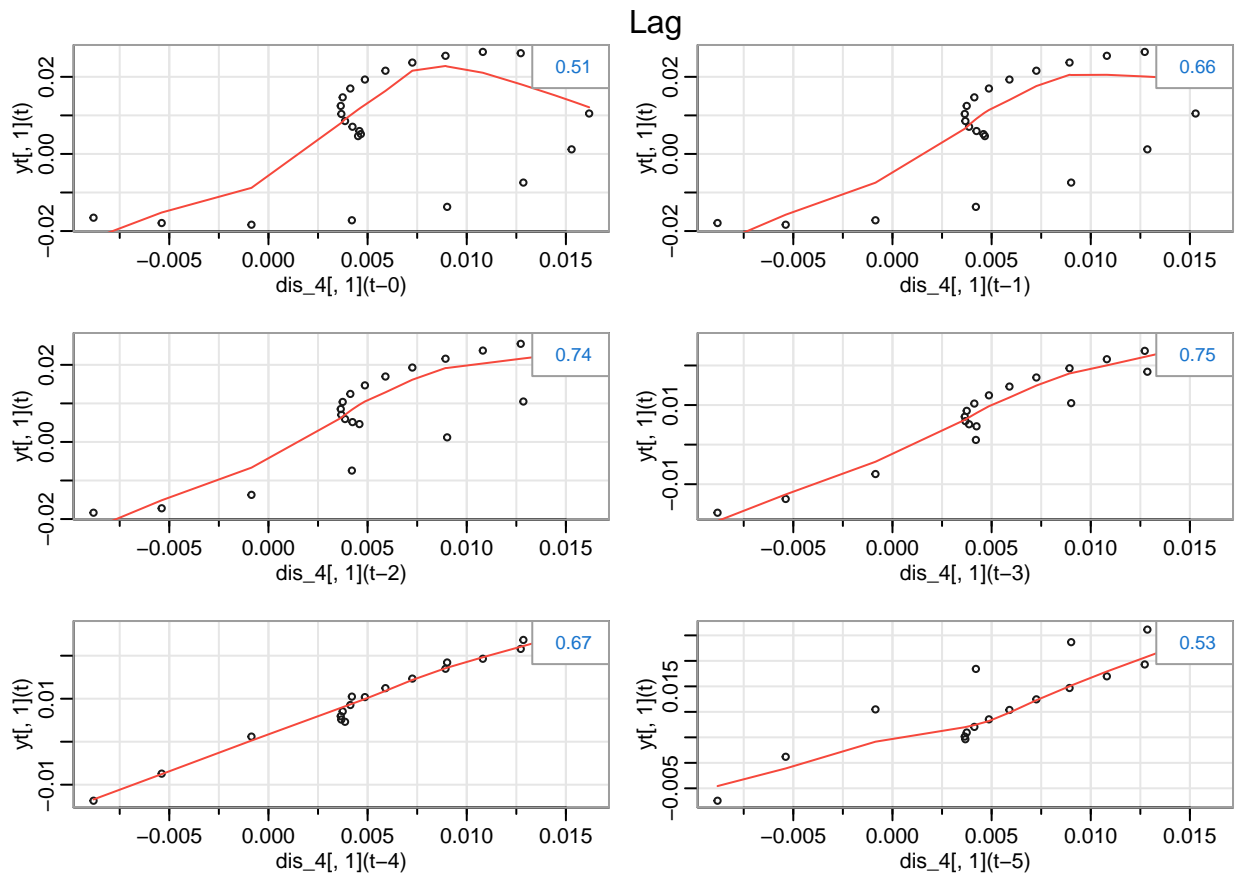
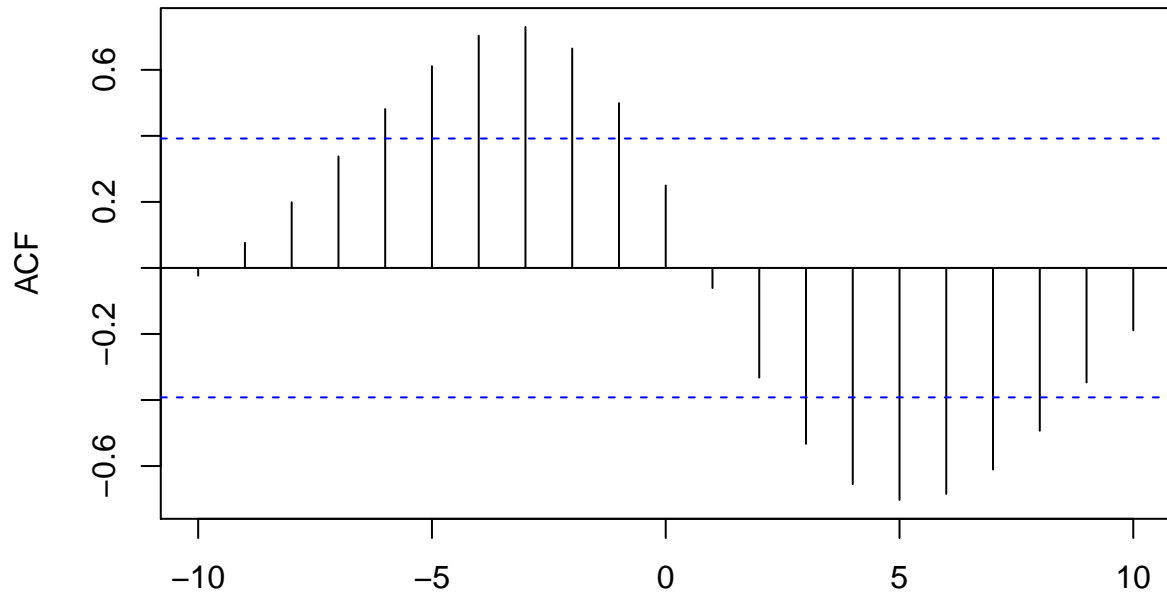




