Bayesian Age-Period-Cohort Prediction

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Prediction

Using the prior assumption of a random walk for the period and cohort effect, one can predict cases for upcoming years.

Here, we use the included data example.

```r
data(apc)
plot(cases[,1], type="l", ylim=range(cases), ylab="cases", xlab="year", main="cases per age group")
for (i in 2:8) lines(cases[,i], col=i)
```

We use only nine years and predict the last year.

```r
model0 <- bamp(cases[-10,], population[-10,], age="rw1", period="rw1", cohort="rw1", periods_per_agegroup = 5)
model0<-predict_apc(object=model0, periods=1, population=population, update = TRUE)
```

Plot of predicted cases with credible intervals and true data
Plot period and cohort effects including prediction of year 10.

```r
plot_period <- ts.plot(t(model0$predicted$cases_period), lty=c(2,1,2))
plot_cohort <- ts.plot(t(model0$predicted$cohort), lty=c(2,1,2))
```