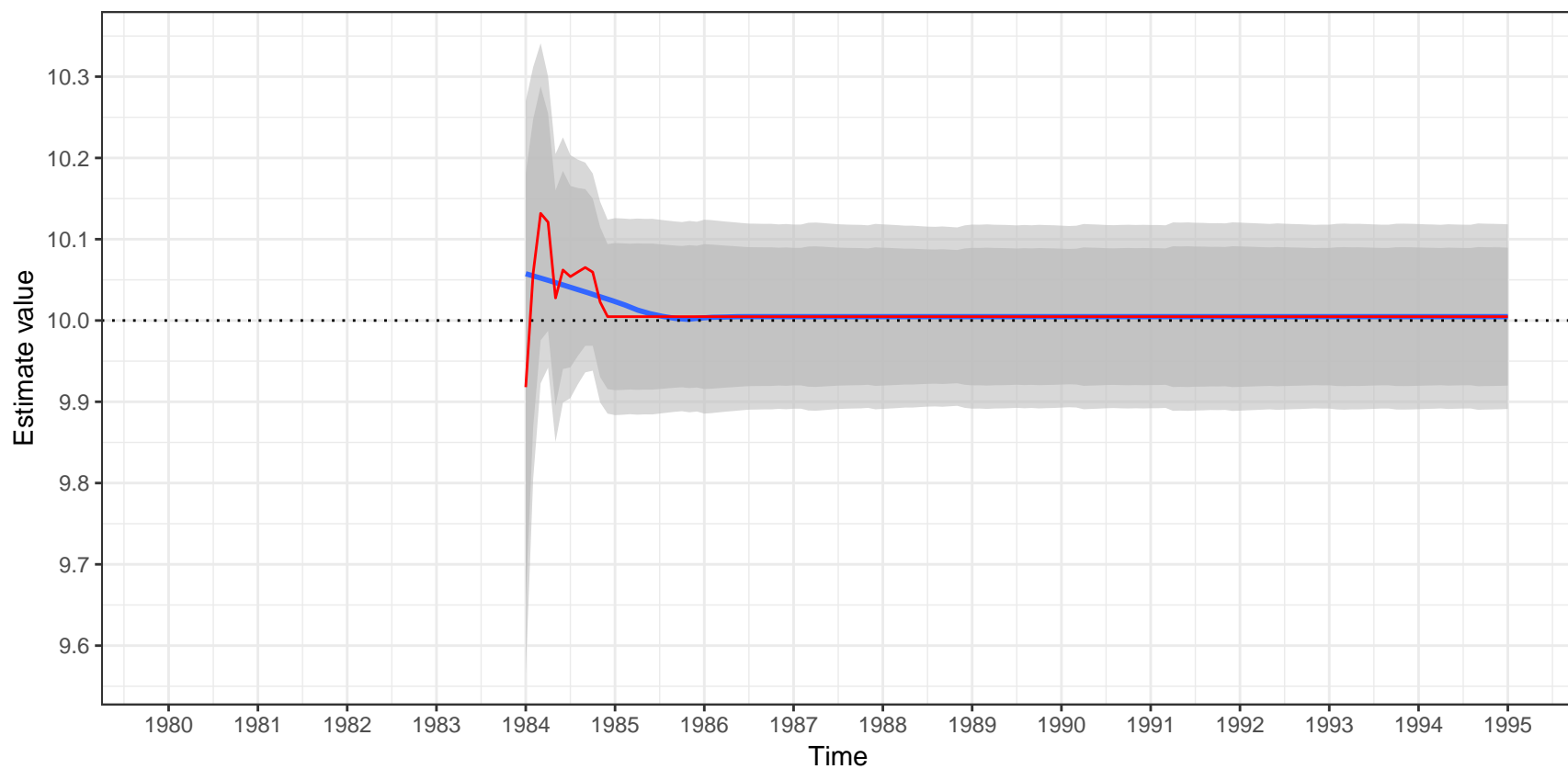
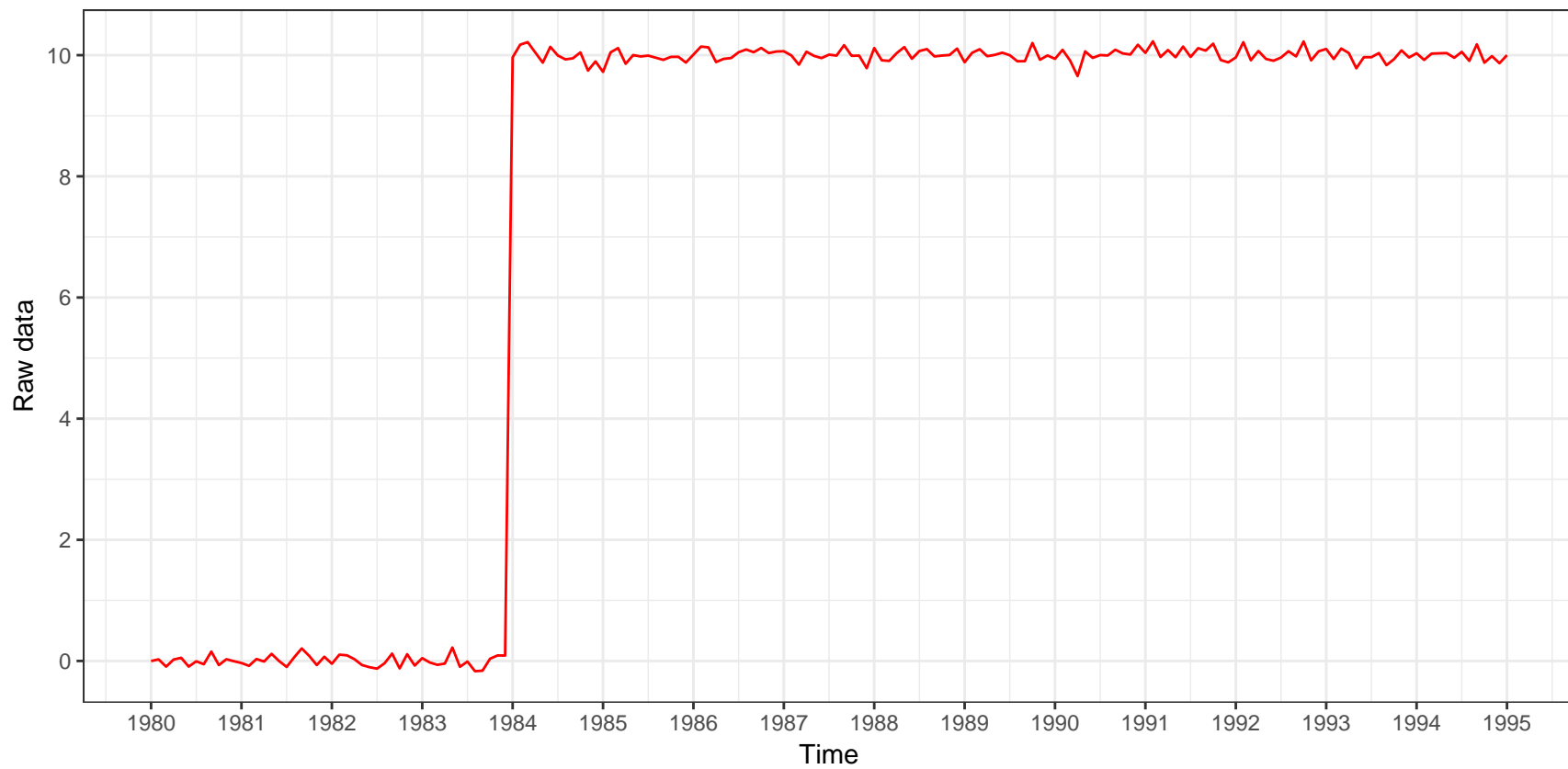


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

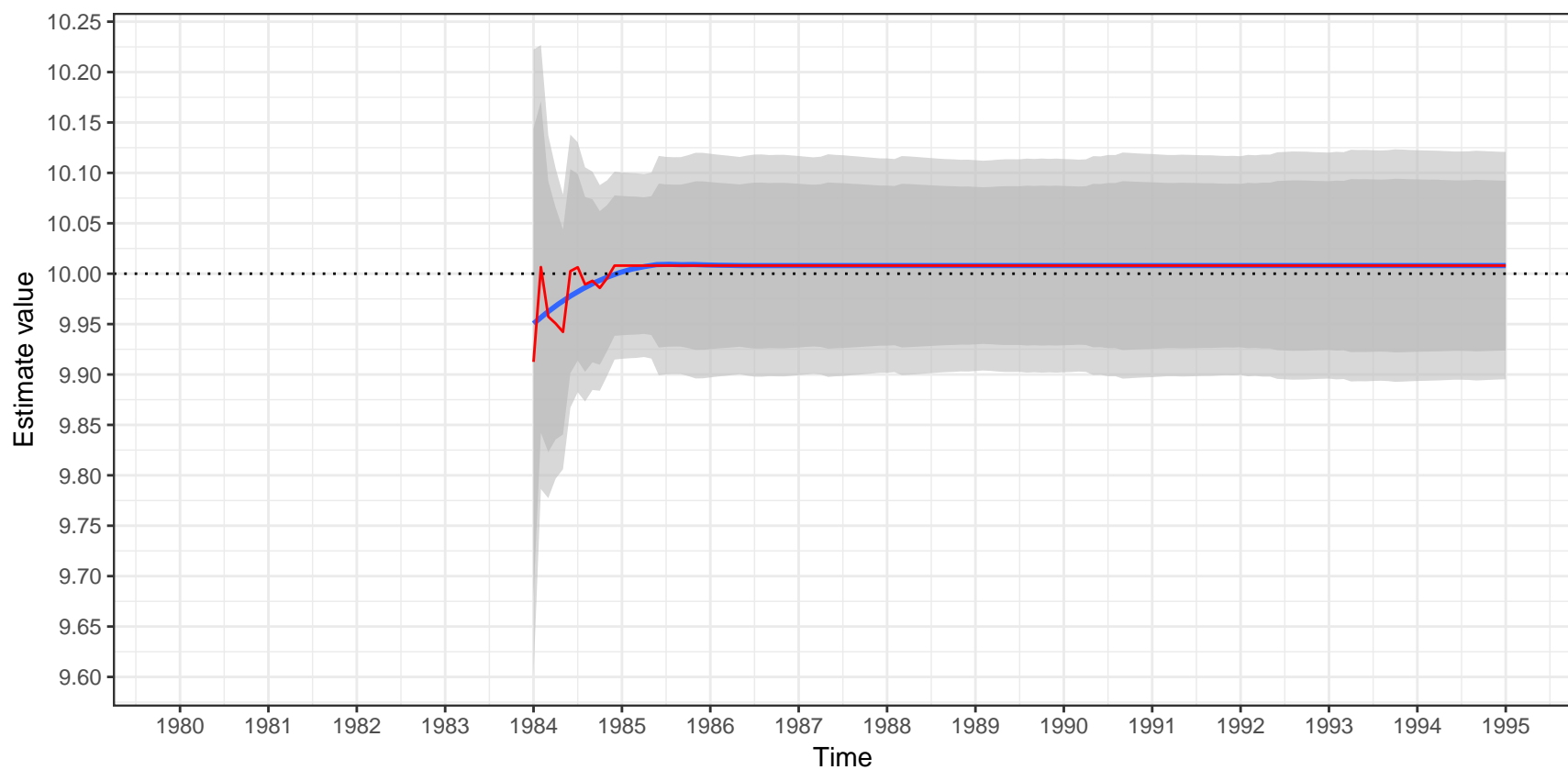


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

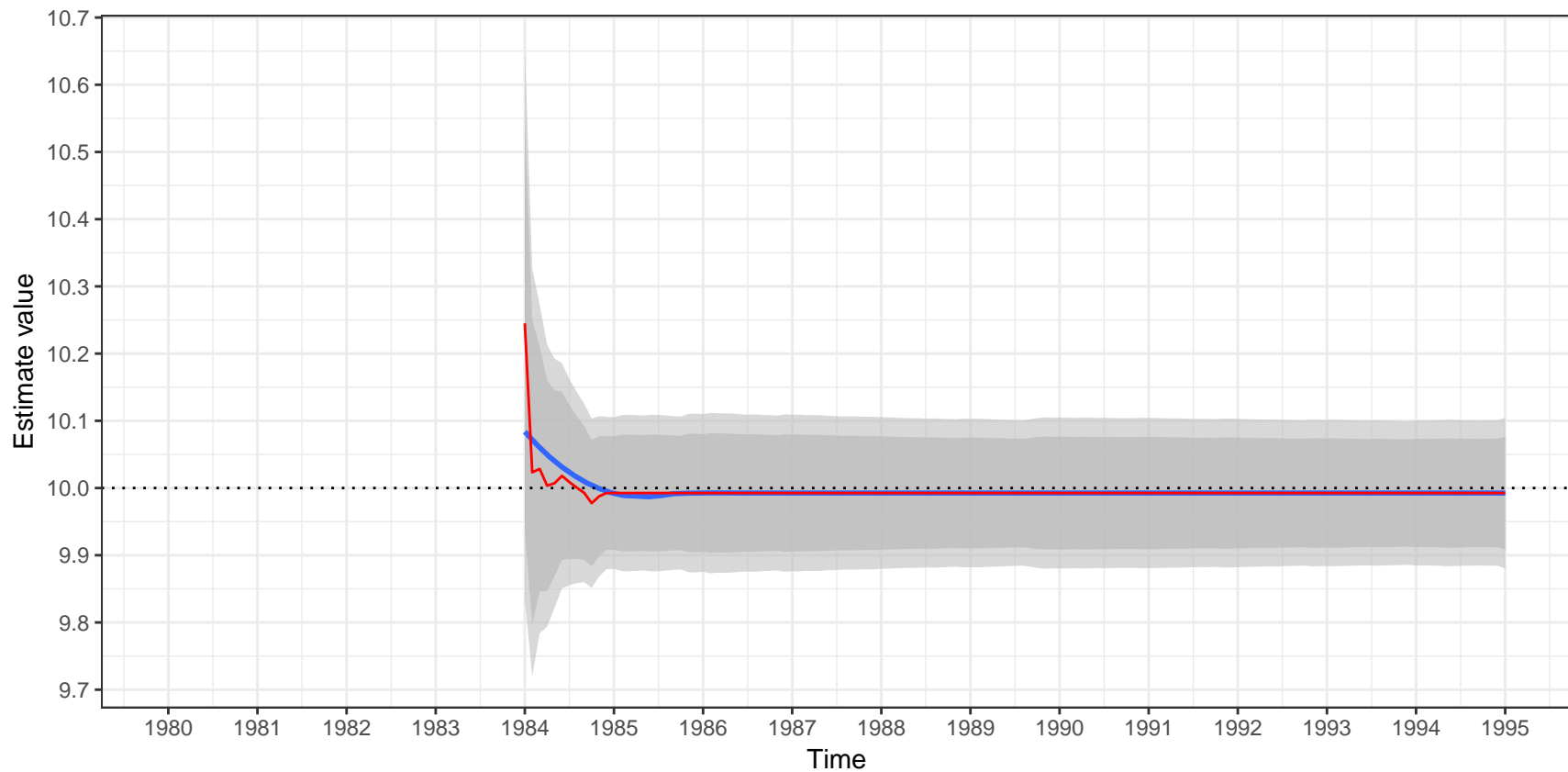


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Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