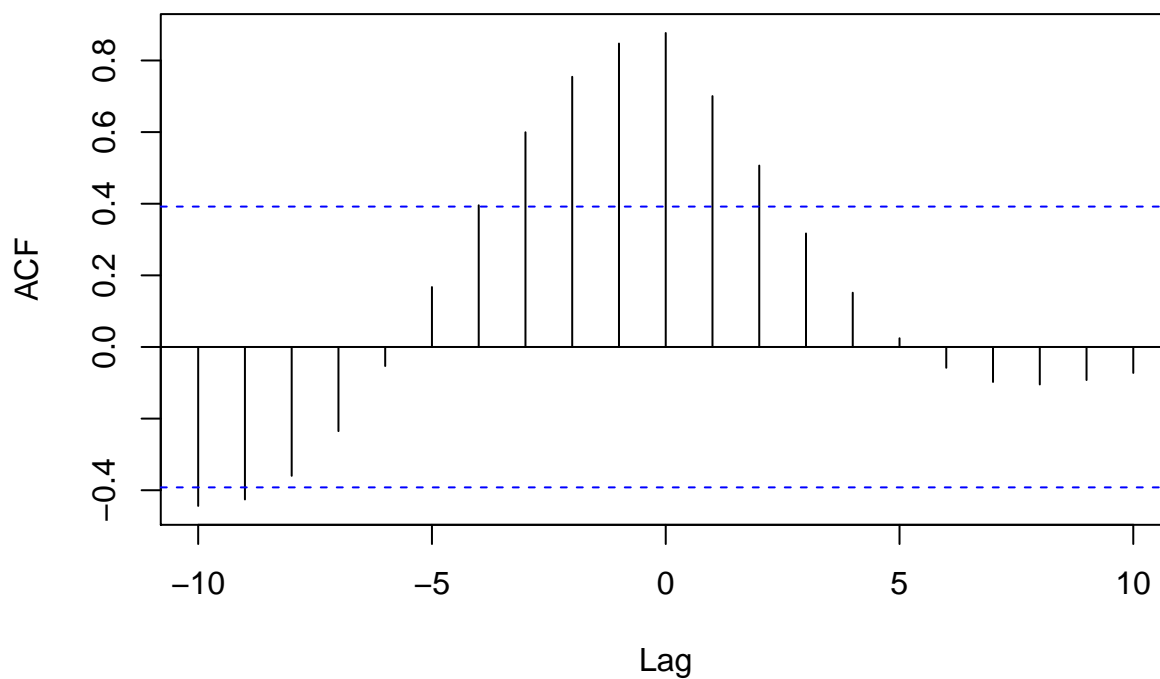
**2 wk ahead – 41**



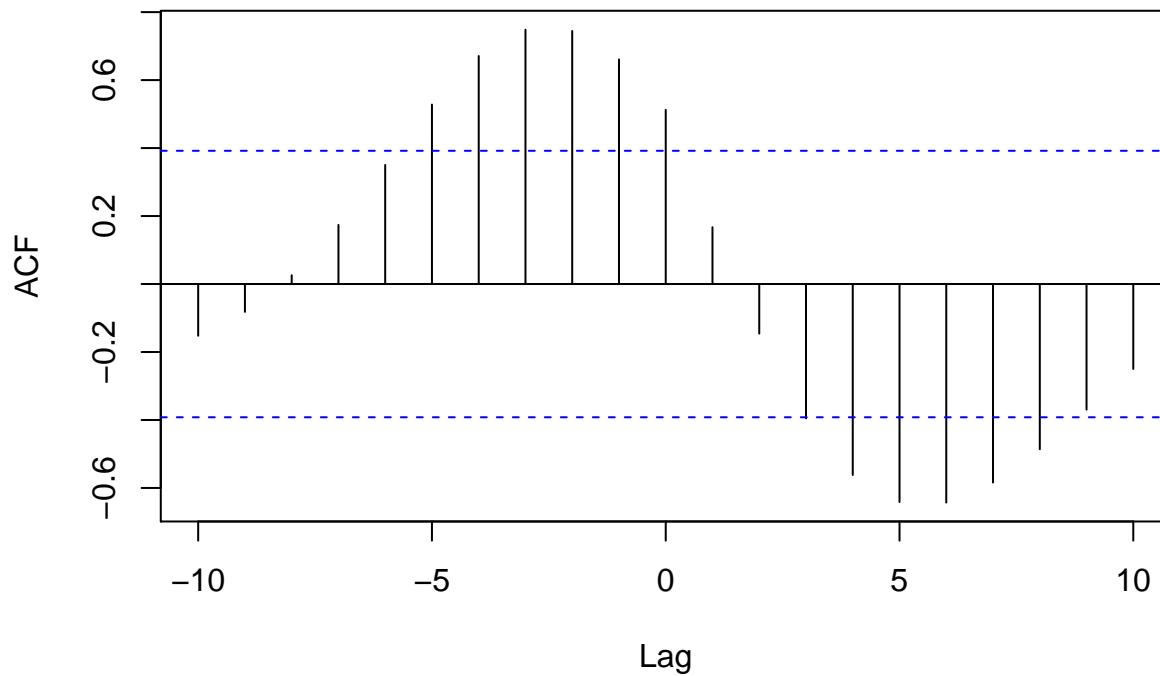
## 4 wk ahead – 41

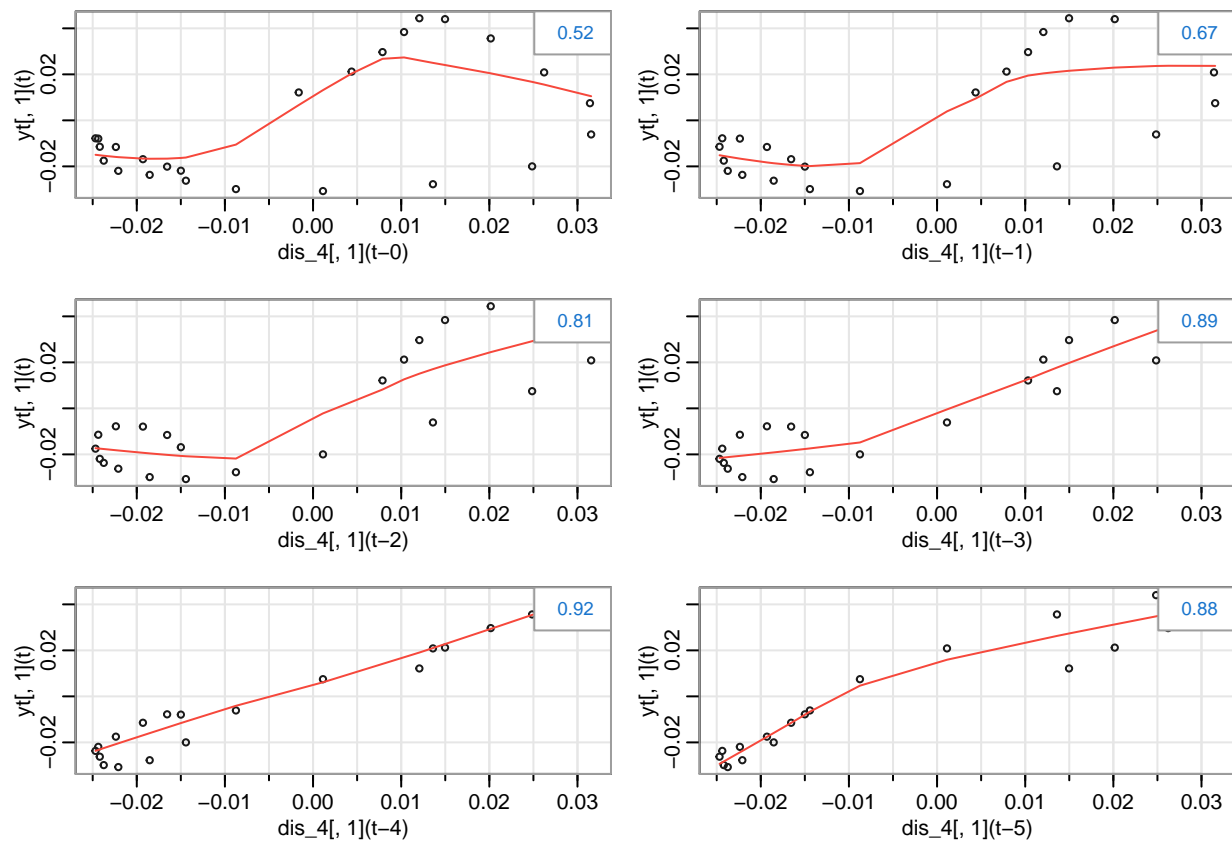


**2 wk ahead – 42**

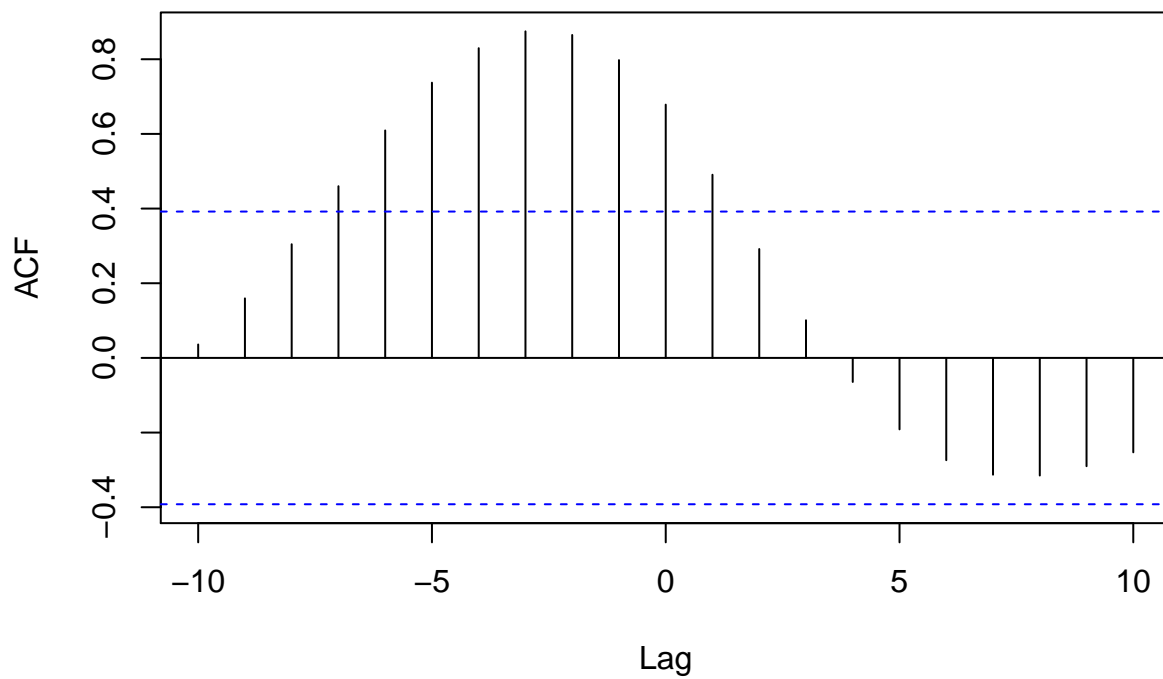


**4 wk ahead – 42**

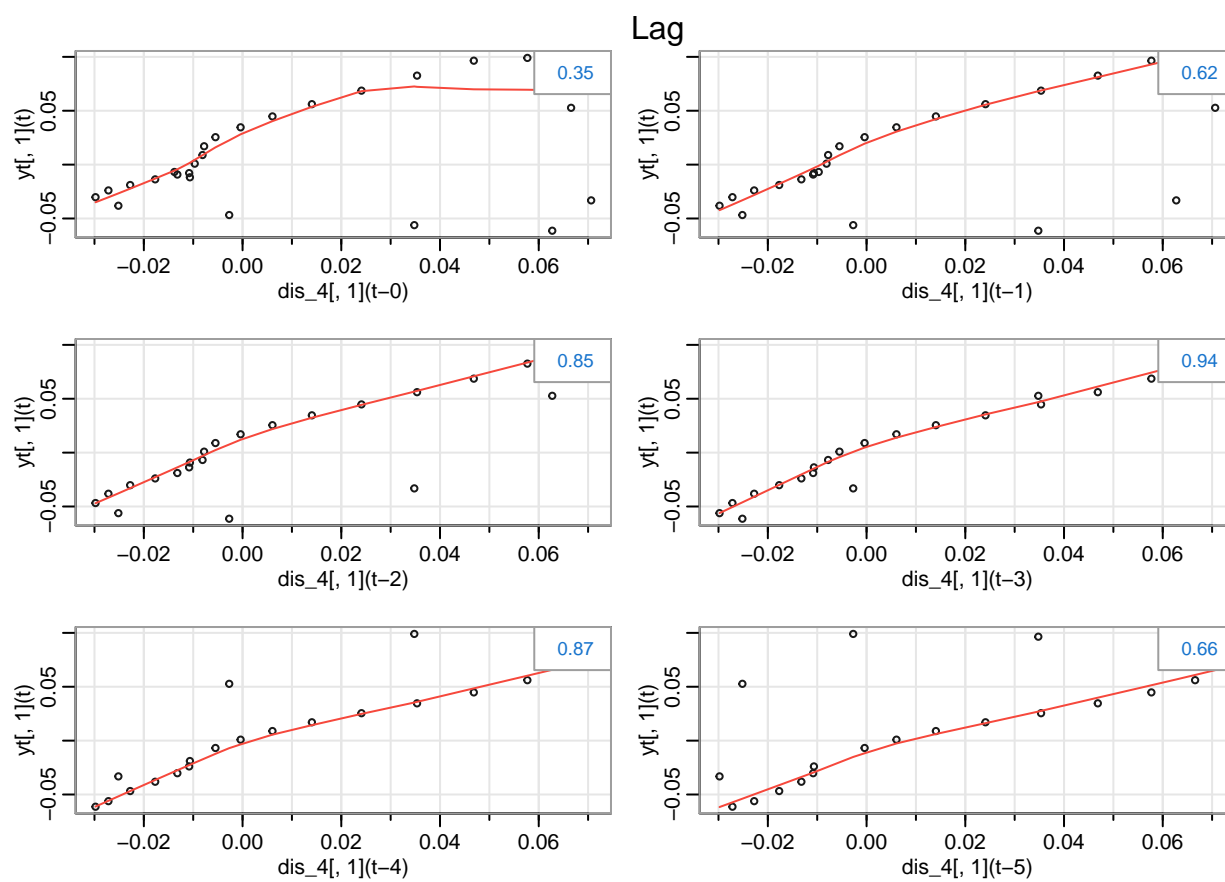
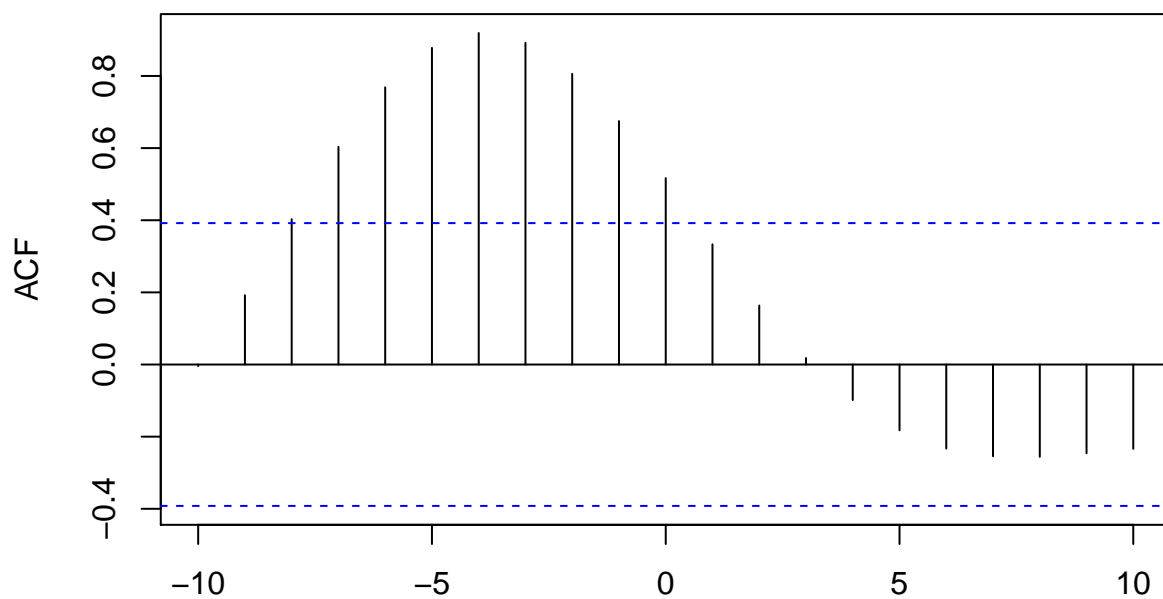




