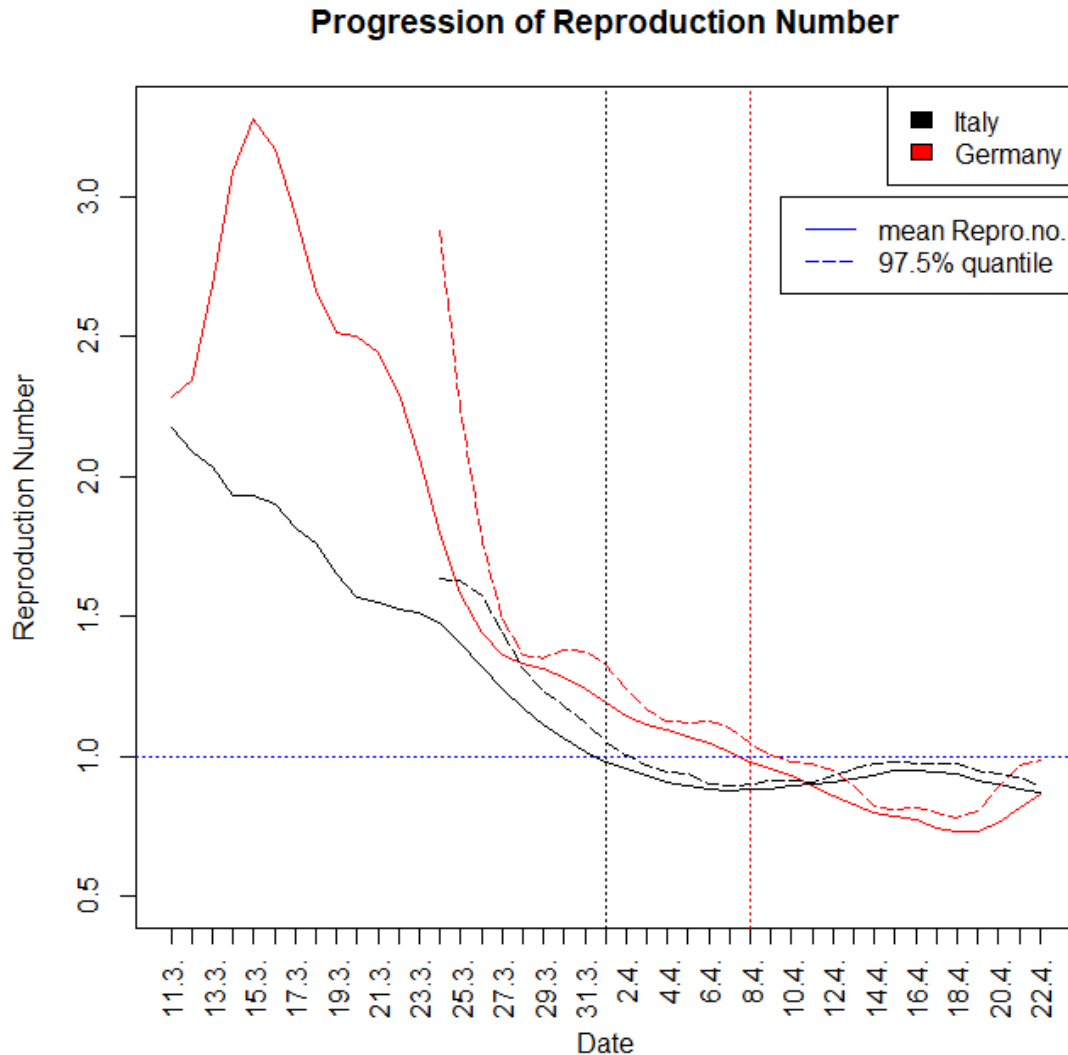


25.04.2020: COVID-19 Pandemic: Germany: Stagnation predicted for 28.4.; estimated upper limit now around 157 000; reproduction number lower than 1 since 8.4.



The figure shows the mean reproduction numbers (solid line) and the 97.5% quantile (dotted line) for the COVID-19 pandemic based on the increases reported by the Robert-Koch-Institut (RKI, Berlin) at the 25.4. and by the Johns-Hopkins University for Italy. In order to avoid reporting artefacts, we ignored the last 3 observations (which are too preliminary for Germany) and smoothed the observations by **moving averages** of order 7. Based on these values we determined the **reproduction number** at time t by the ratio of the moving average at times t and $(t-4)$, i.e. by relating means of successive blocks of 4 values each. Vertical lines indicate the predicted intersections with 1, the horizontal line is at 1.

Reproduction numbers are estimated to be lower than 1 since 1.4. for Italy and since 8.4. for Germany. The 95% uncertainty region is very narrow and steadily below 1 for Italy since the beginning of April. For Germany, the reproduction number is lower than 1 only since 8.4. and uncertainty is higher. Moreover, since 21.4. the uncertainty region nearly includes 1, again.

Also note that **Stagnation** (< 500 new infections) we again predict for the 28.4. for Germany (and for the beginning of May for Italy). The estimated upper limit of the no. of infected people in the first wave of the pandemic is now around 157000 for Germany (and around 203000 for Italy).