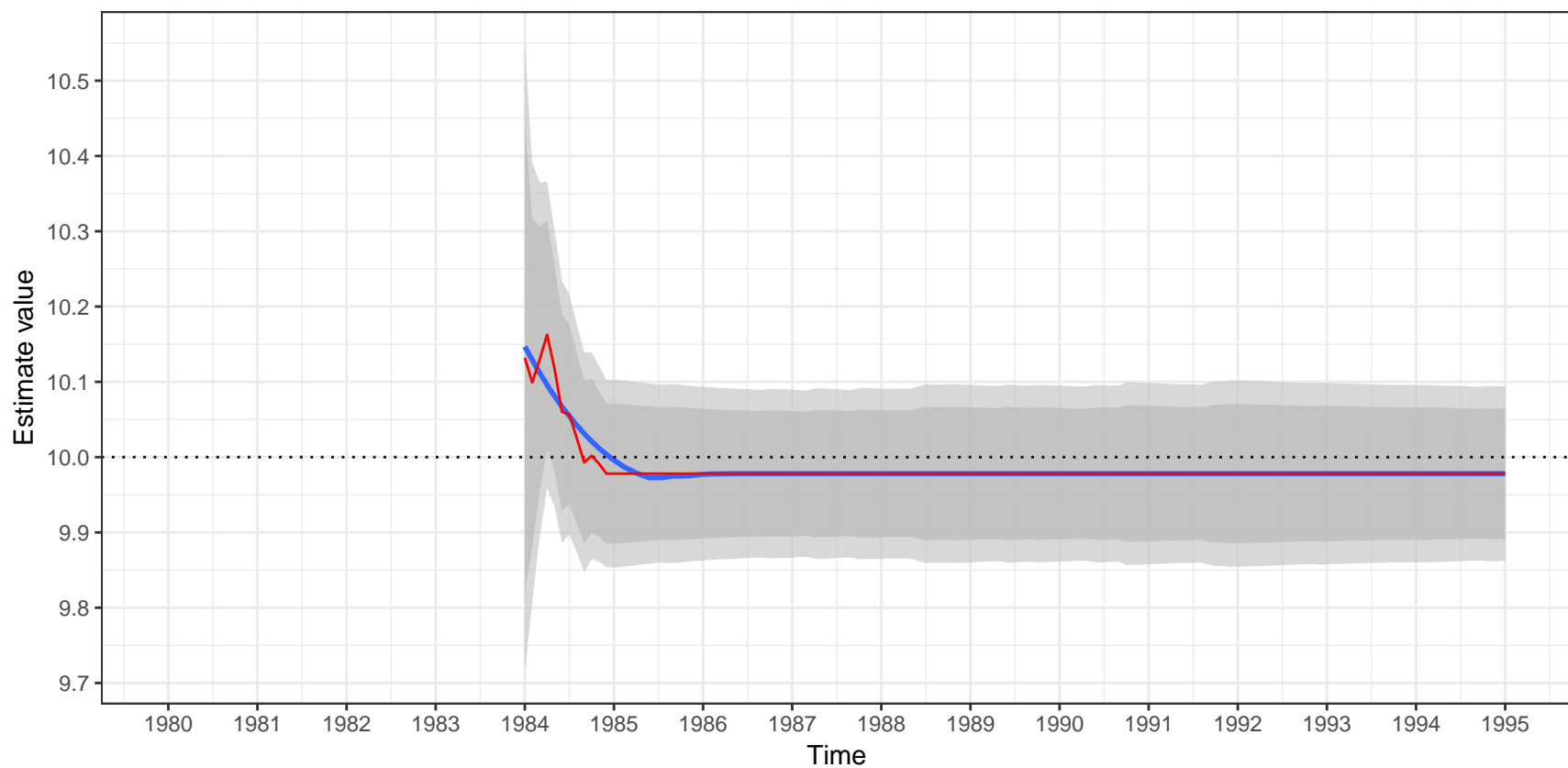


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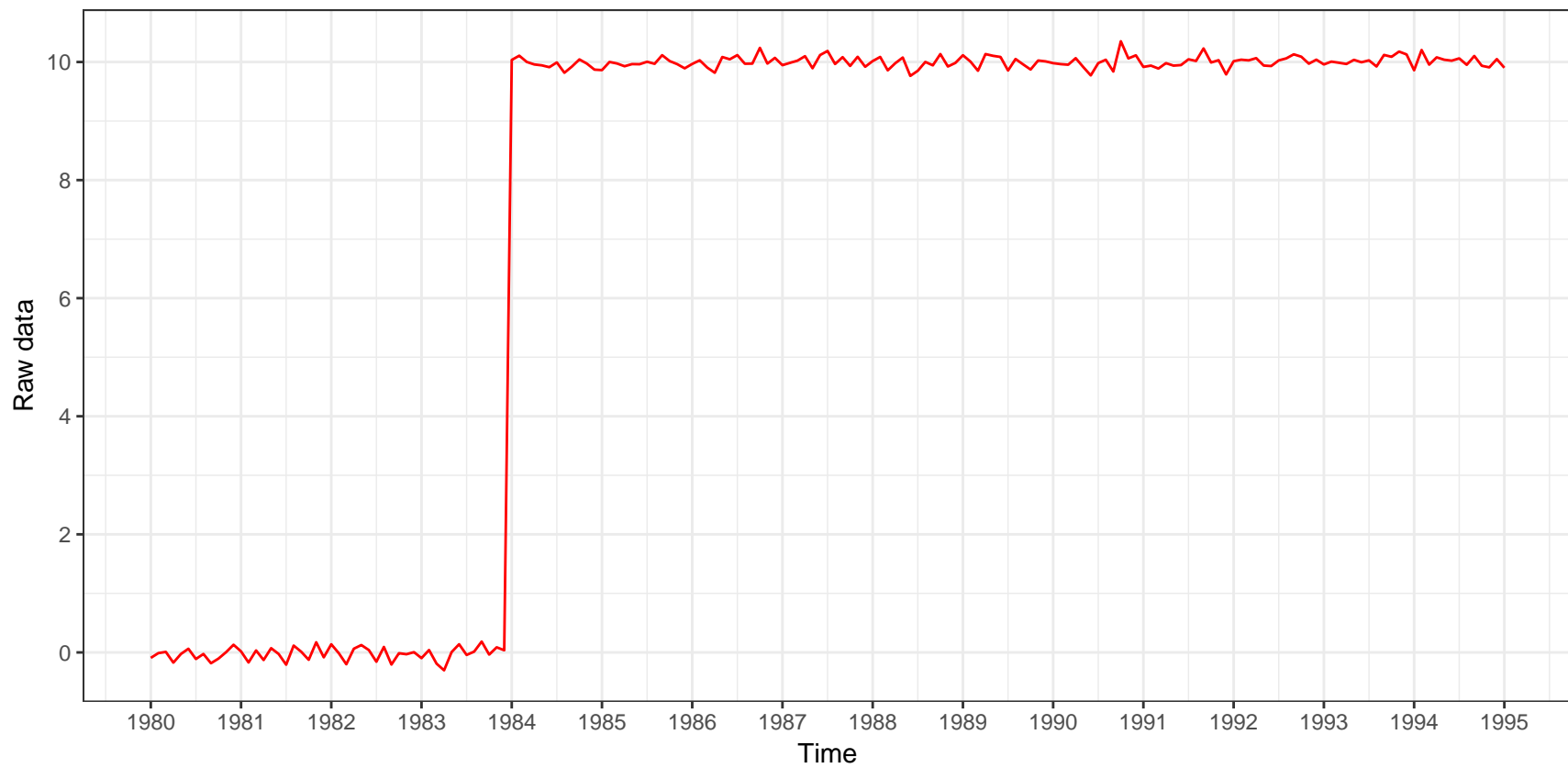


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

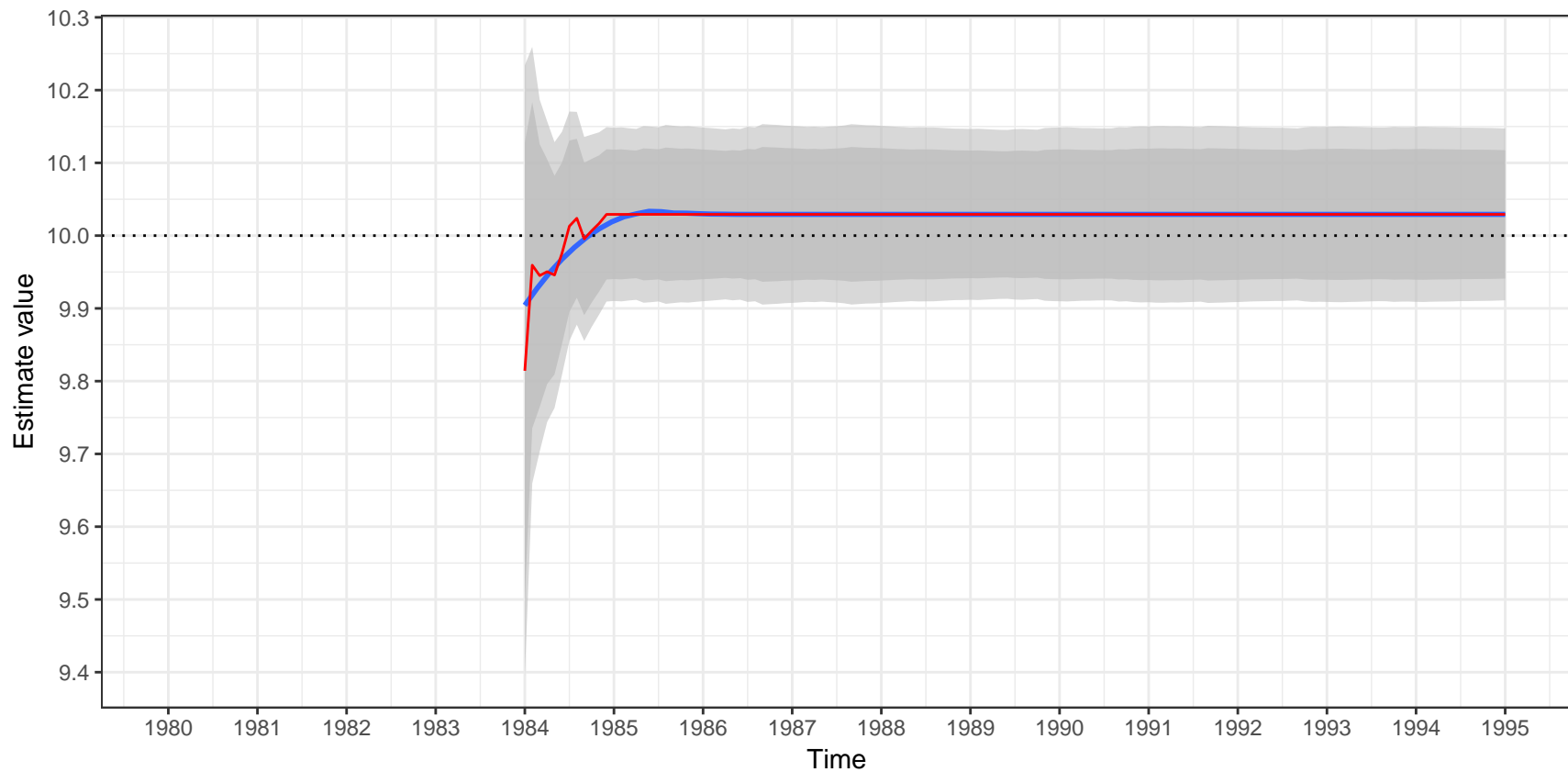


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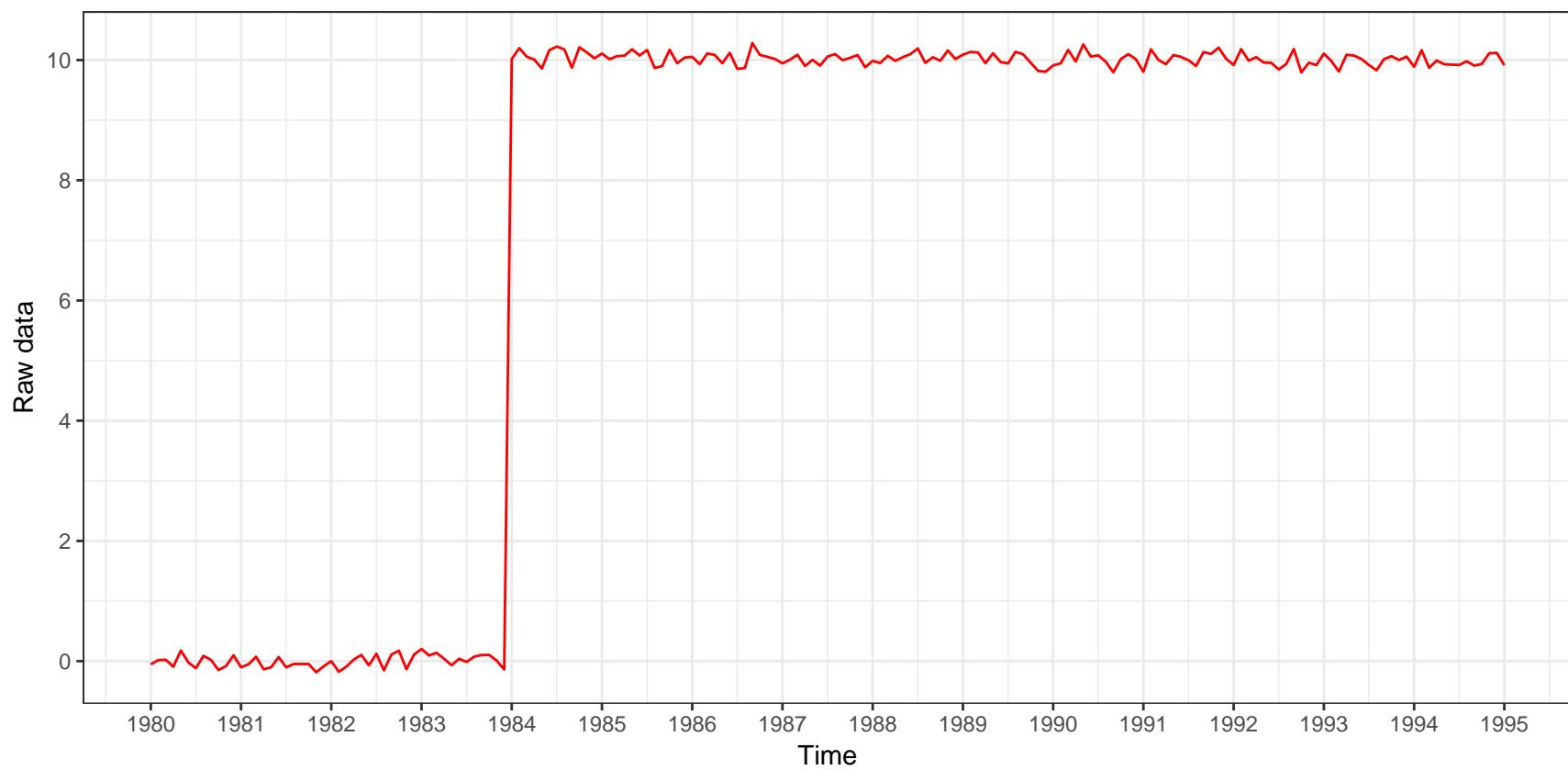