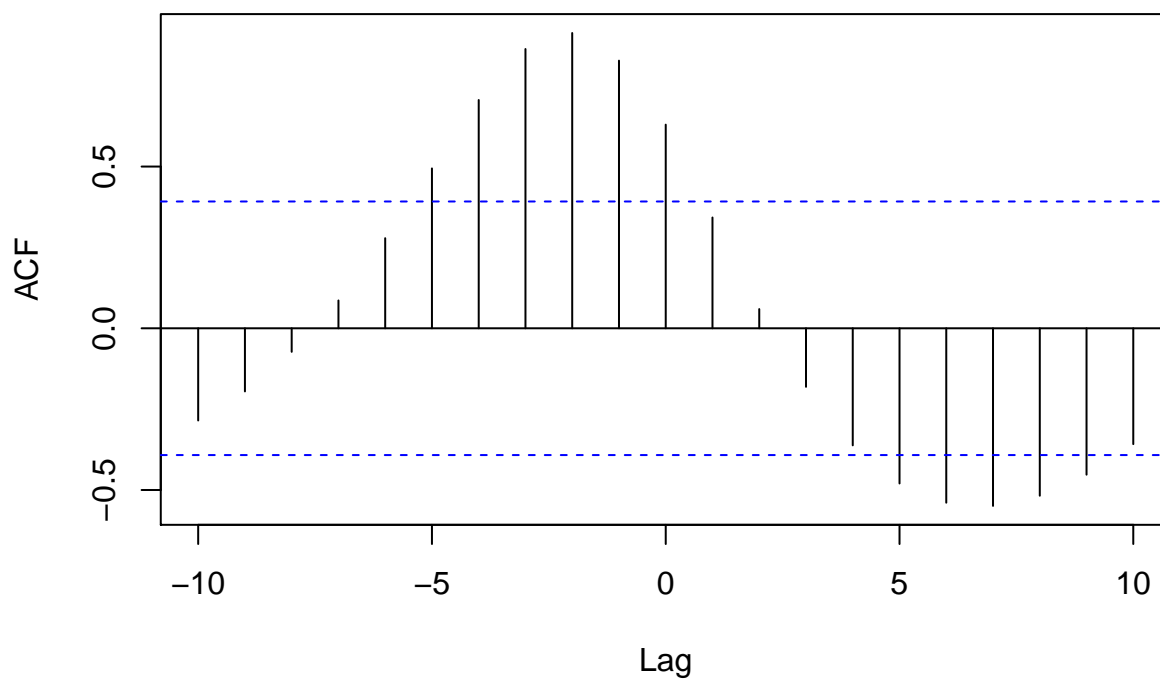
**2 wk ahead – 44**



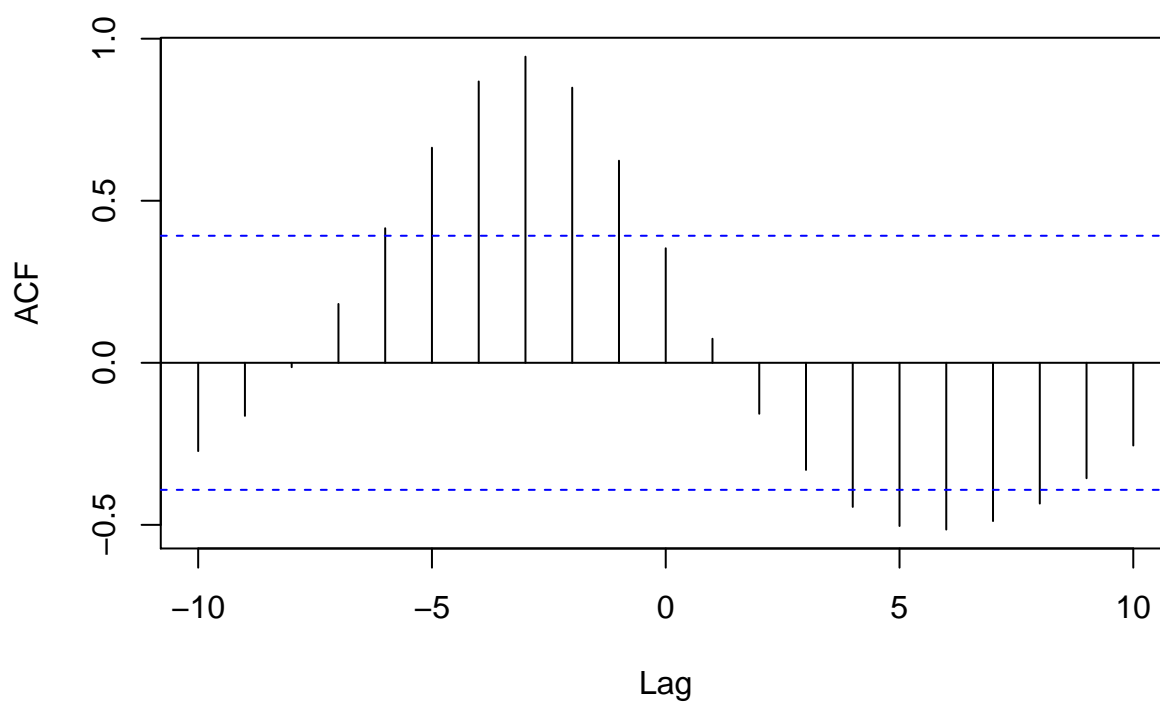
## 4 wk ahead – 44

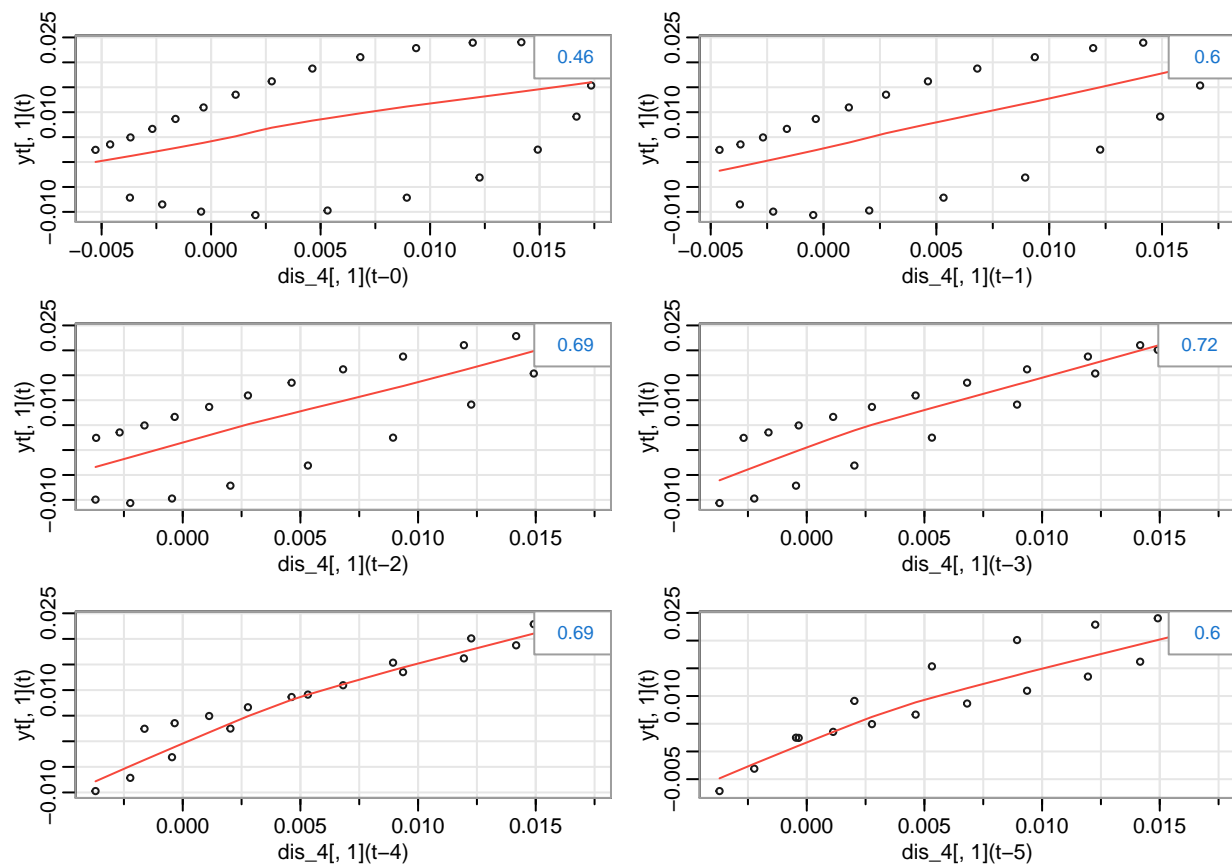


