## 0 -0.2 -0.4 -0.6 1650 1700 1750 1800 1850 1900 1950 2000

Figure 6: Pointwise posterior of component 3 (left) and the posterior of the cumulative sum of

Component 3: A smooth function. This function applies until 1643 and from 1716

This component is a smooth function with a typical lengthscale of 23.1 years. This component

This component explains 56.6% of the residual variance; this increases the total variance explained from 37.4% to 72.8%. The addition of this component reduces the cross validated MAE by 21.08%

1362

1361.5

Sum of components up to component 3

2000

onwards

from 0.23 to 0.18.

components with data (right)

0.6

0.4

0.5

-0.5

1650 1700 1750 1800 1850 1900 1950 2000

applies until 1643 and from 1716 onwards.

Posterior of component 3

Residuals after component 3

Figure 7: Pointwise posterior of residuals after adding component 3