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

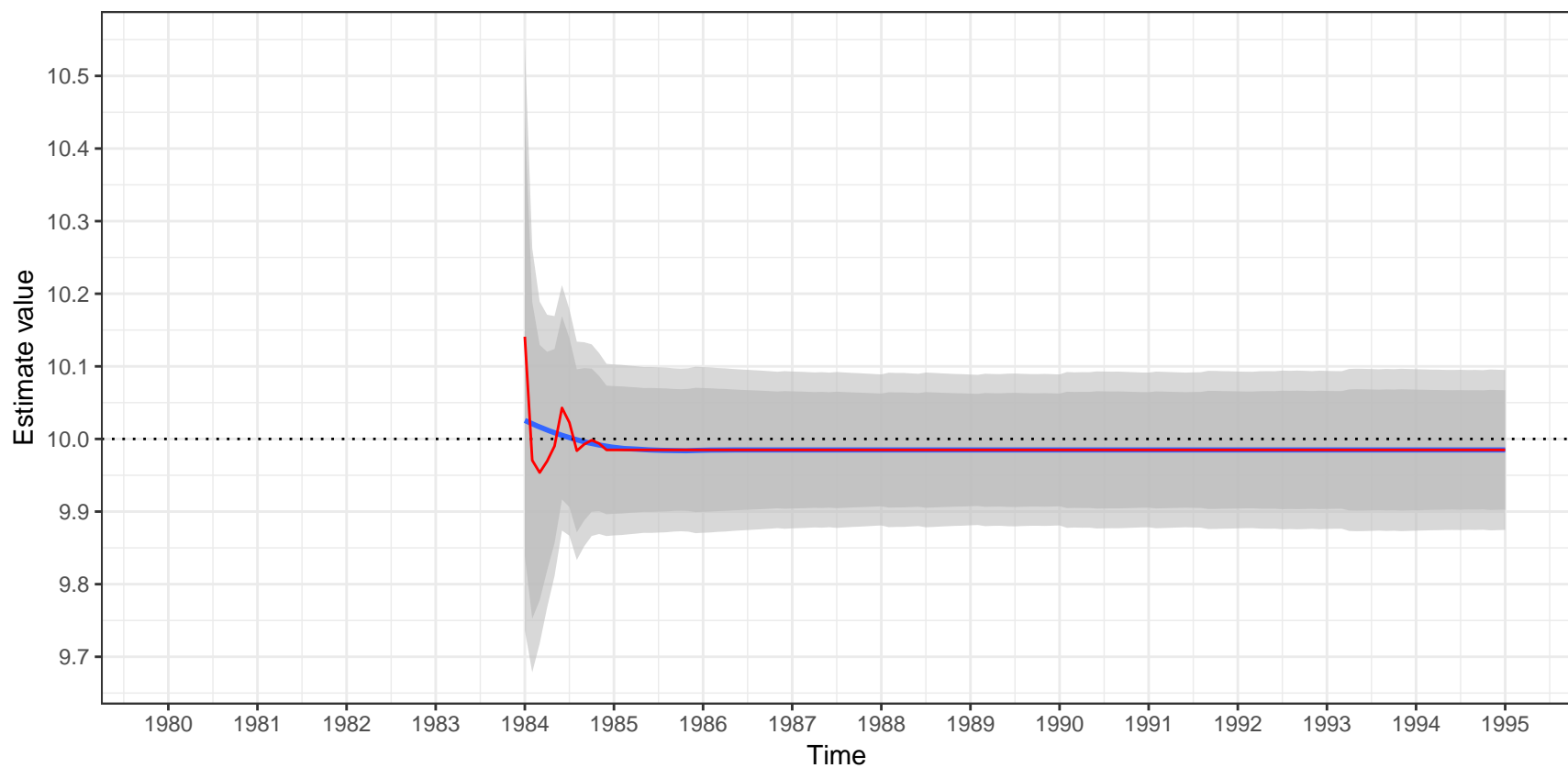


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Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

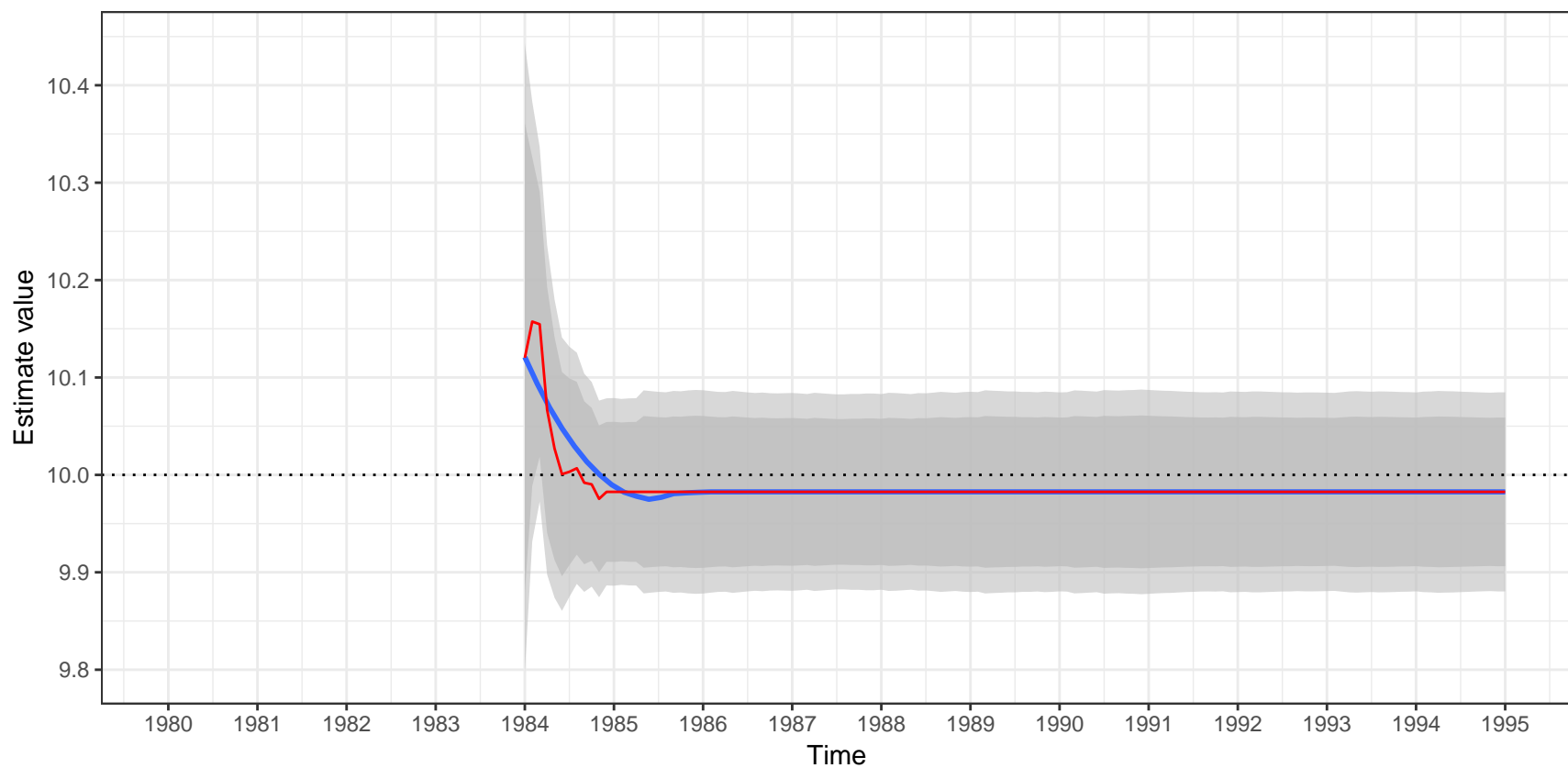


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Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