**2 wk ahead – 45**

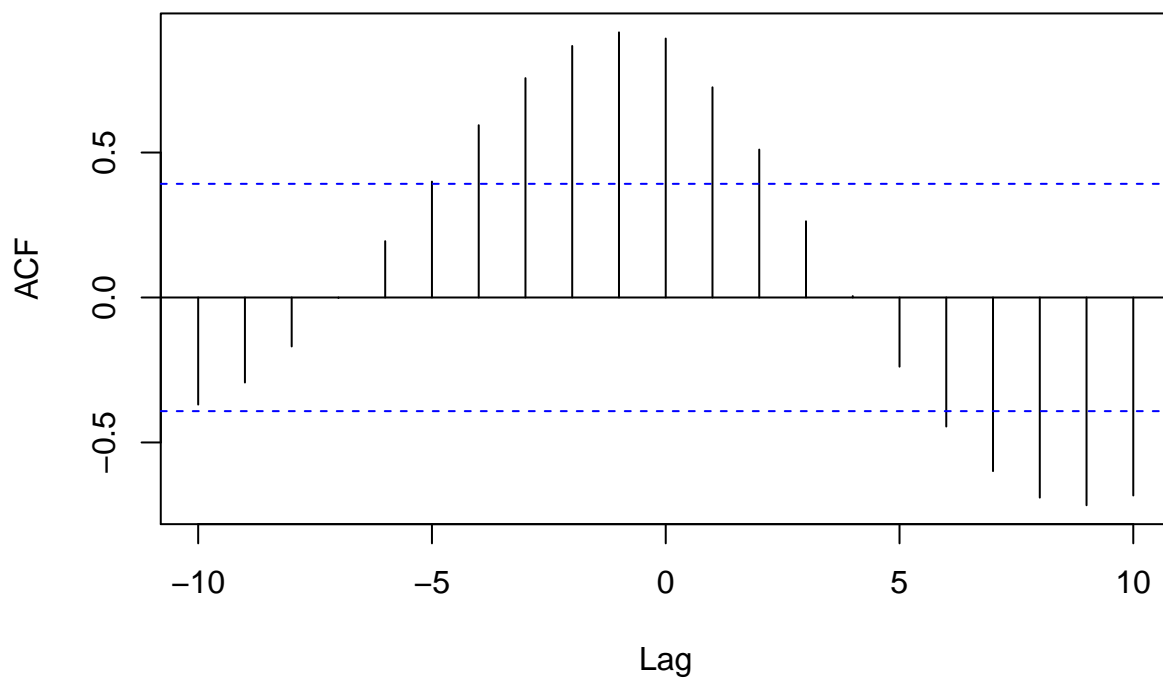


**4 wk ahead – 45**



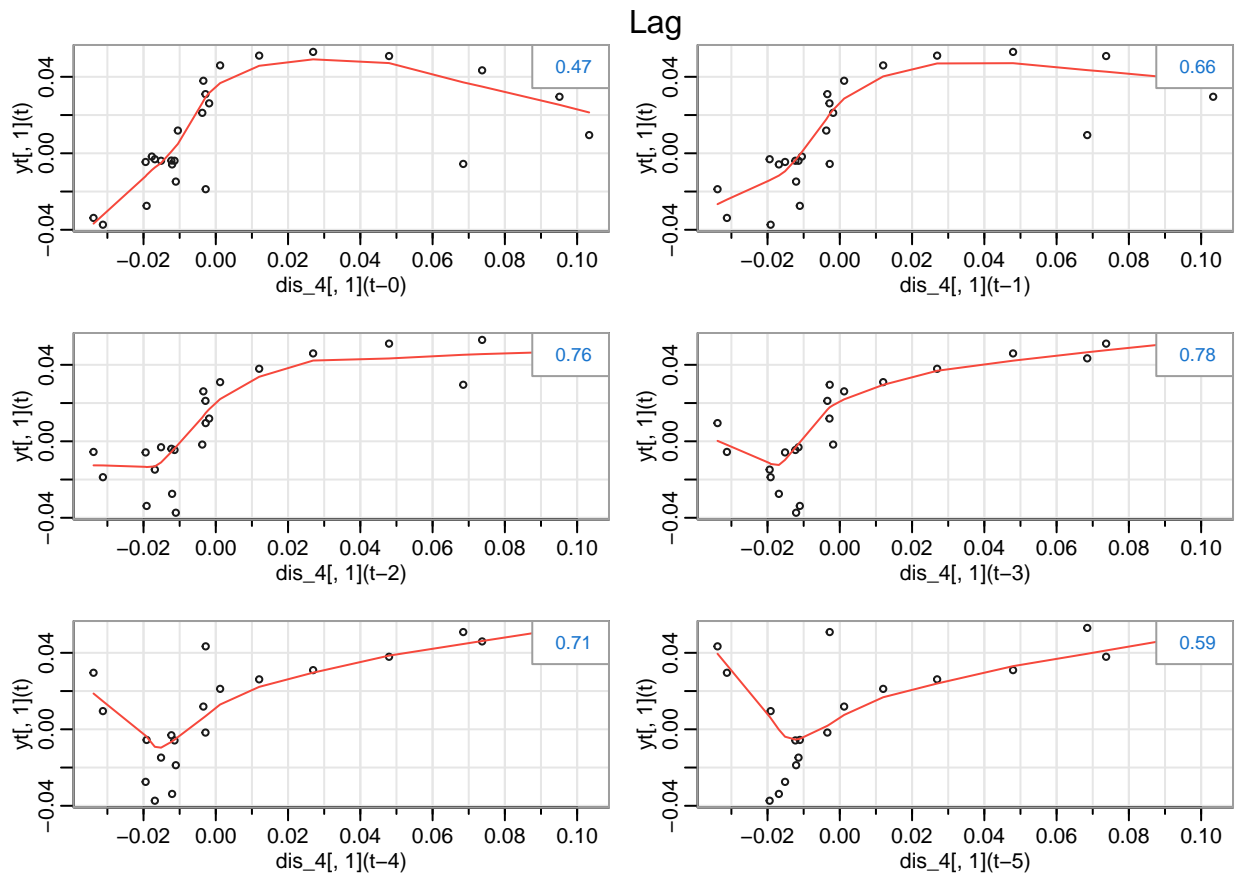
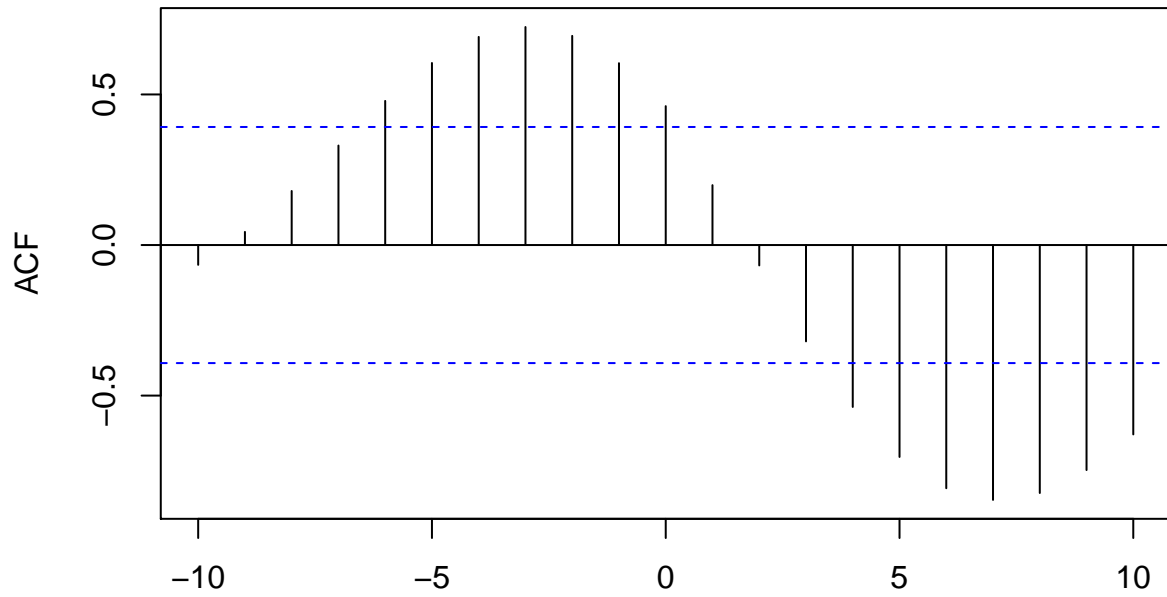


