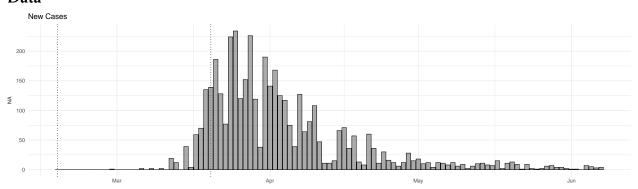
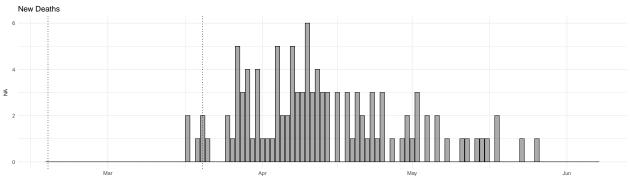
## Luxembourg

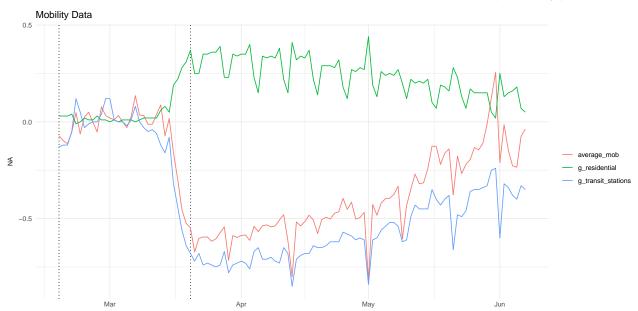
## Data



Vertical dotted lines represent the first seeding day and the epidemic start date.



Vertical dotted lines represent the first seeding day and the epidemic start date.



Vertical dotted lines represent the first seeding day and the epidemic start date.

## **Analysis**

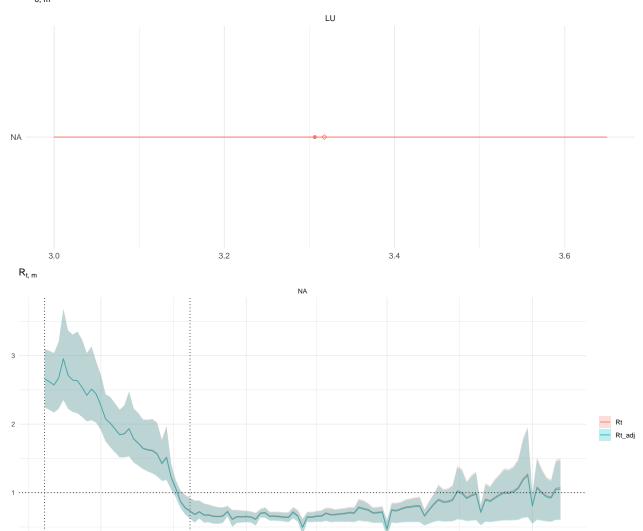
Number of divergent transitions = 0

Maximum  $\hat{R} = 1.002933$ 

Minimum Bulk ESS = 786.8718

Minimum Tail ESS = 1027.66

 $R_{0,\,m}$ 



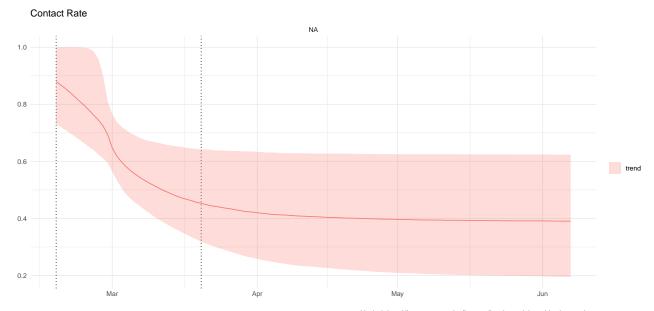
Vertical dotted lines represent the first seeding day and the epidemic start date. Ribbons represent the 80% credible intervals.

Contact rate function:

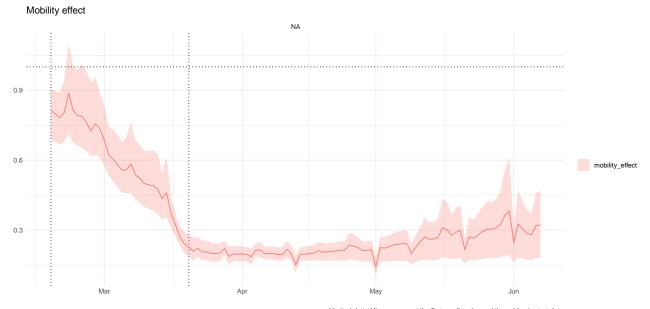
$$cr(t;t^*,\lambda_j,\kappa) = \lambda_j + \frac{1-\lambda_j}{1+\exp(\kappa(t-t^*))}$$

where

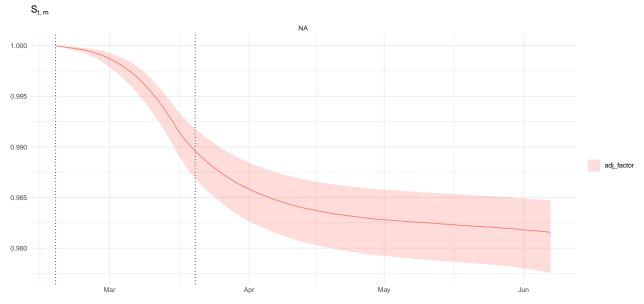
$$\begin{split} &\lambda_{j} \sim \texttt{Beta}(3,1) \\ &\kappa \sim \texttt{NegHalfNormal}(0,1). \end{split}$$



Vertical dotted lines represent the first seeding day and the epidemic start date. Ribbons represent the 80% credible intervals.

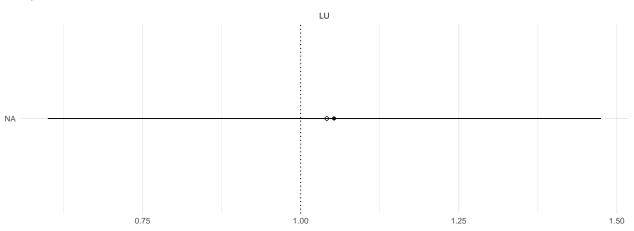


Vertical dotted lines represent the first seeding day and the epidemic start date. Ribbons represent the 80% credible intervals.



Vertical dotted lines represent the first seeding day and the epidemic start date. Ribbons represent the 80% credible intervals.





Mobility linear model:  $\beta_1 \cdot X_{residential} + \beta_2 \cdot X_{transit} + \beta_3 \cdot X_{average}$ .