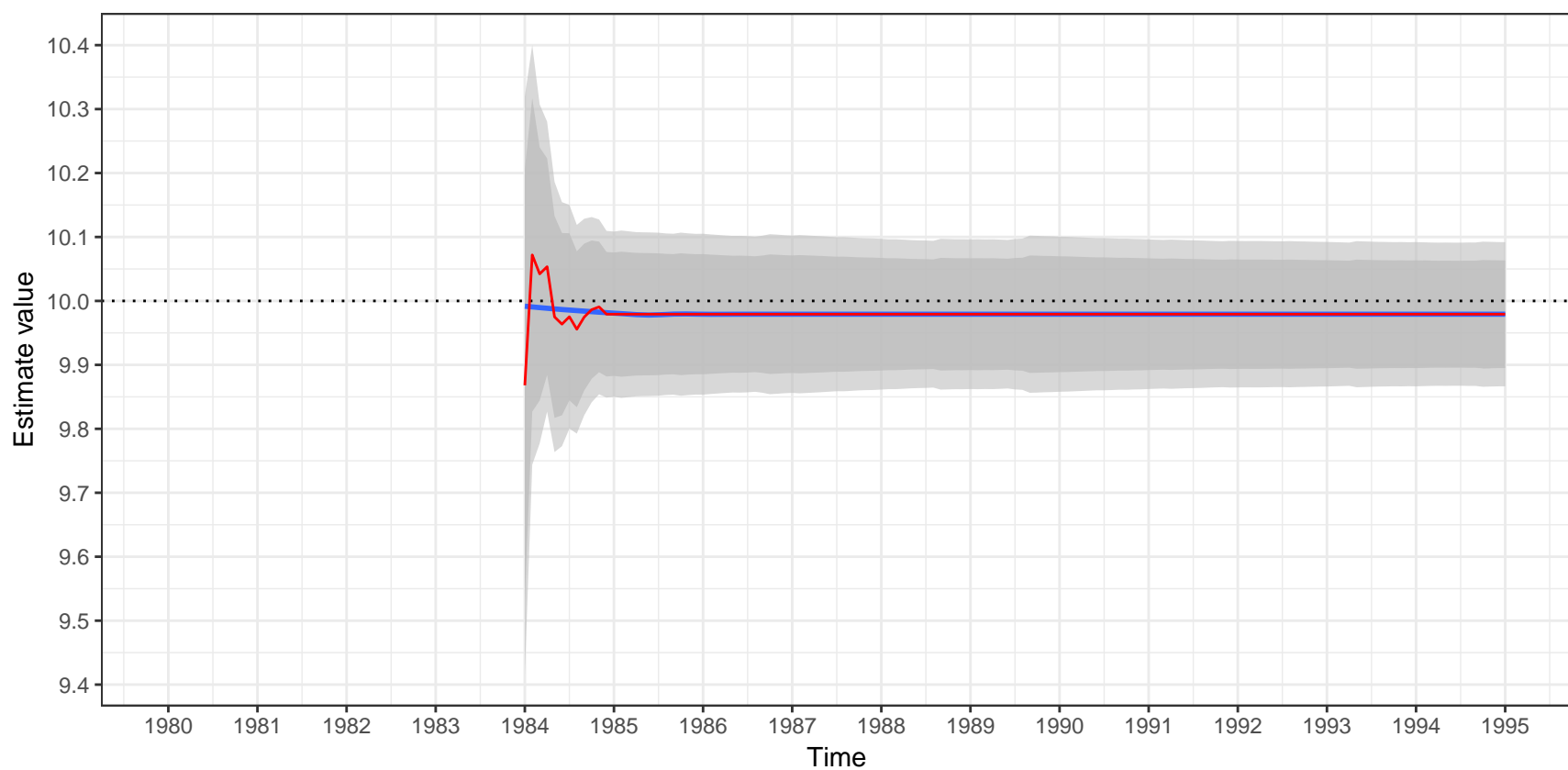


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

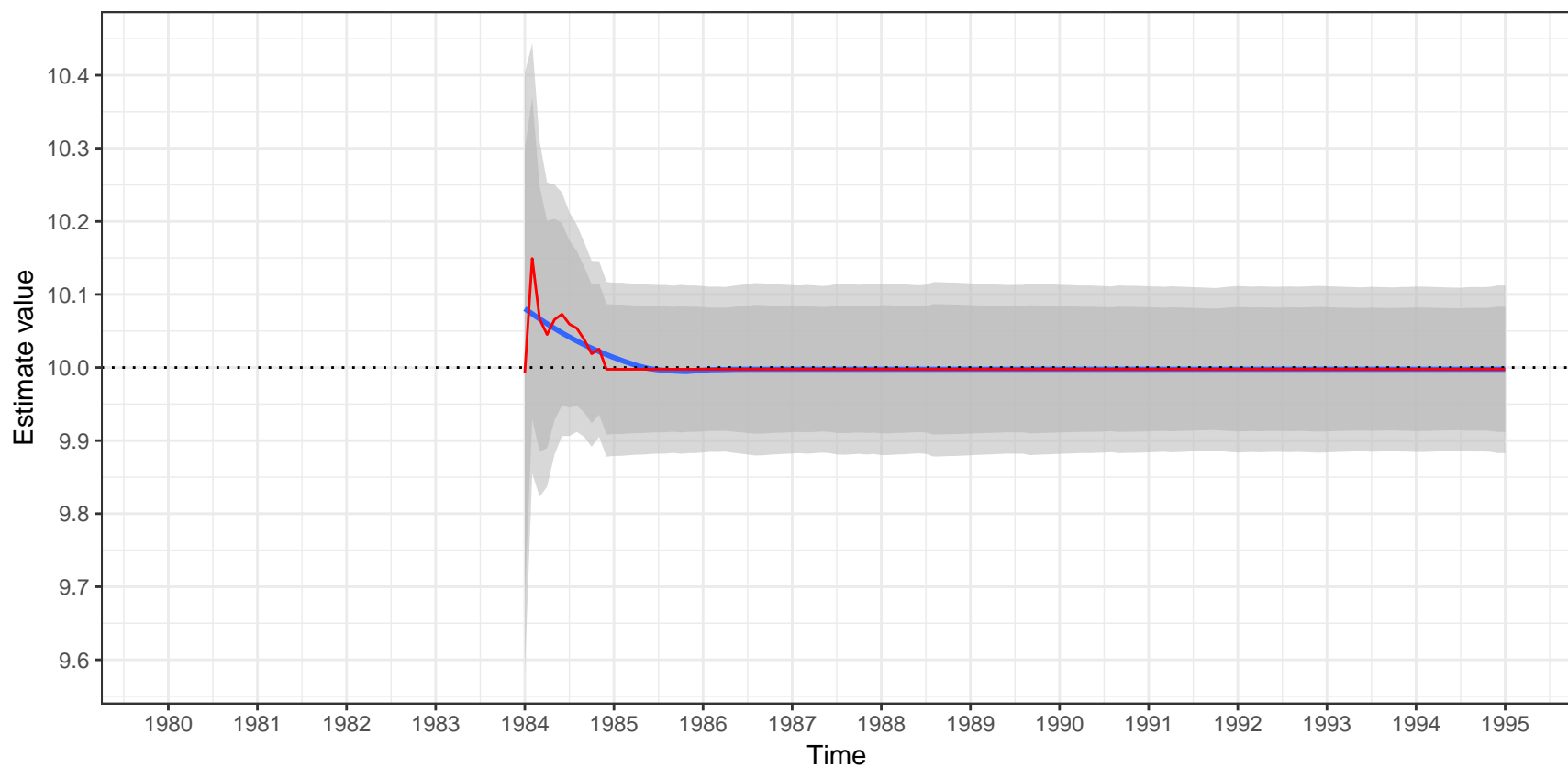


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

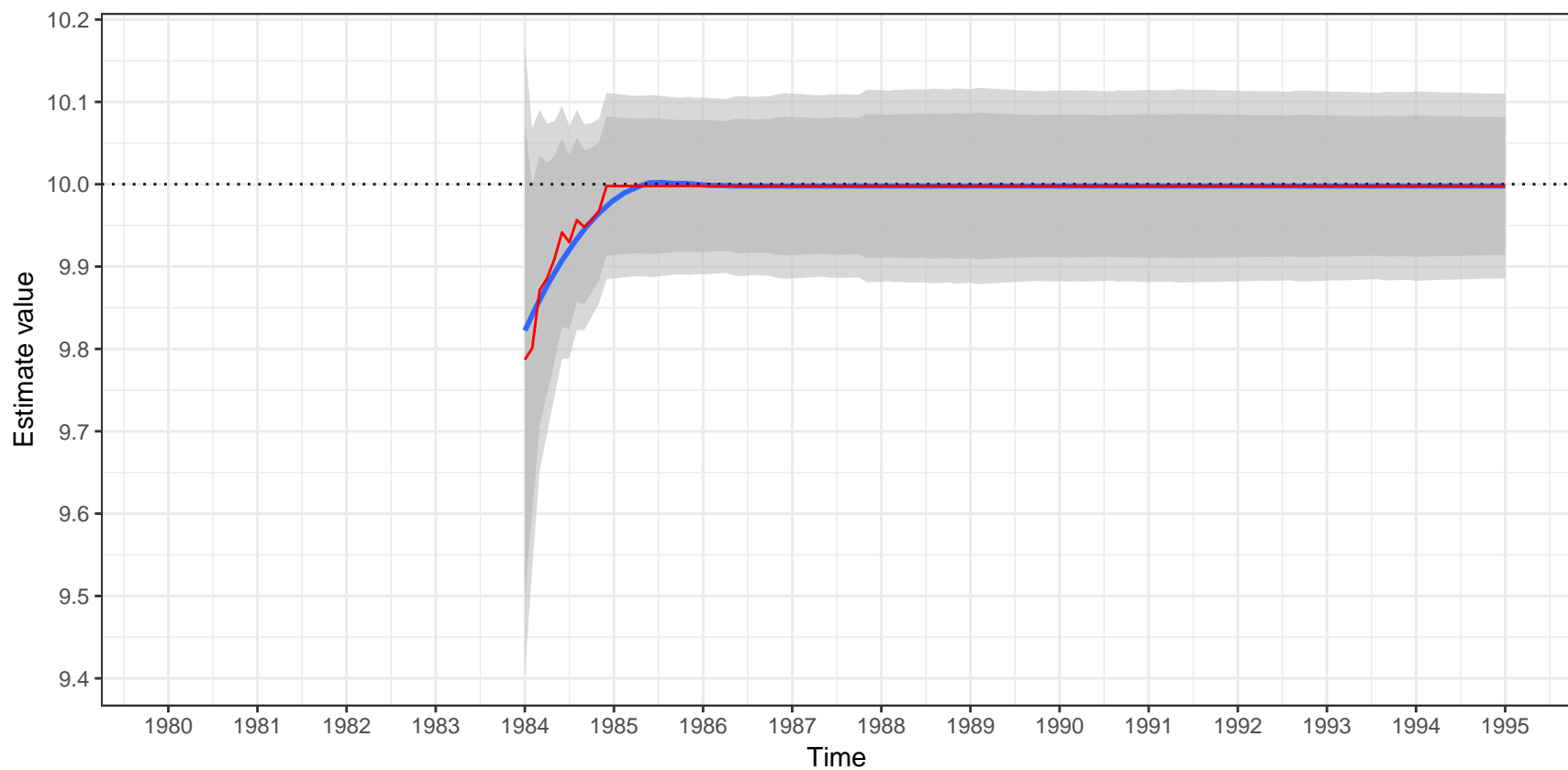


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,0,0) – additive decomposition
 $X_t = a_t$