**2 wk ahead – 46**

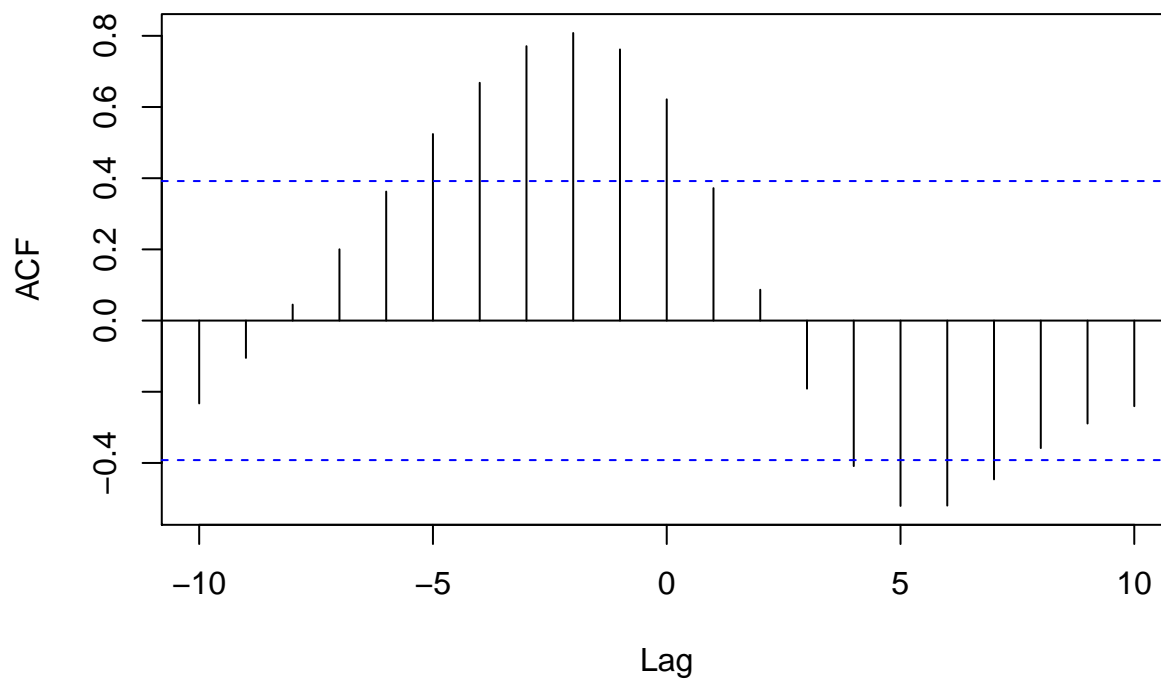




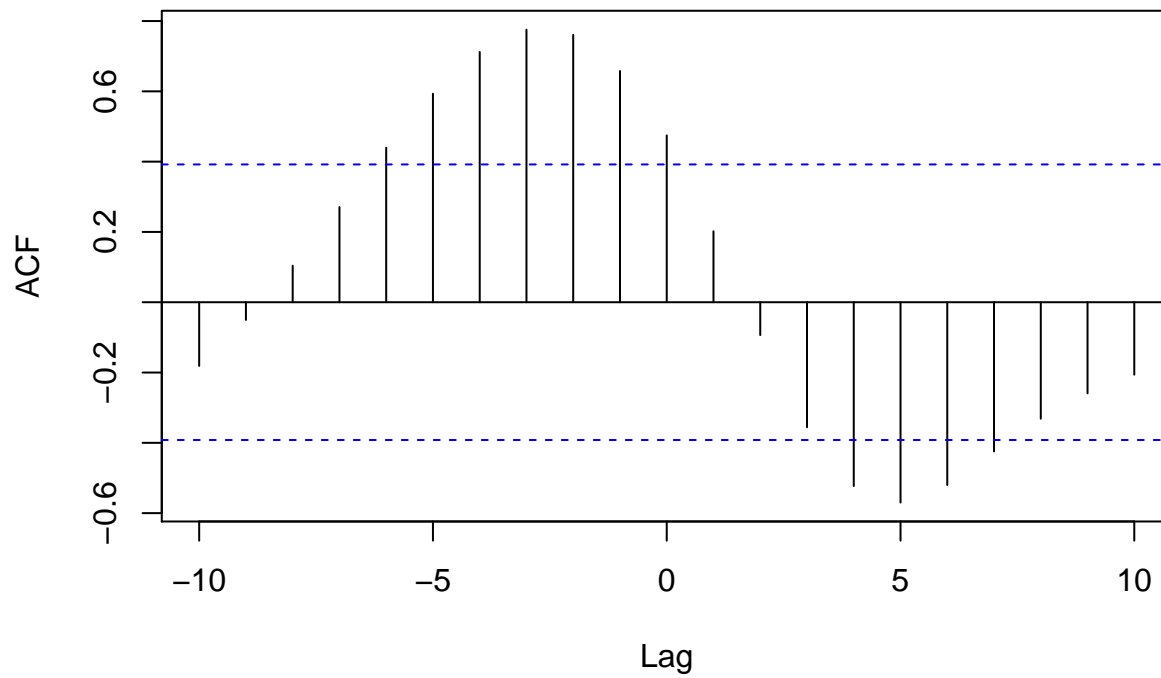
## 4 wk ahead – 46

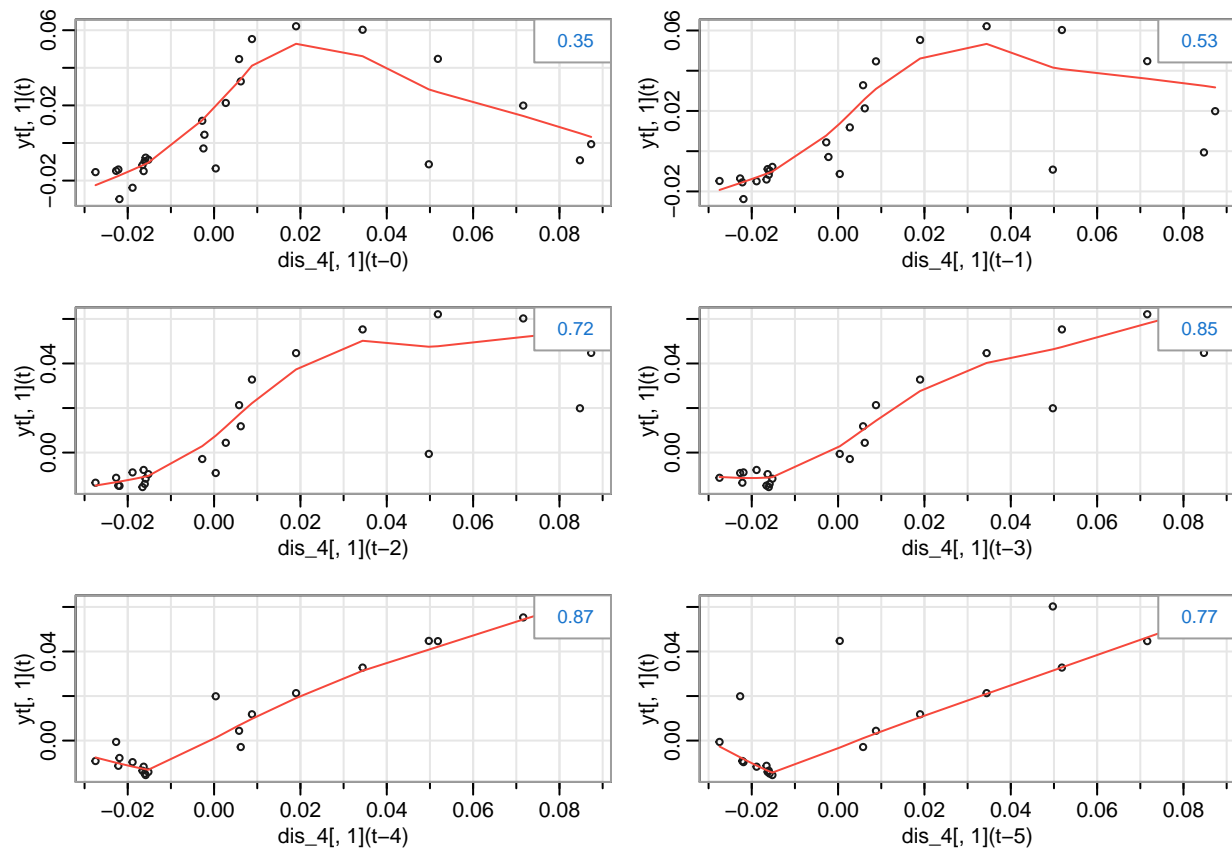


**2 wk ahead – 47**

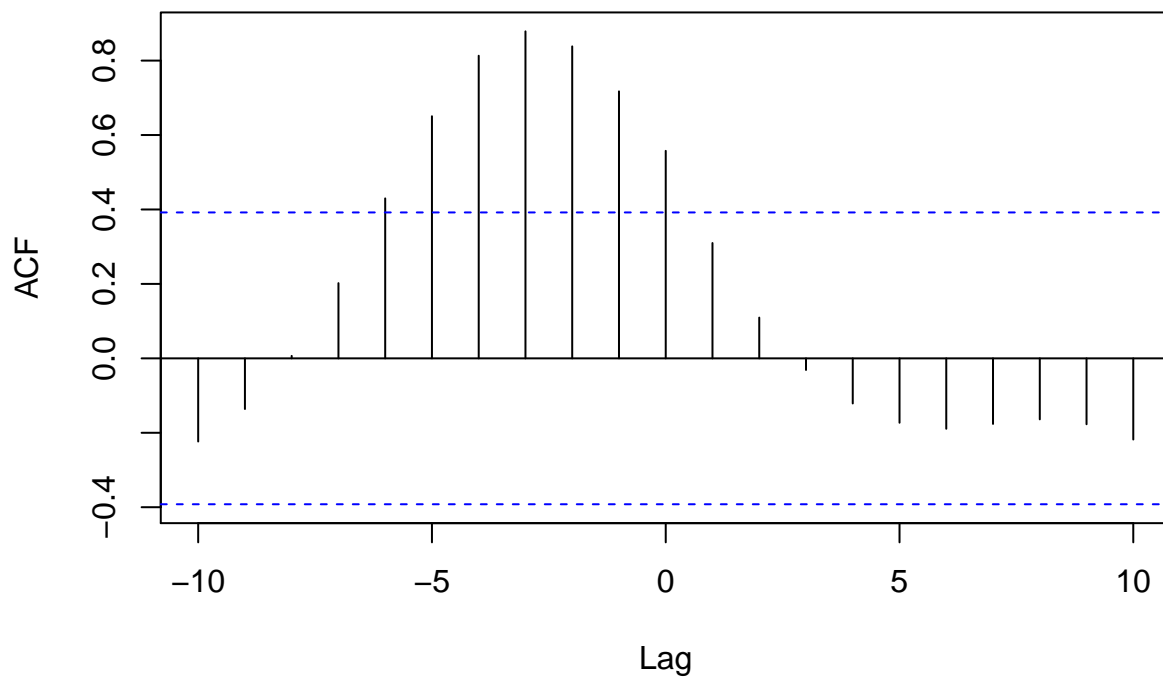