Estimation of the outlier

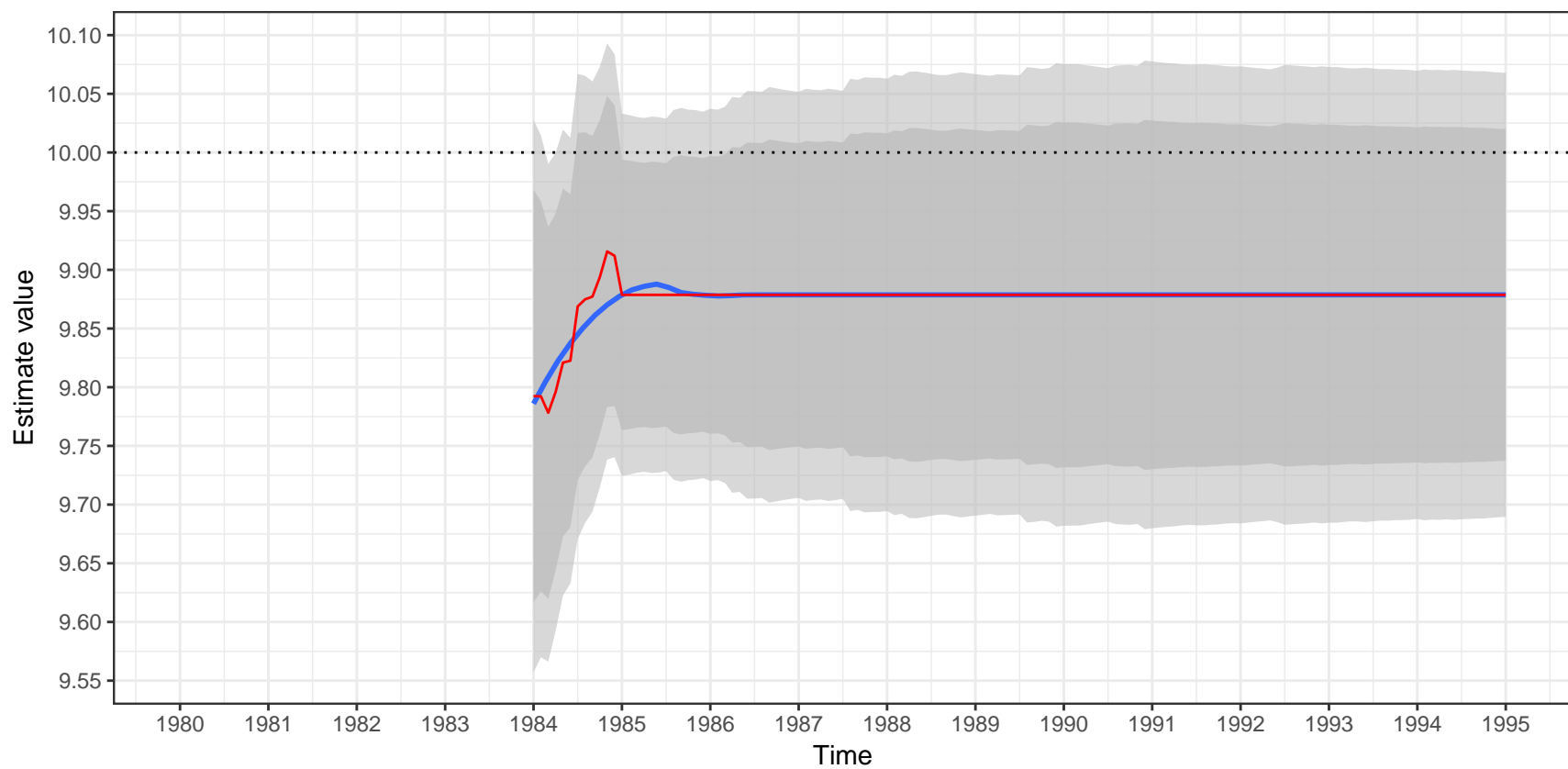


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

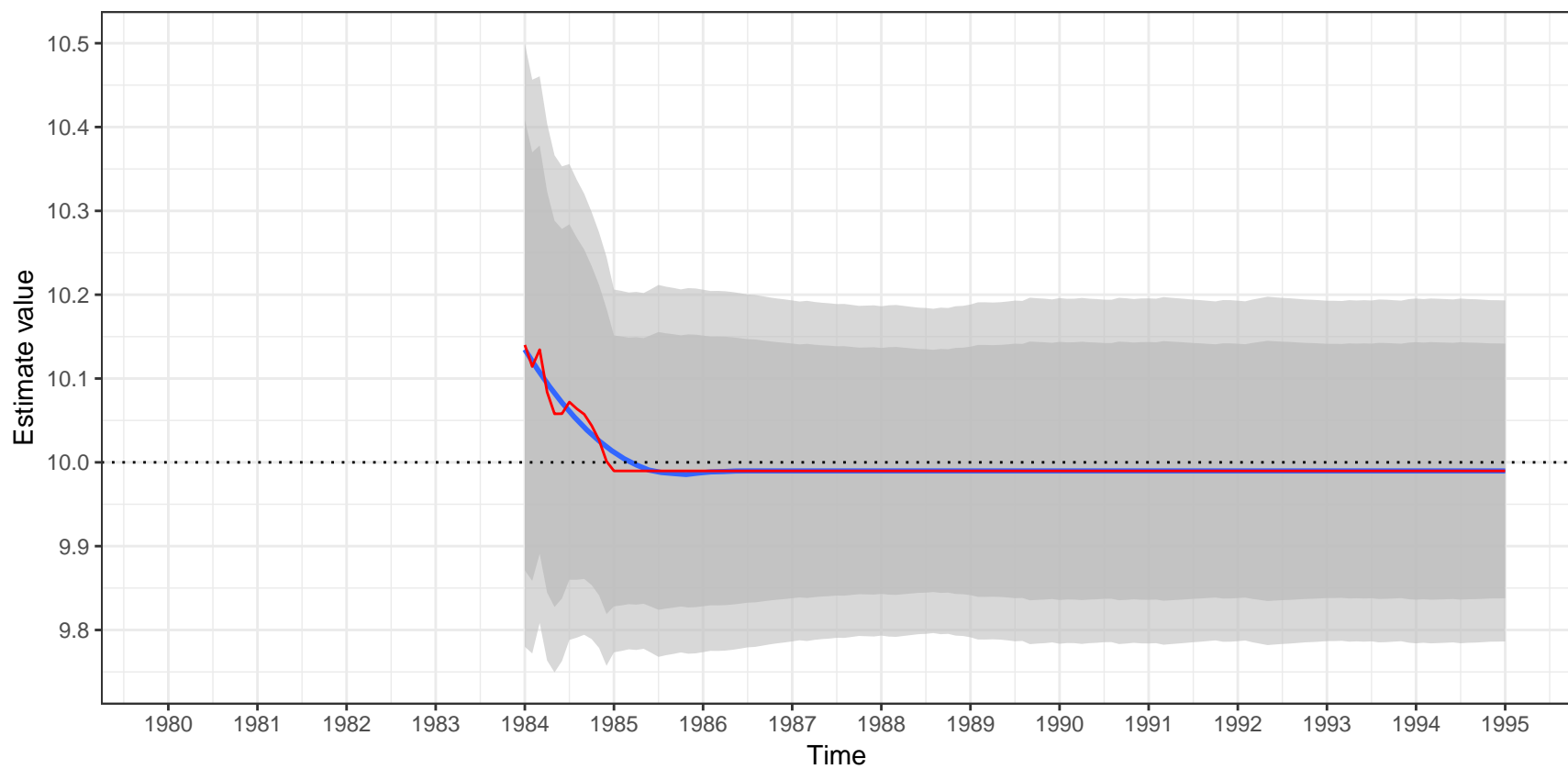


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

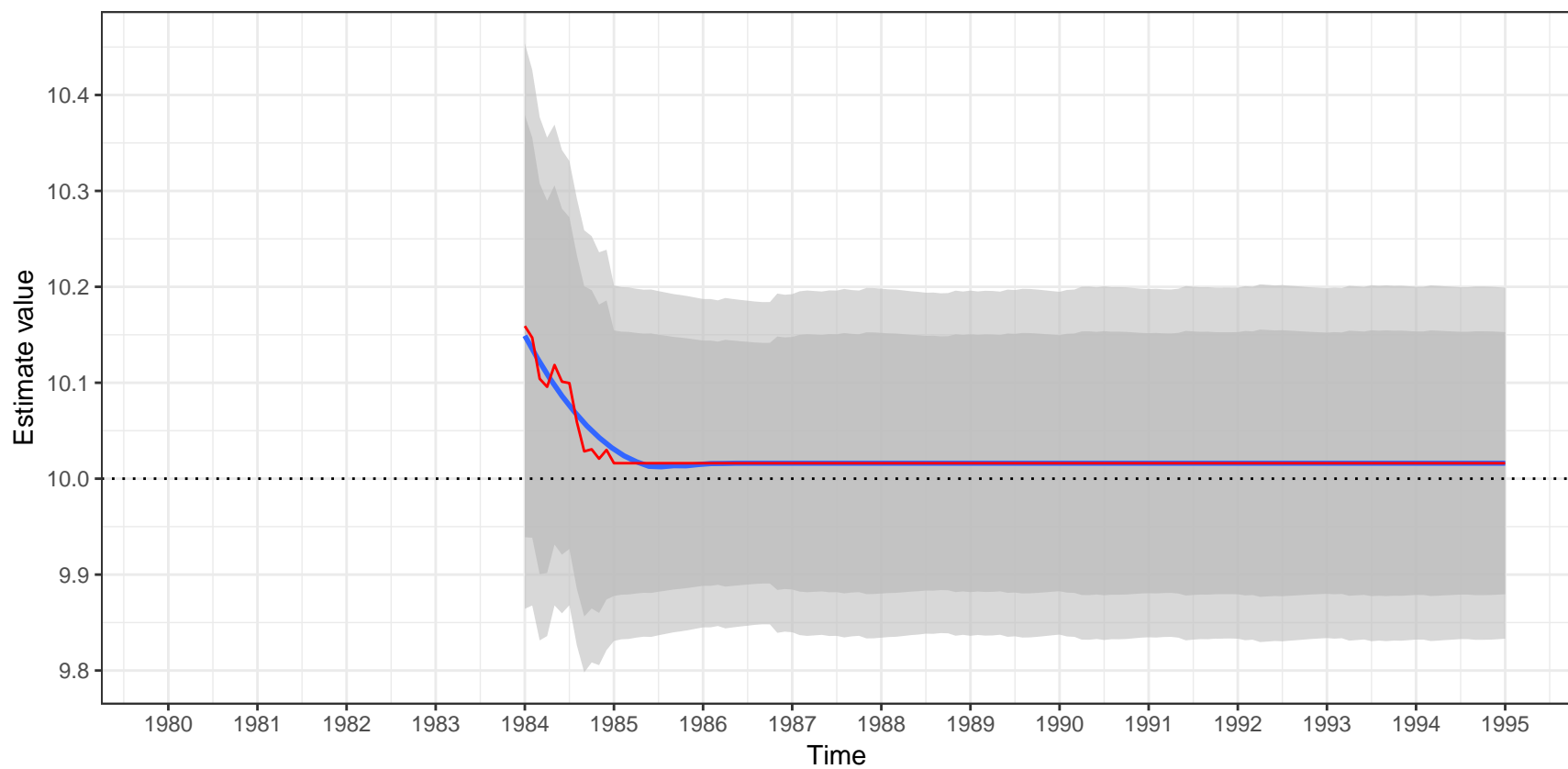


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

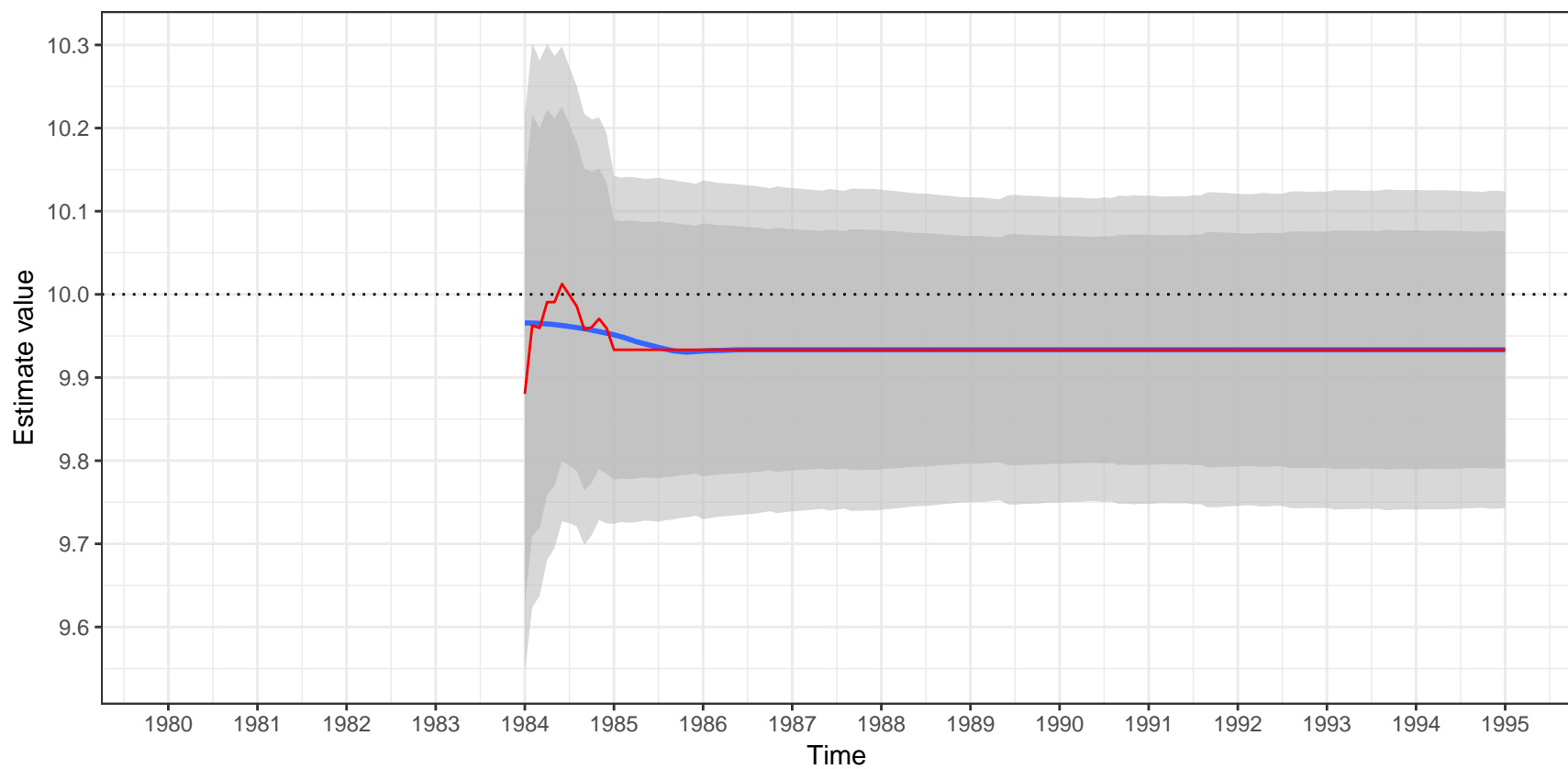


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Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

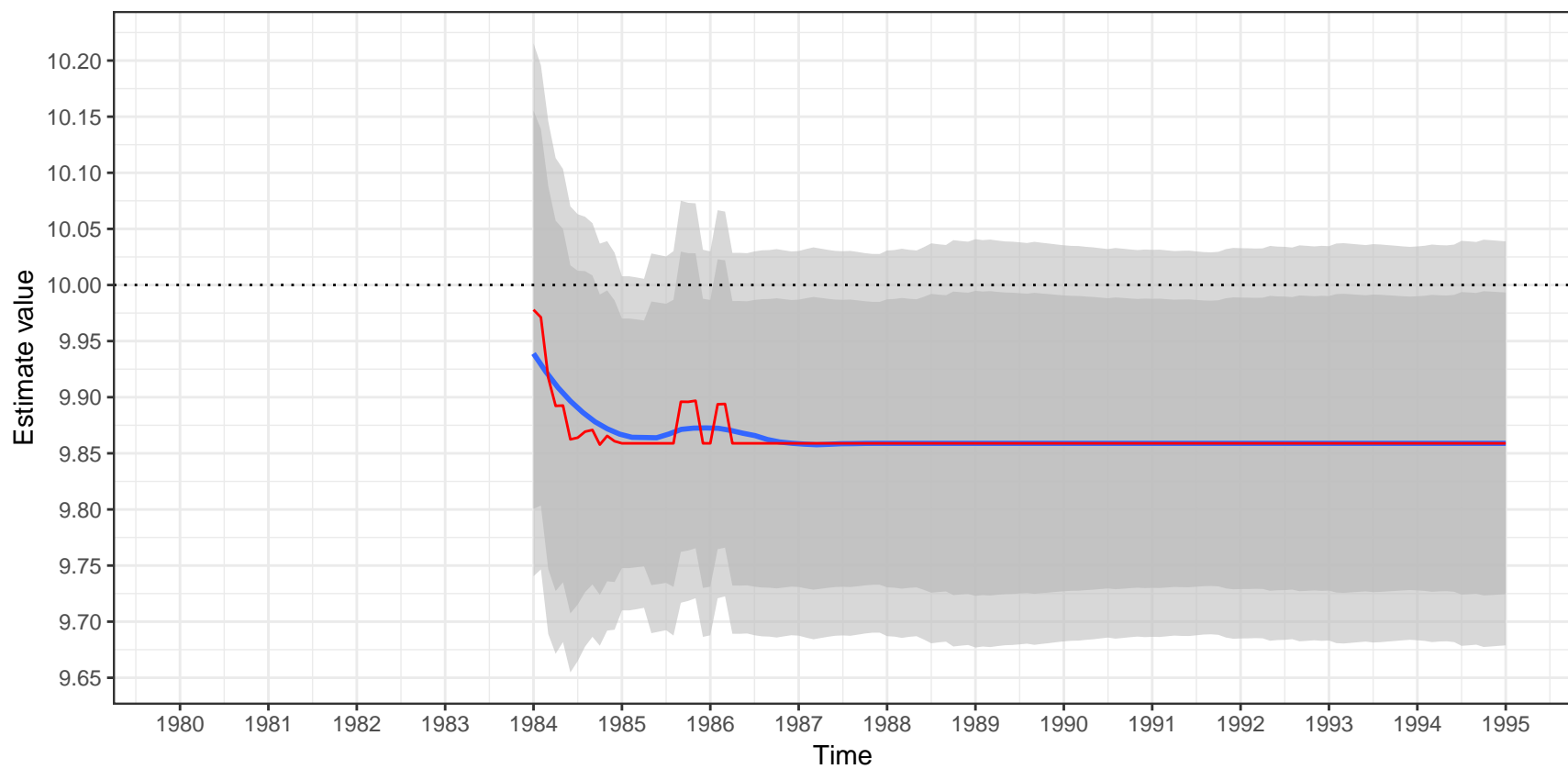


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

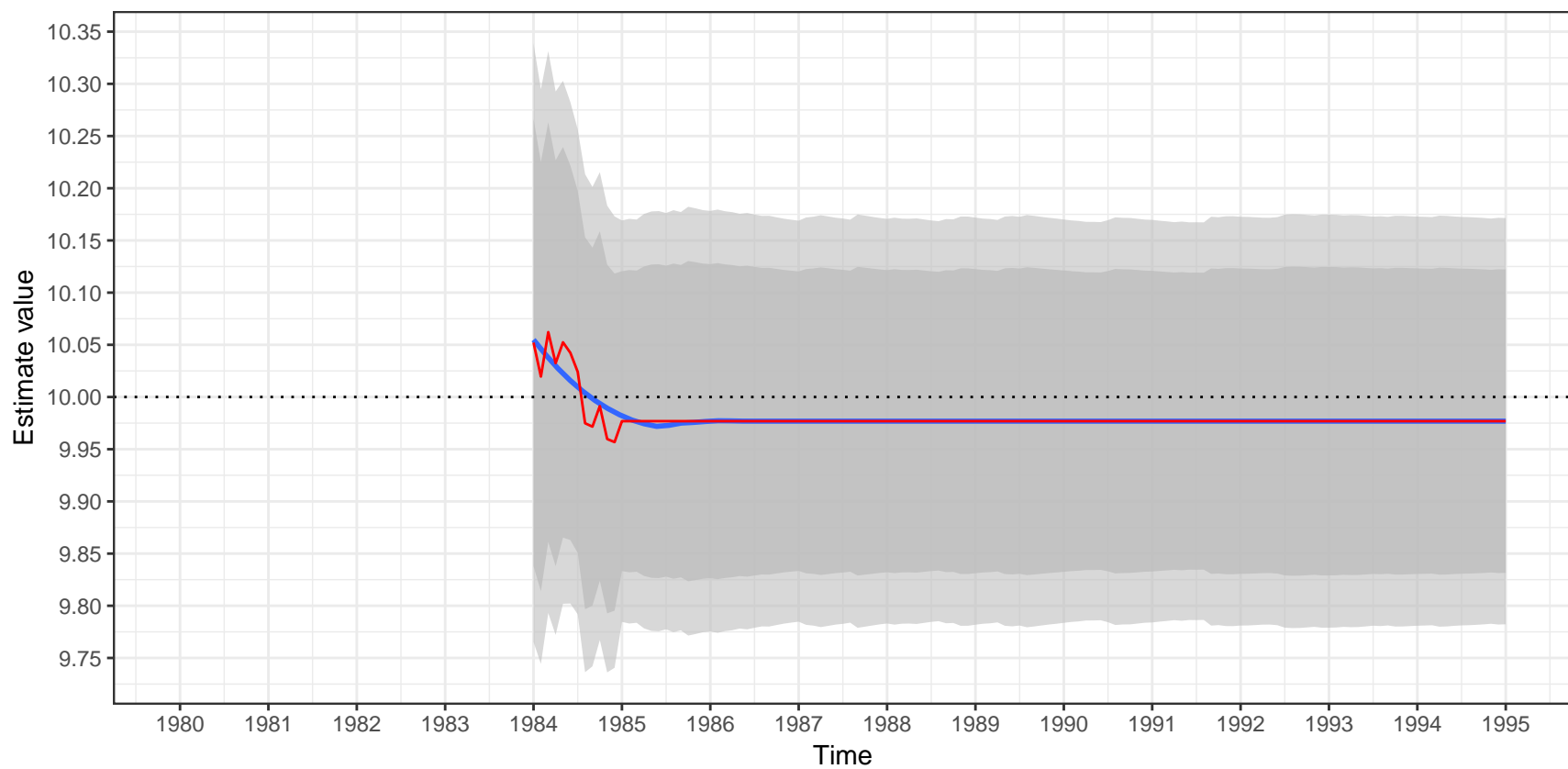


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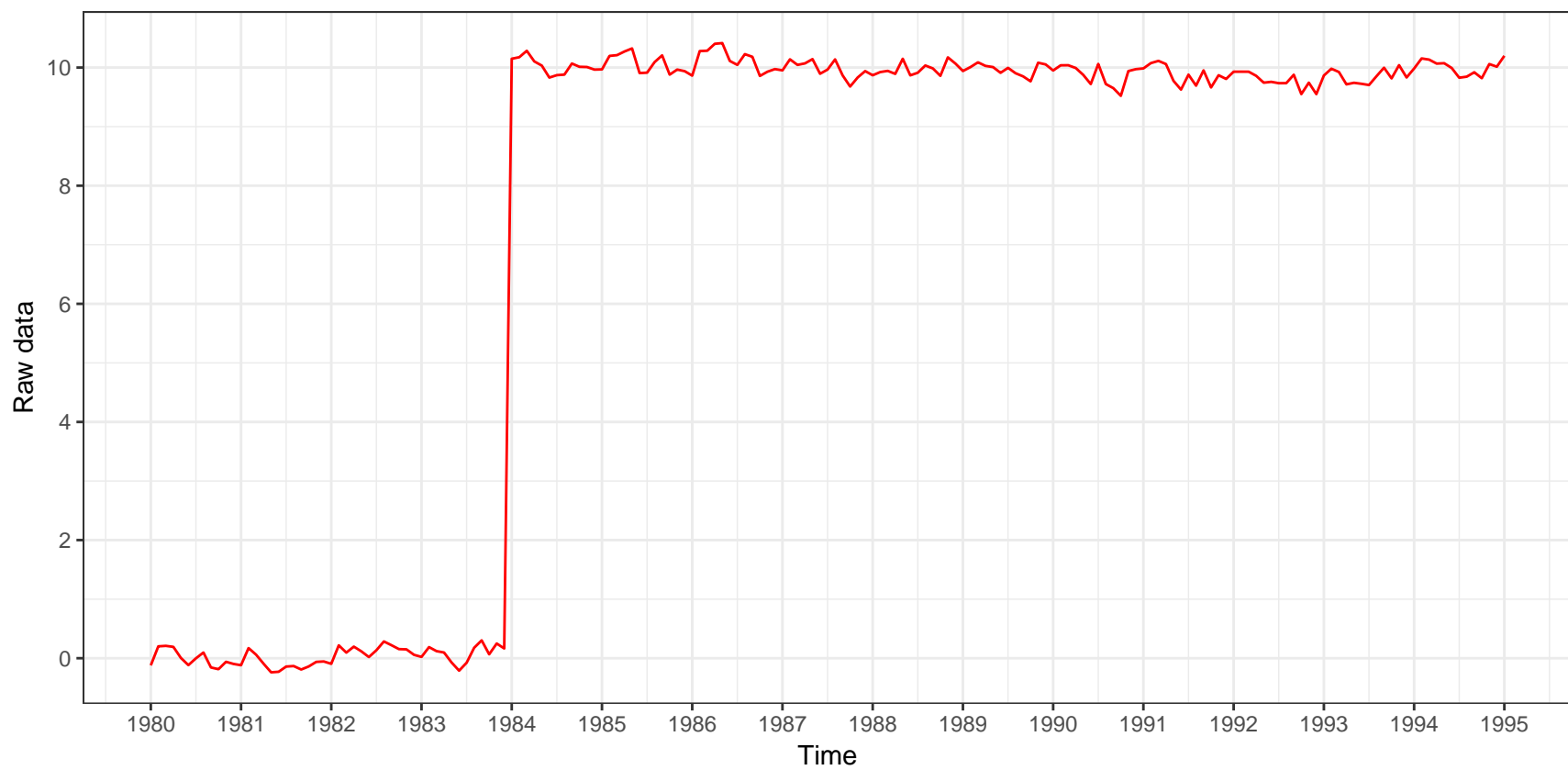


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

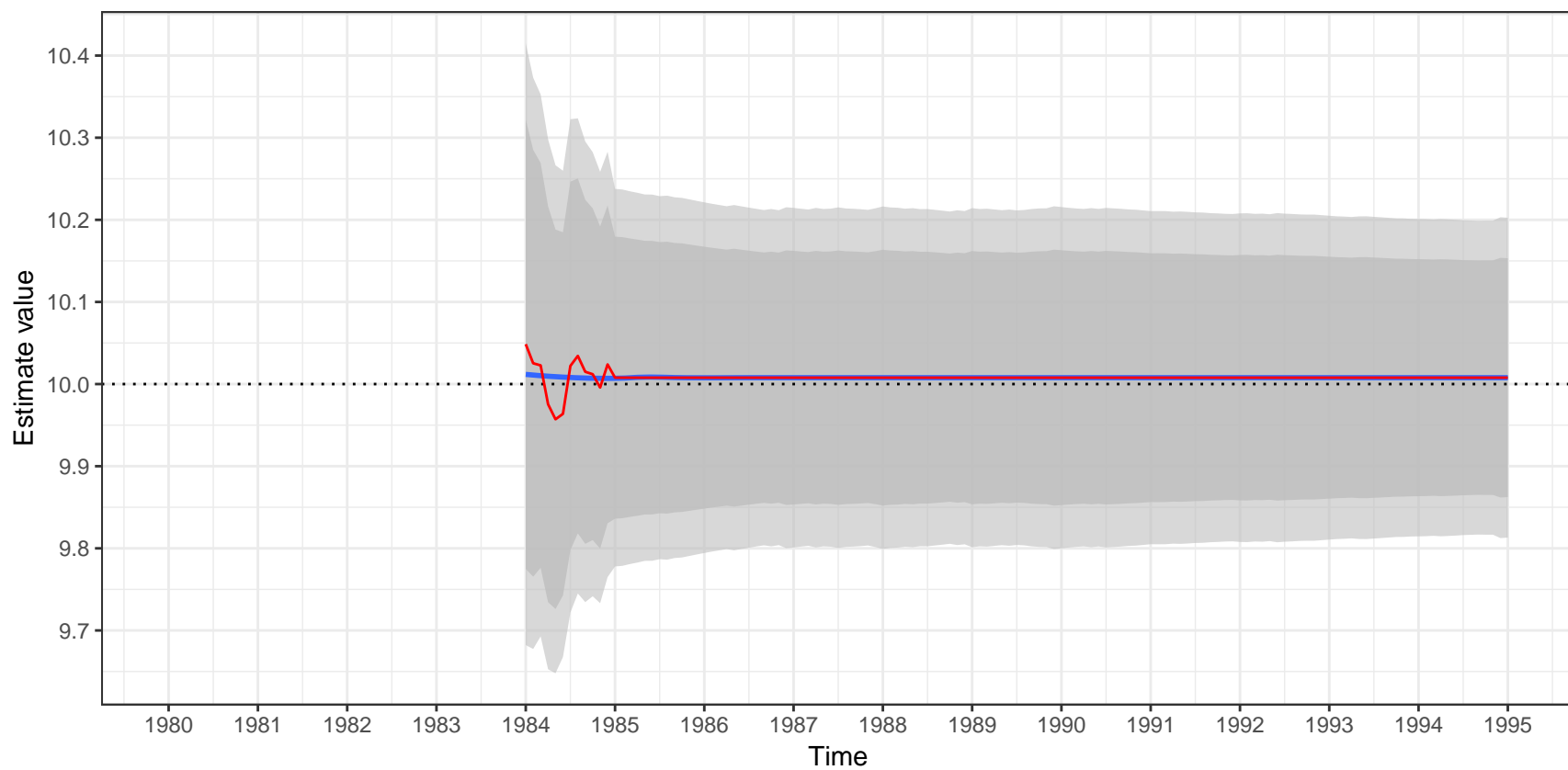


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

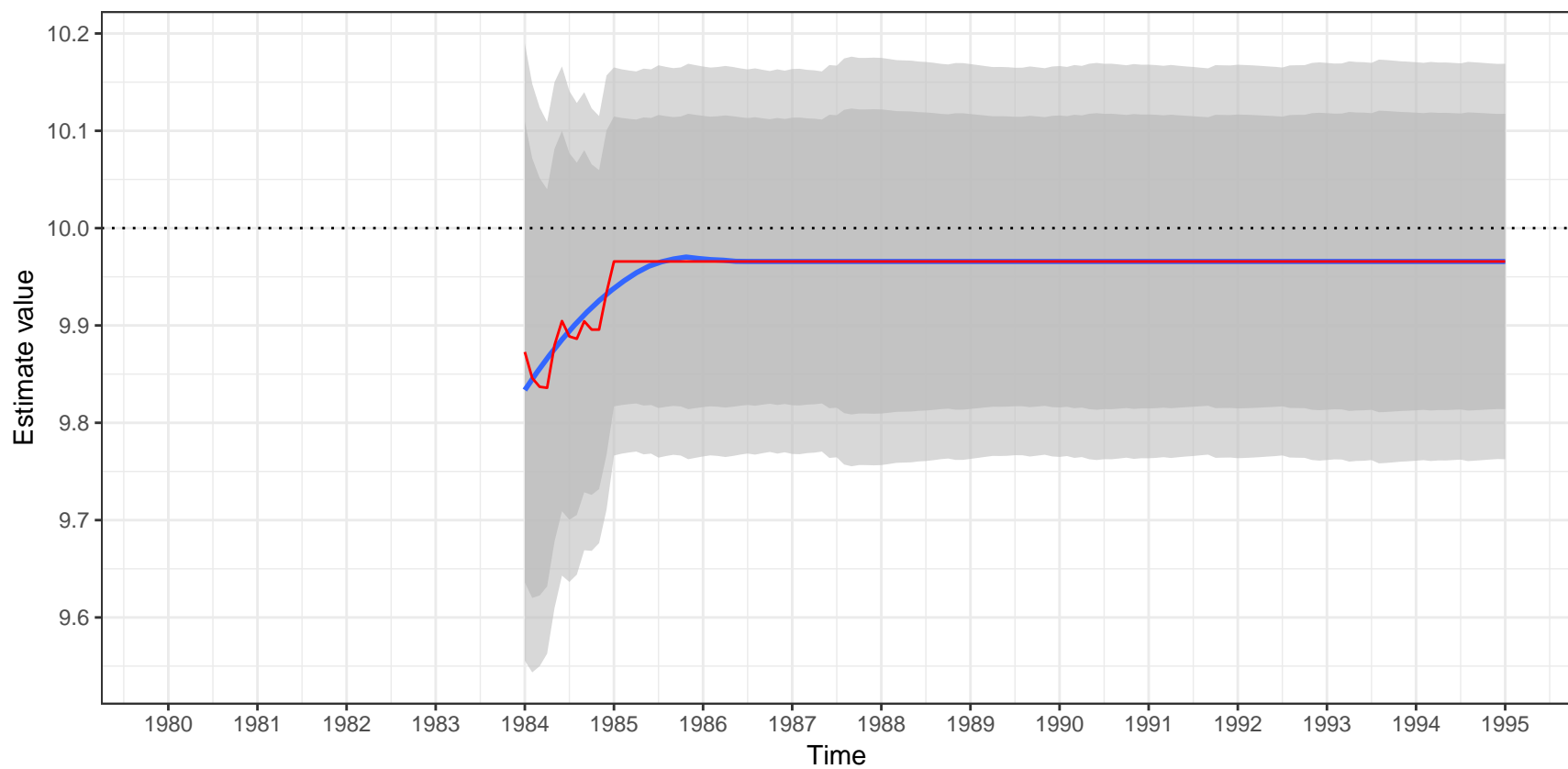


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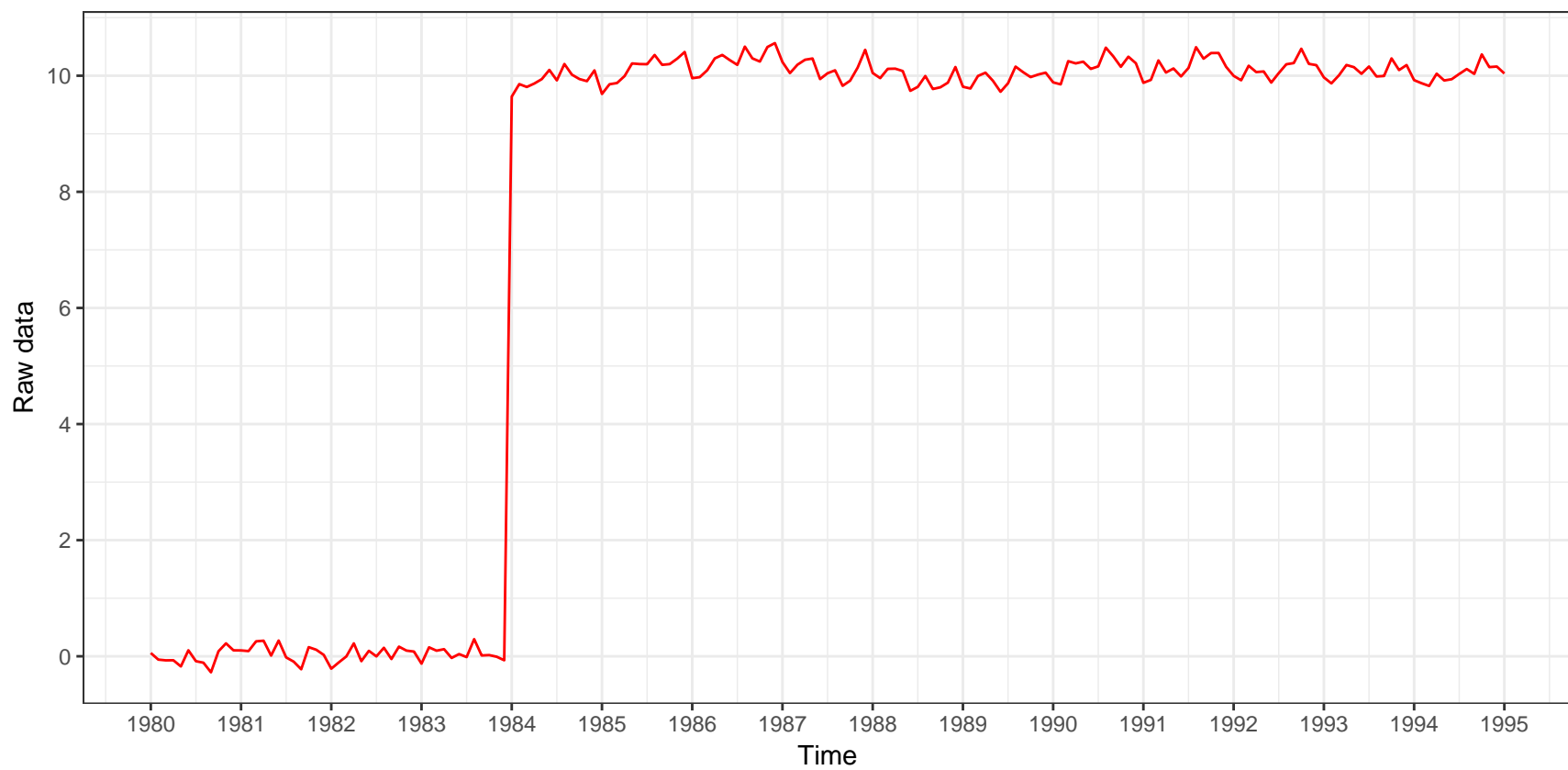