**4 wk ahead – 47**

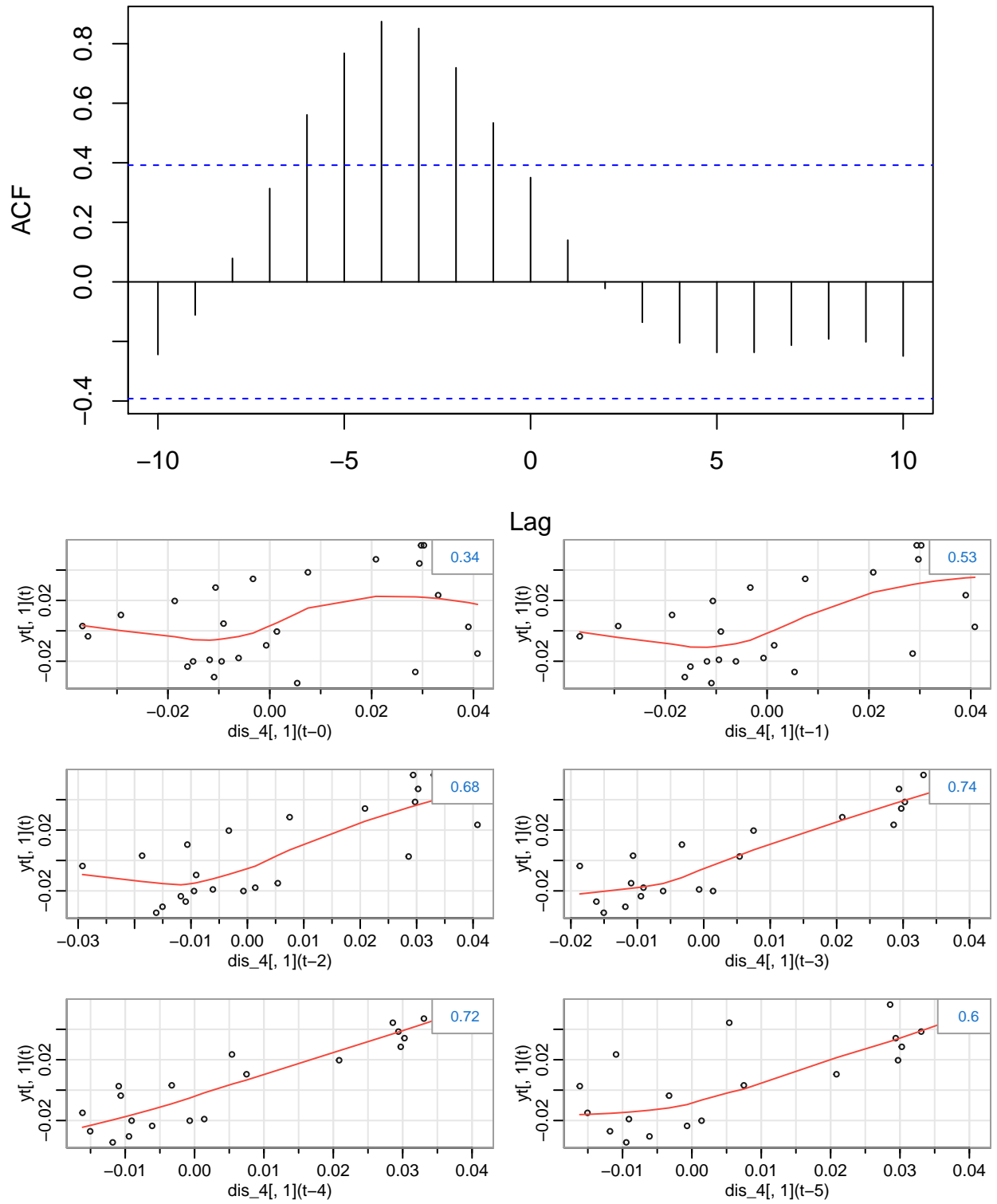




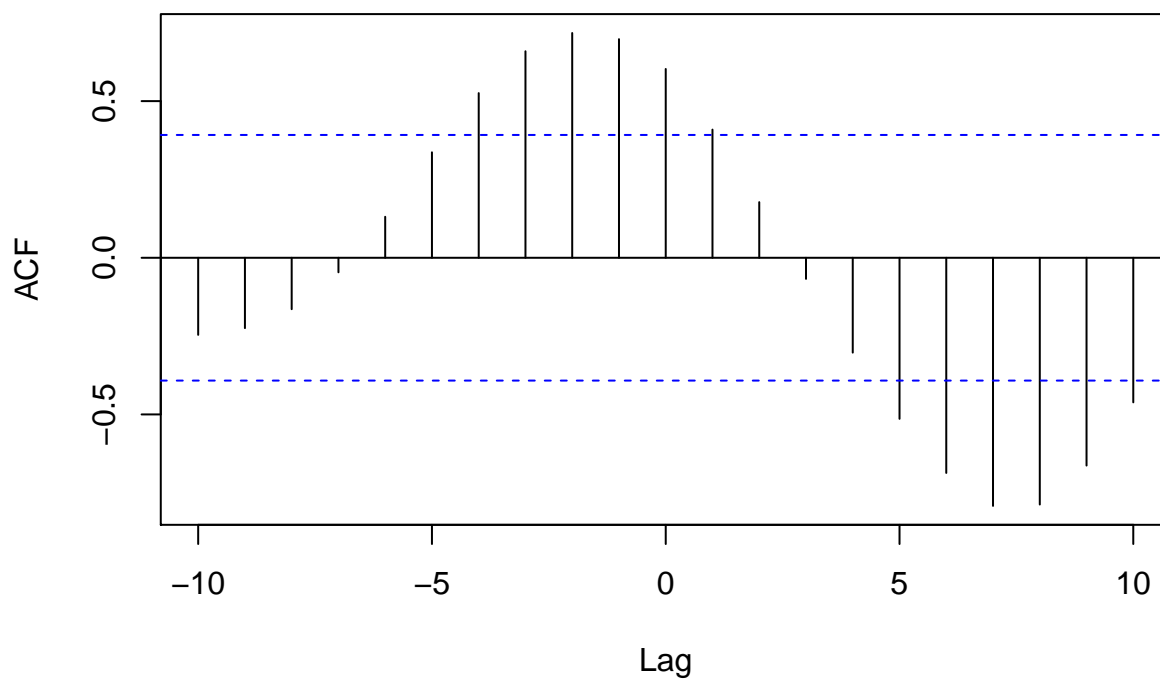
**2 wk ahead – 48**



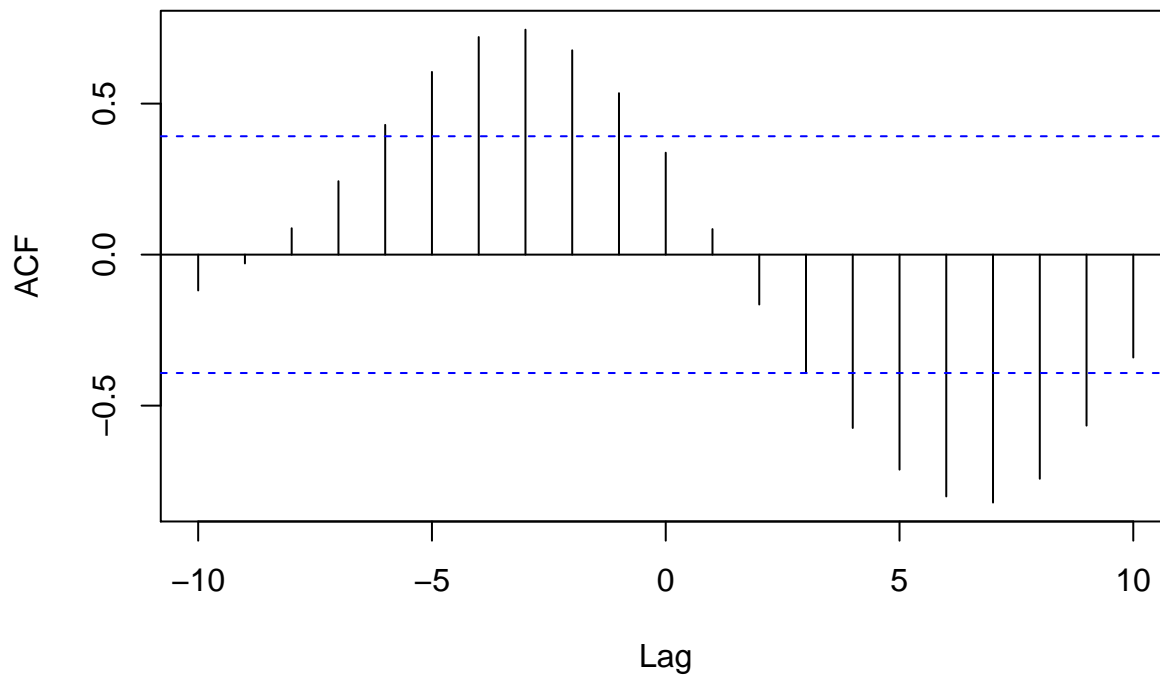