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

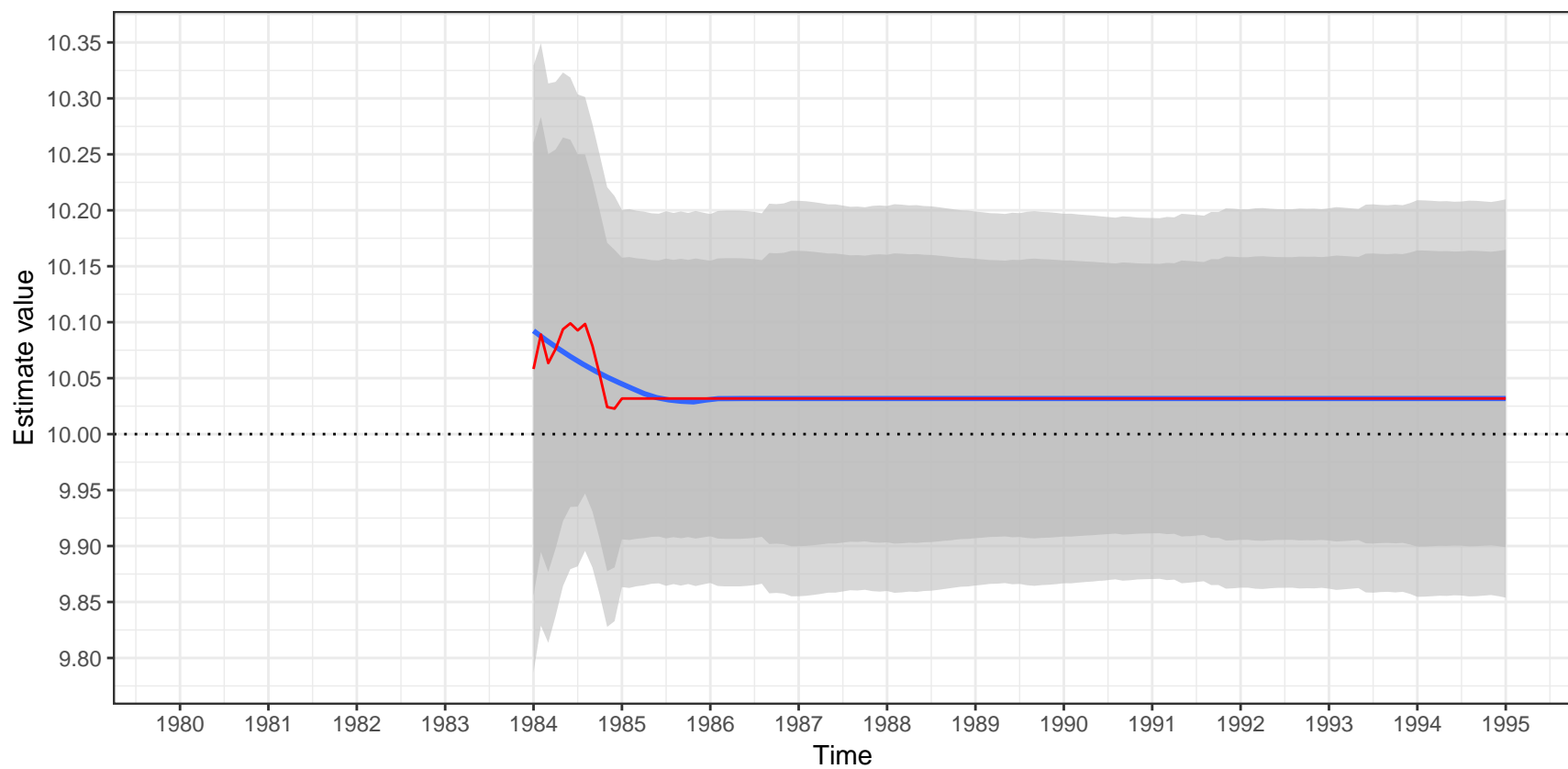


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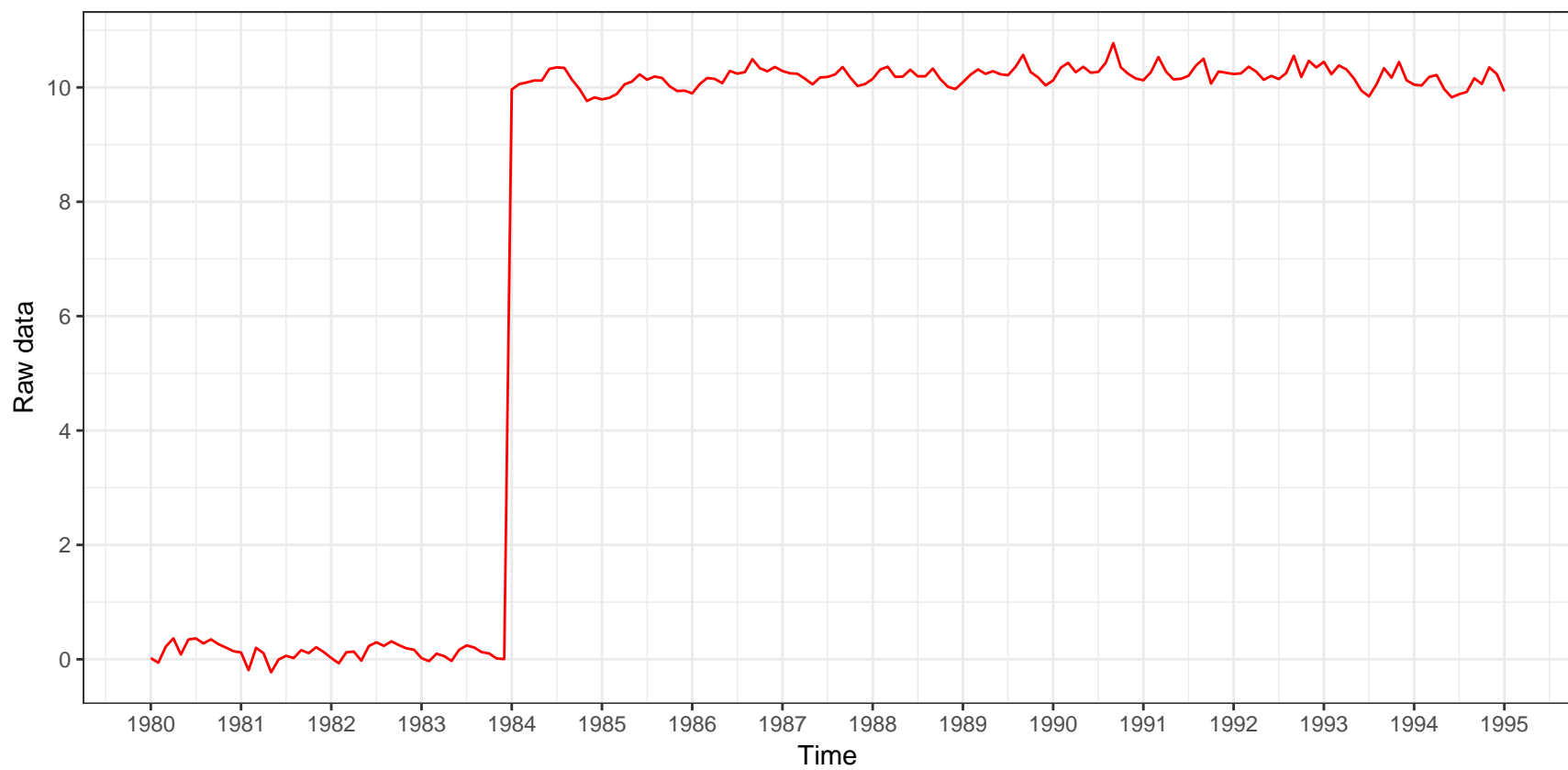


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

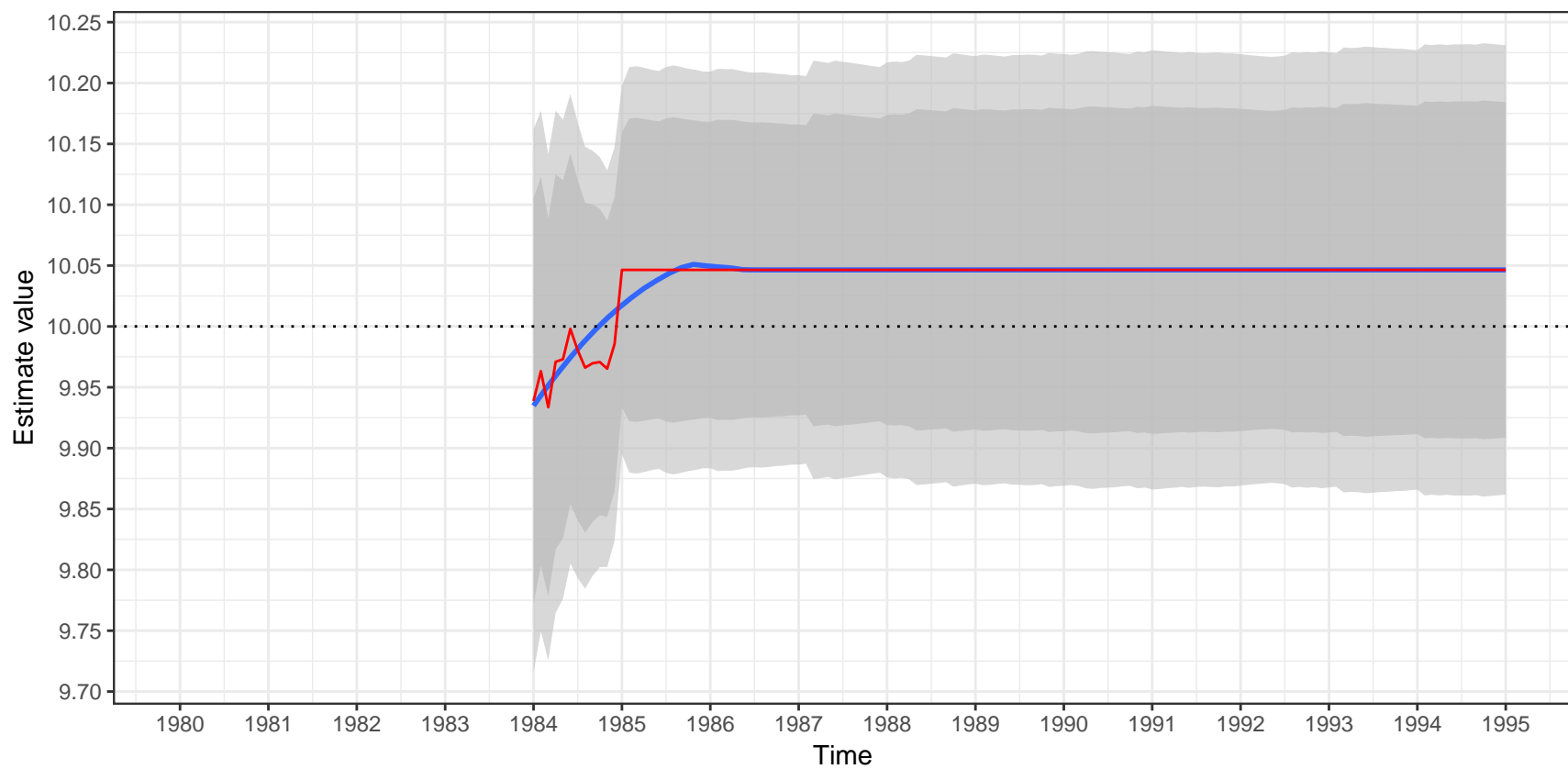


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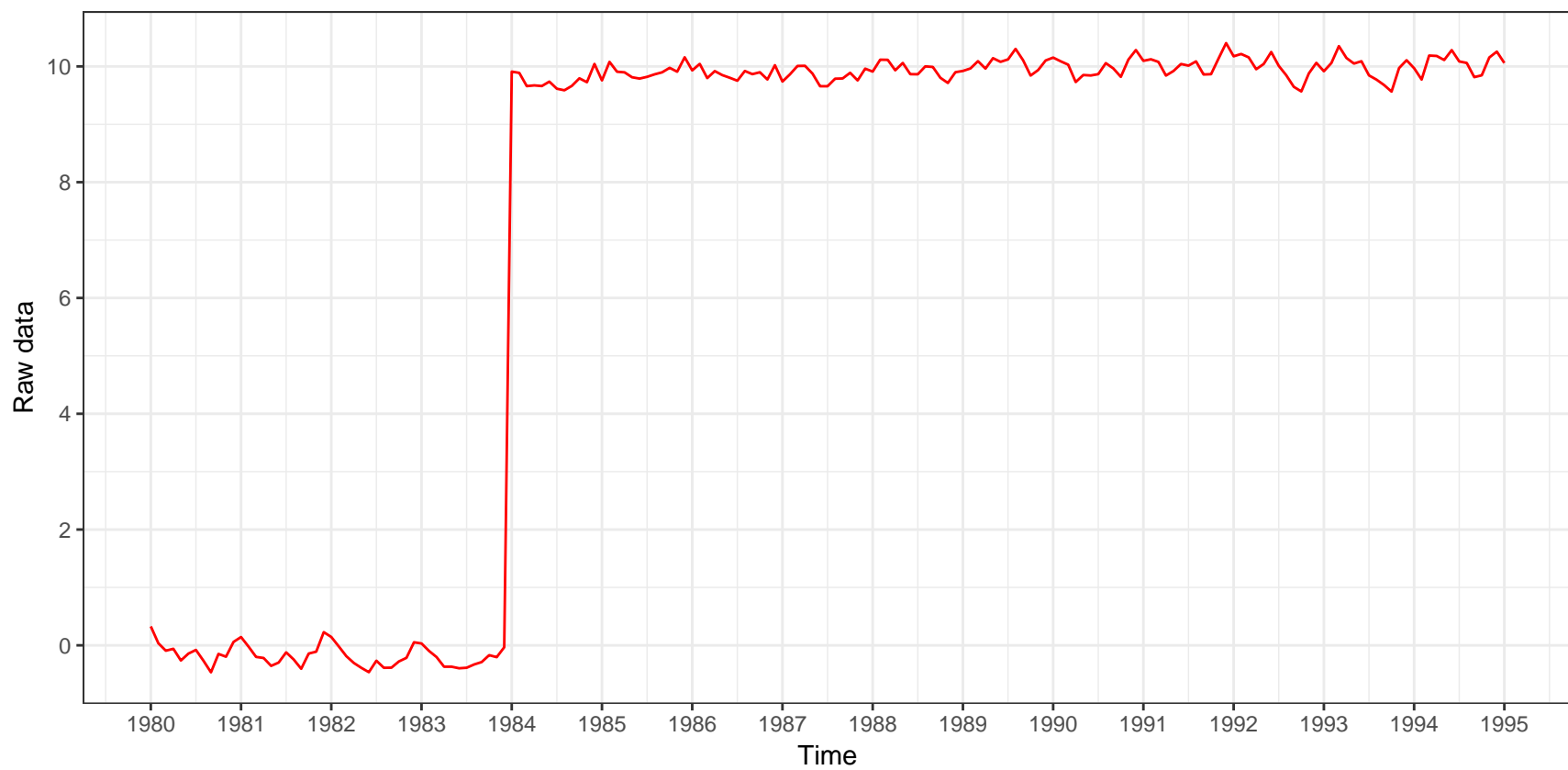


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(0,0,0) – additive decomposition
 $(1-0.7B)X_t=at$