## 4 wk ahead – 48

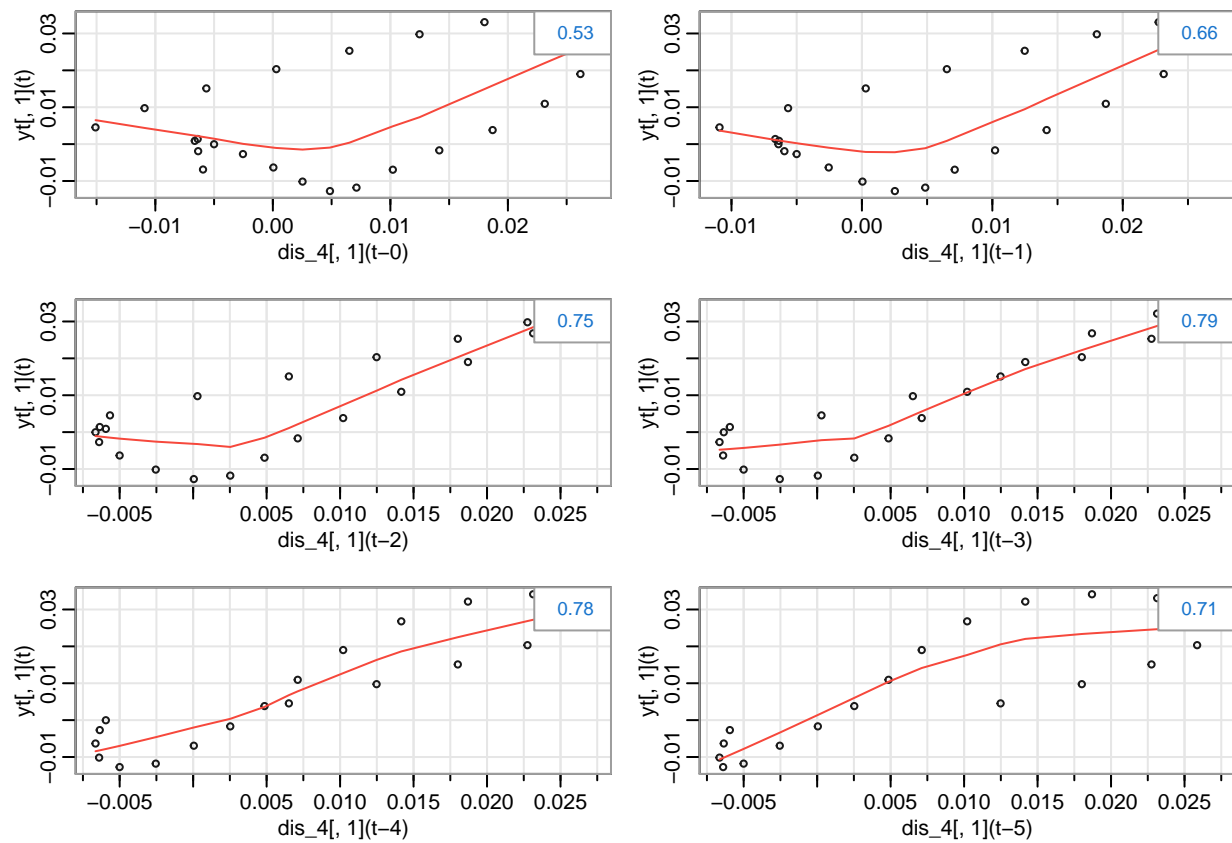


**2 wk ahead – 51**

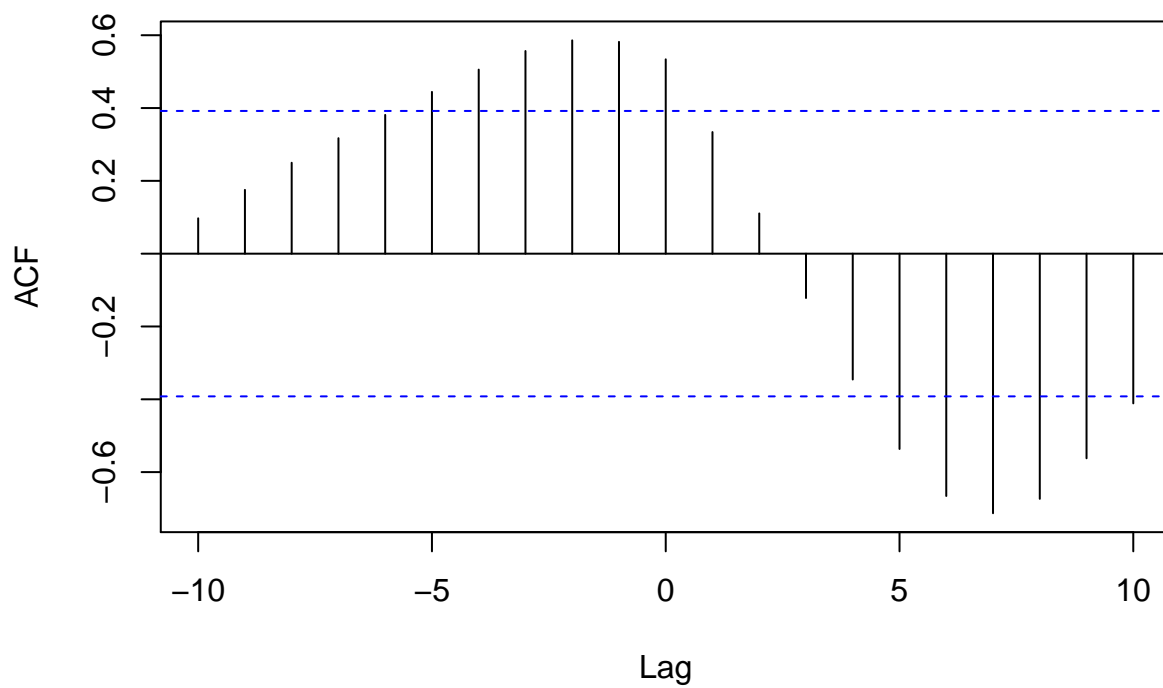


**4 wk ahead – 51**

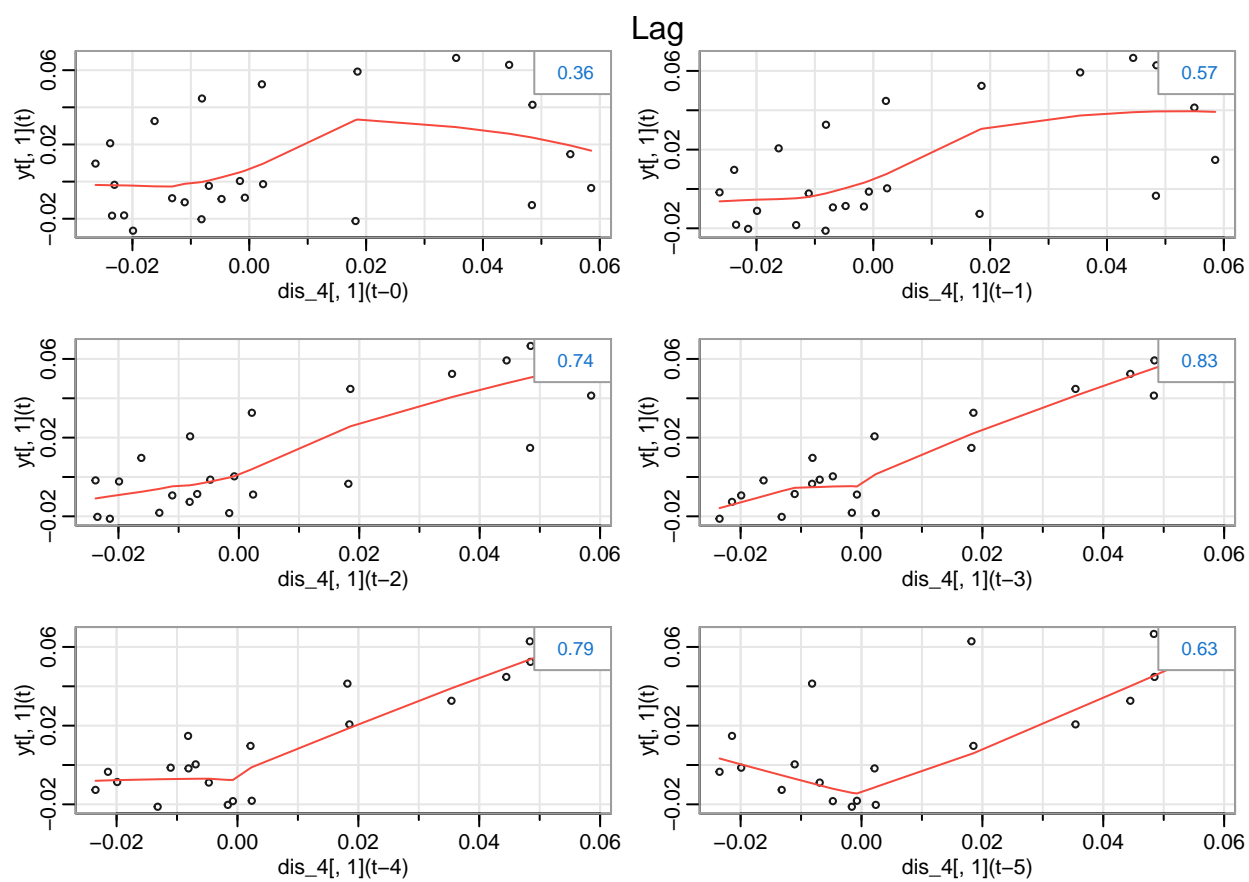
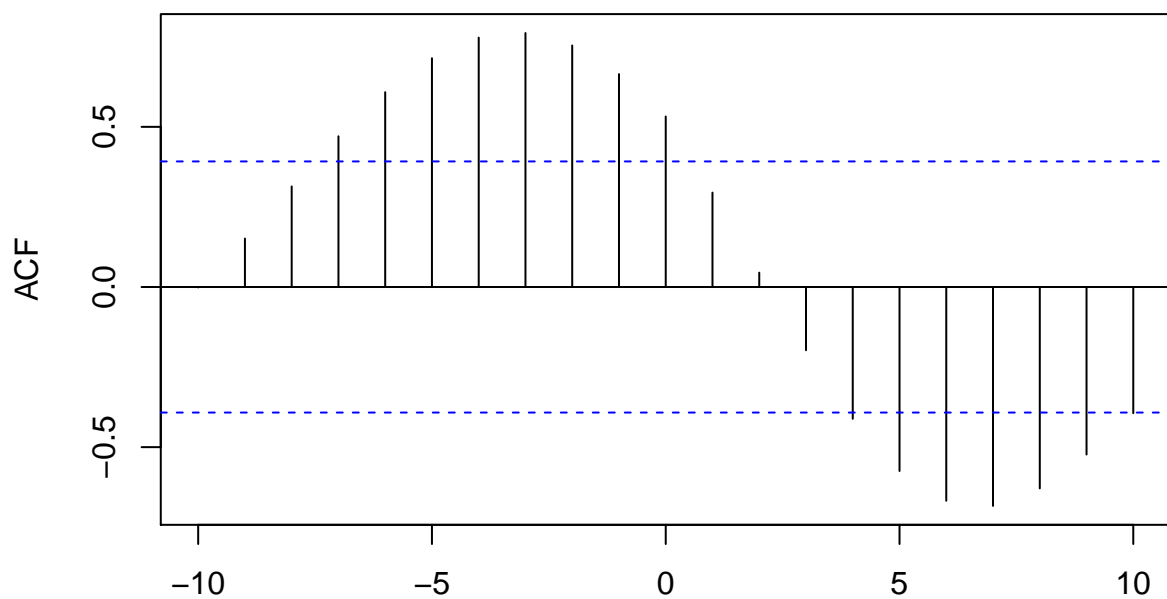




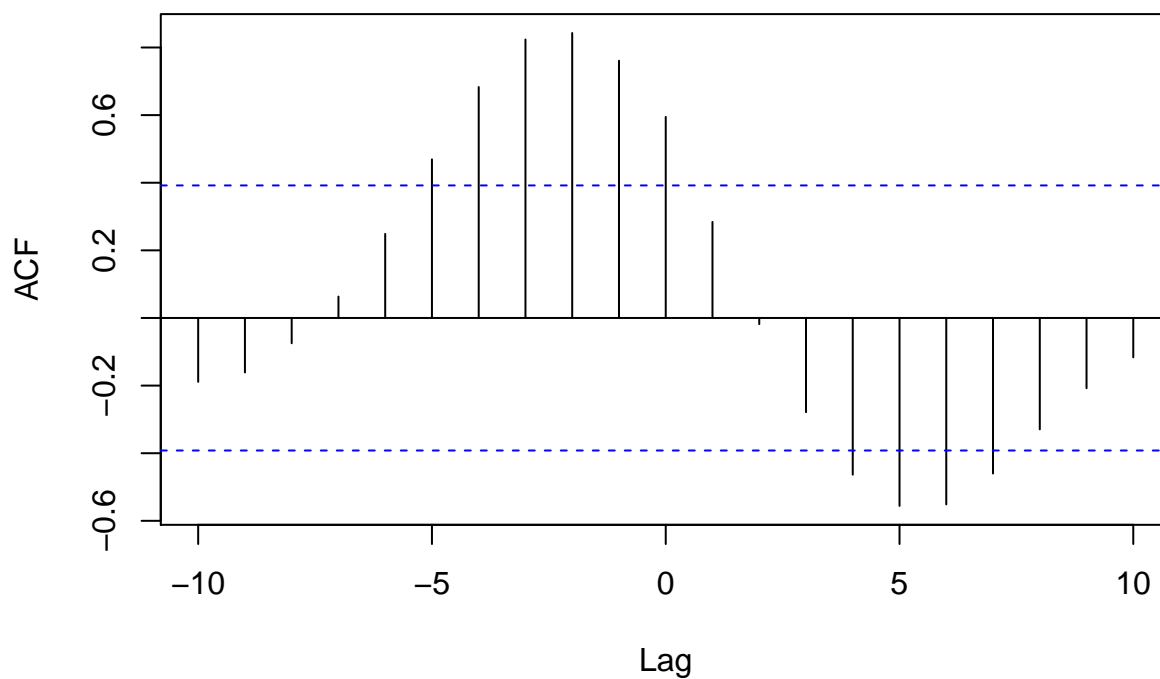
**2 wk ahead – 53**



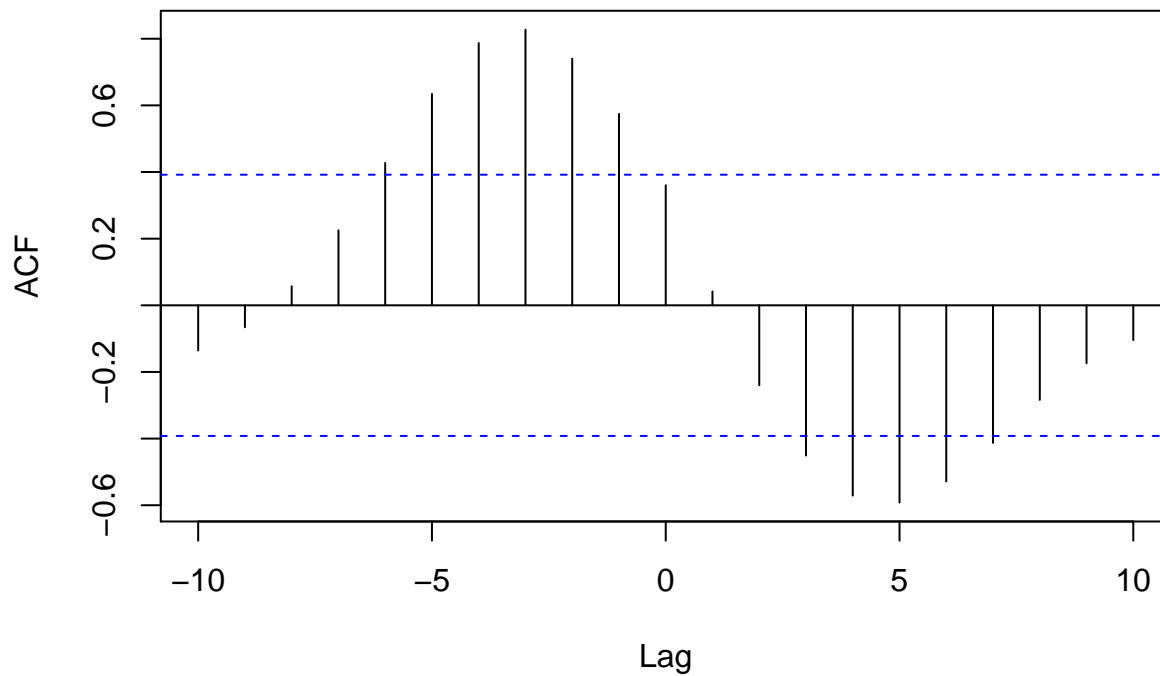
## 4 wk ahead – 53



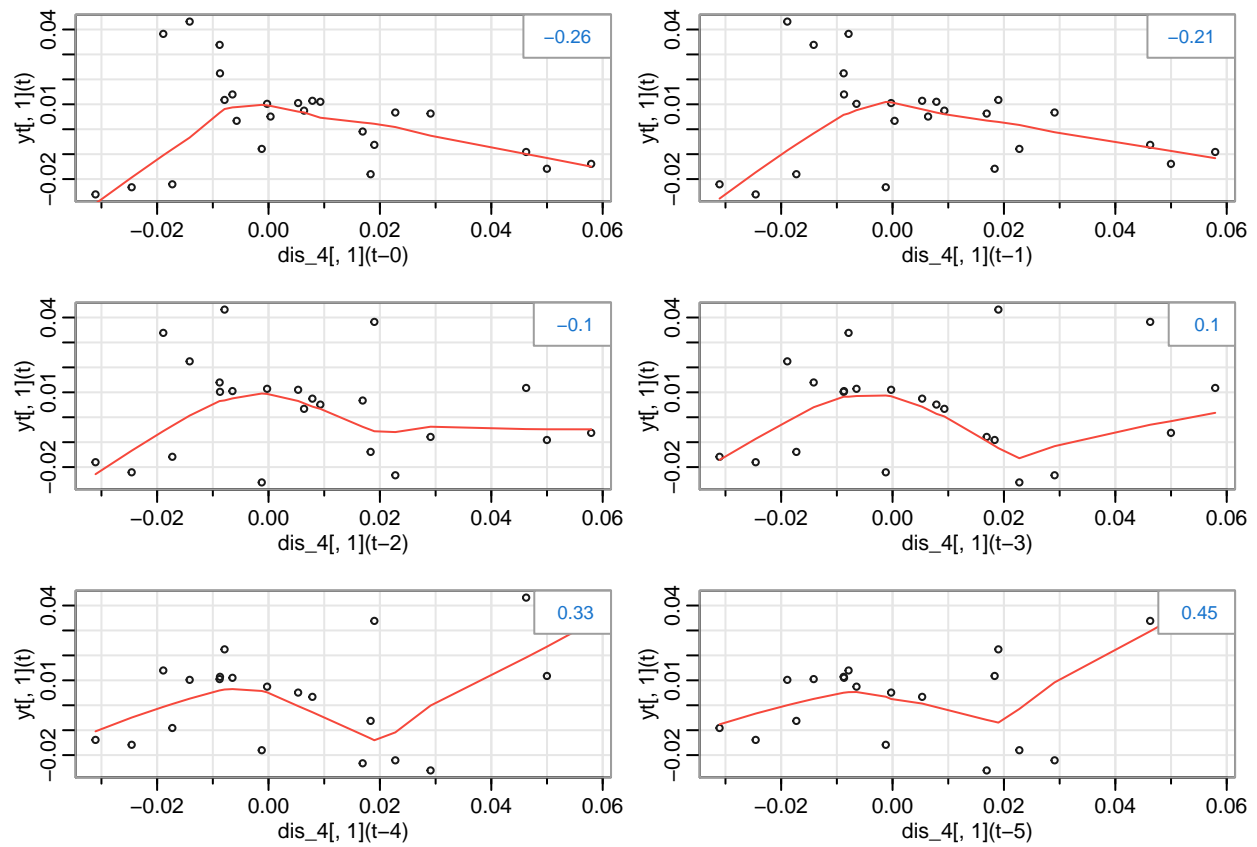
**2 wk ahead – 54**



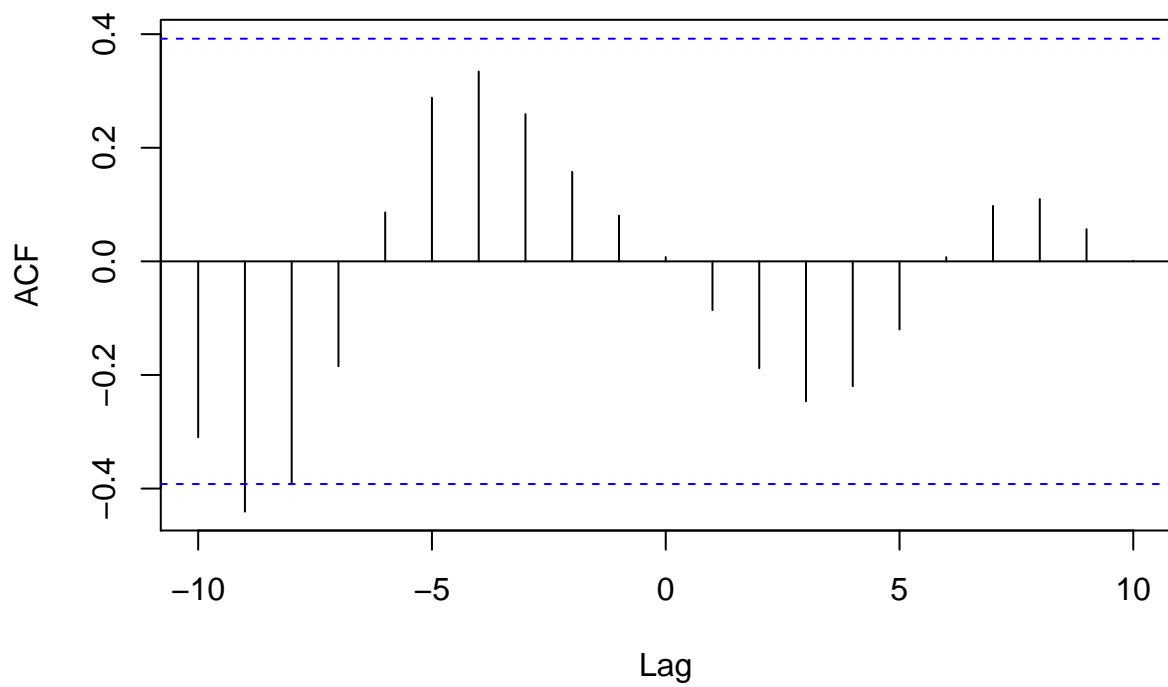
**4 wk ahead – 54**







**2 wk ahead – 55**



### 4 wk ahead – 55