Estimation of the outlier

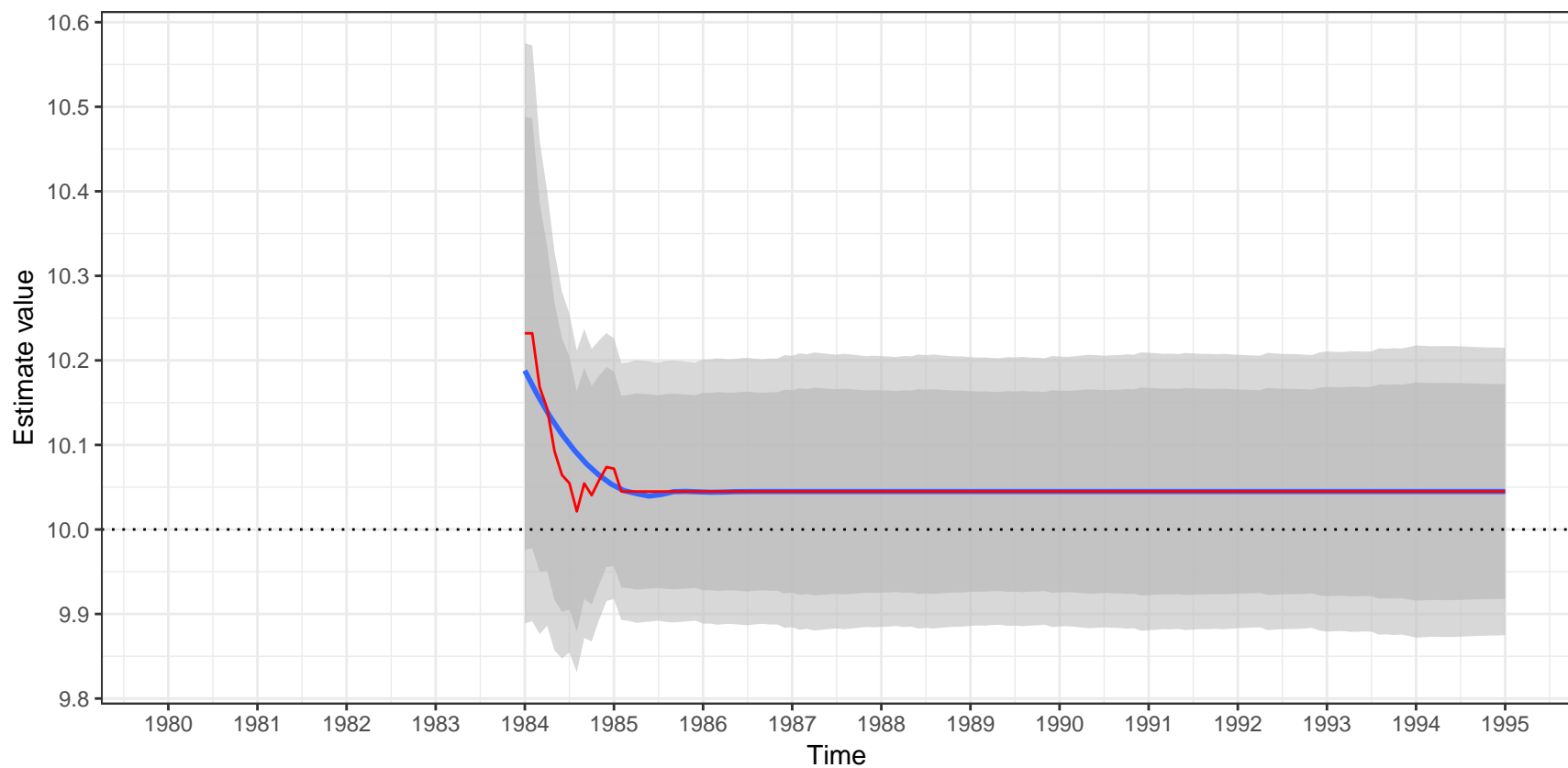


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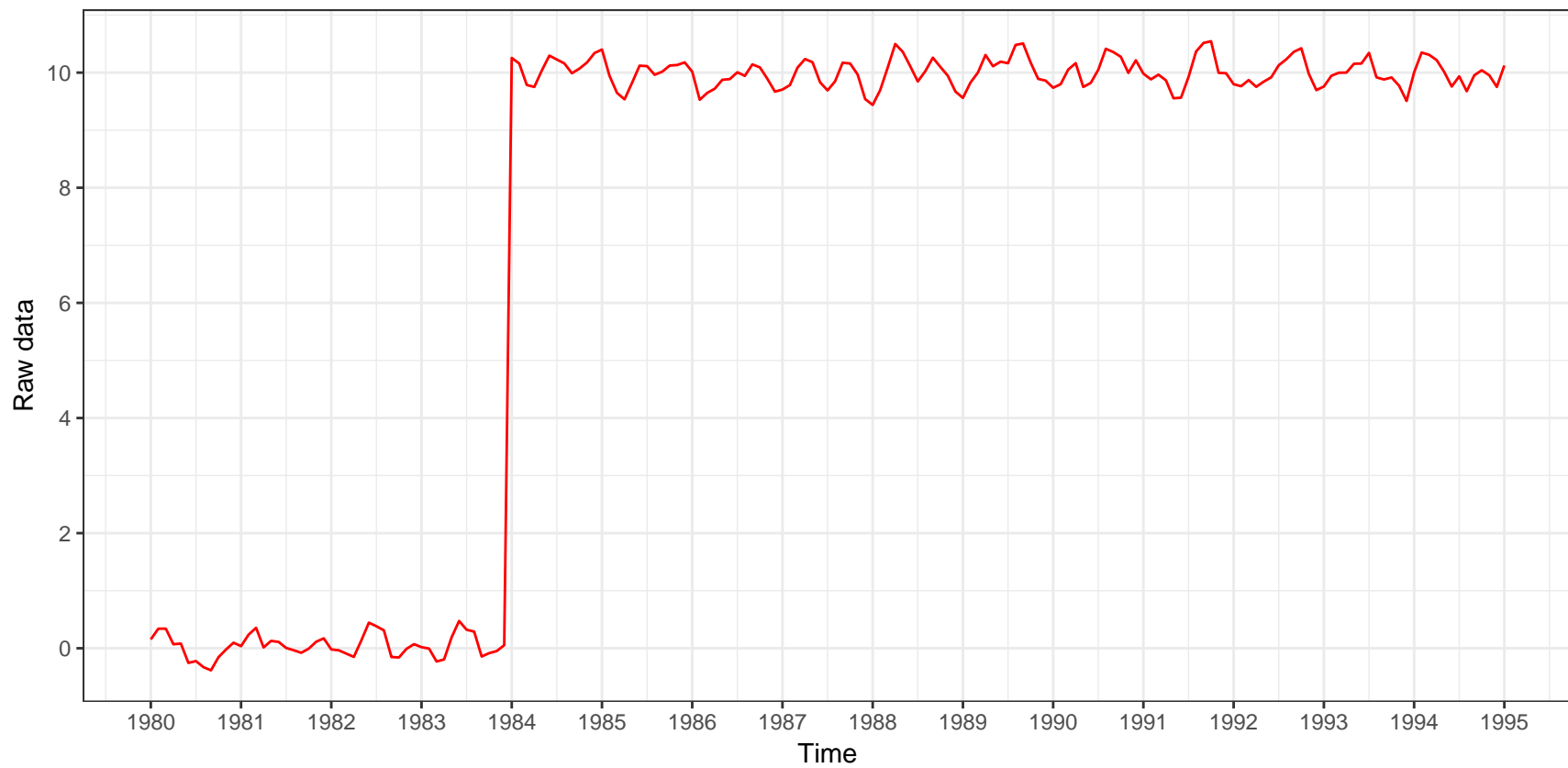


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

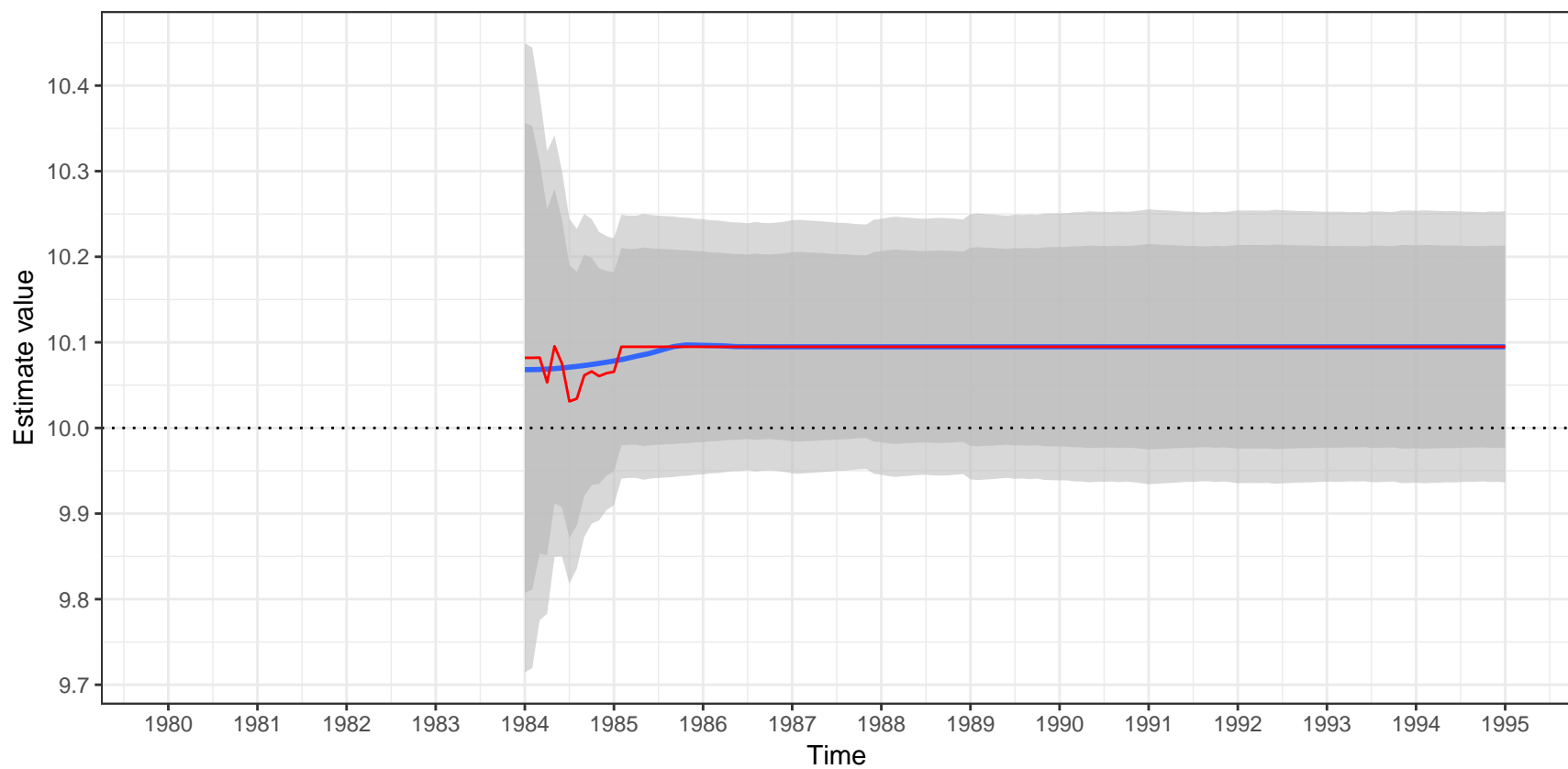


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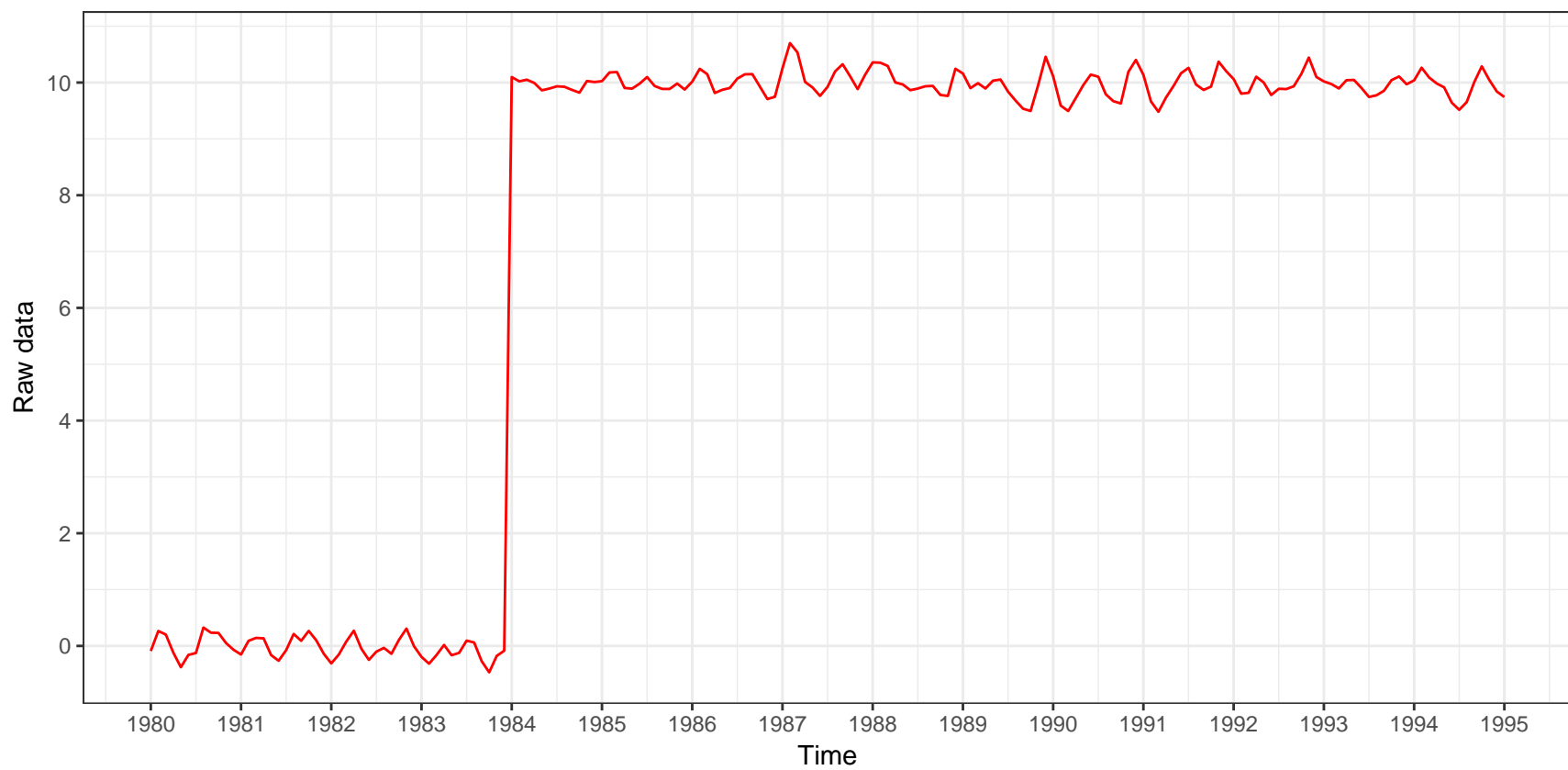


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=a_t$

Estimation of the outlier

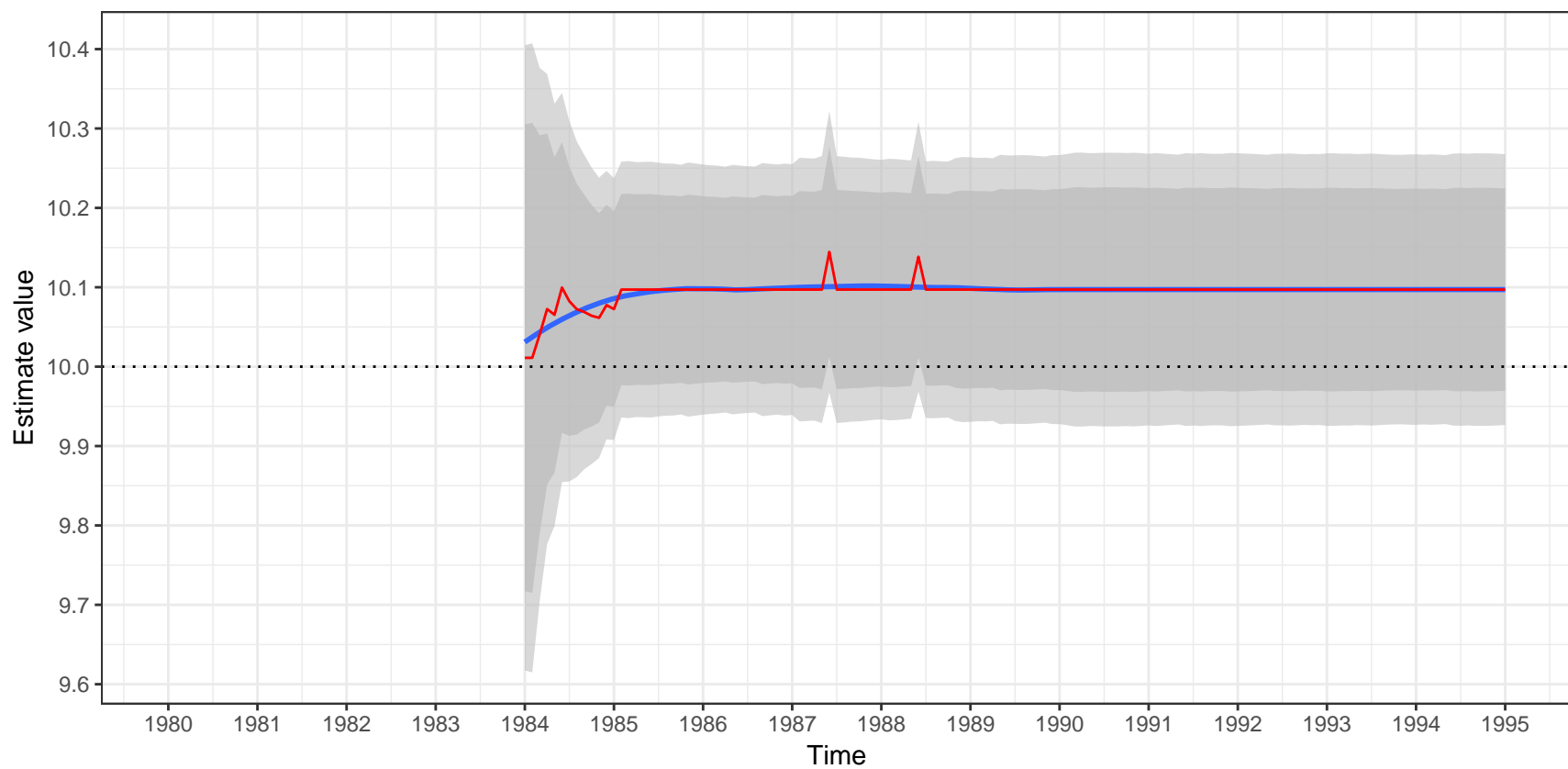


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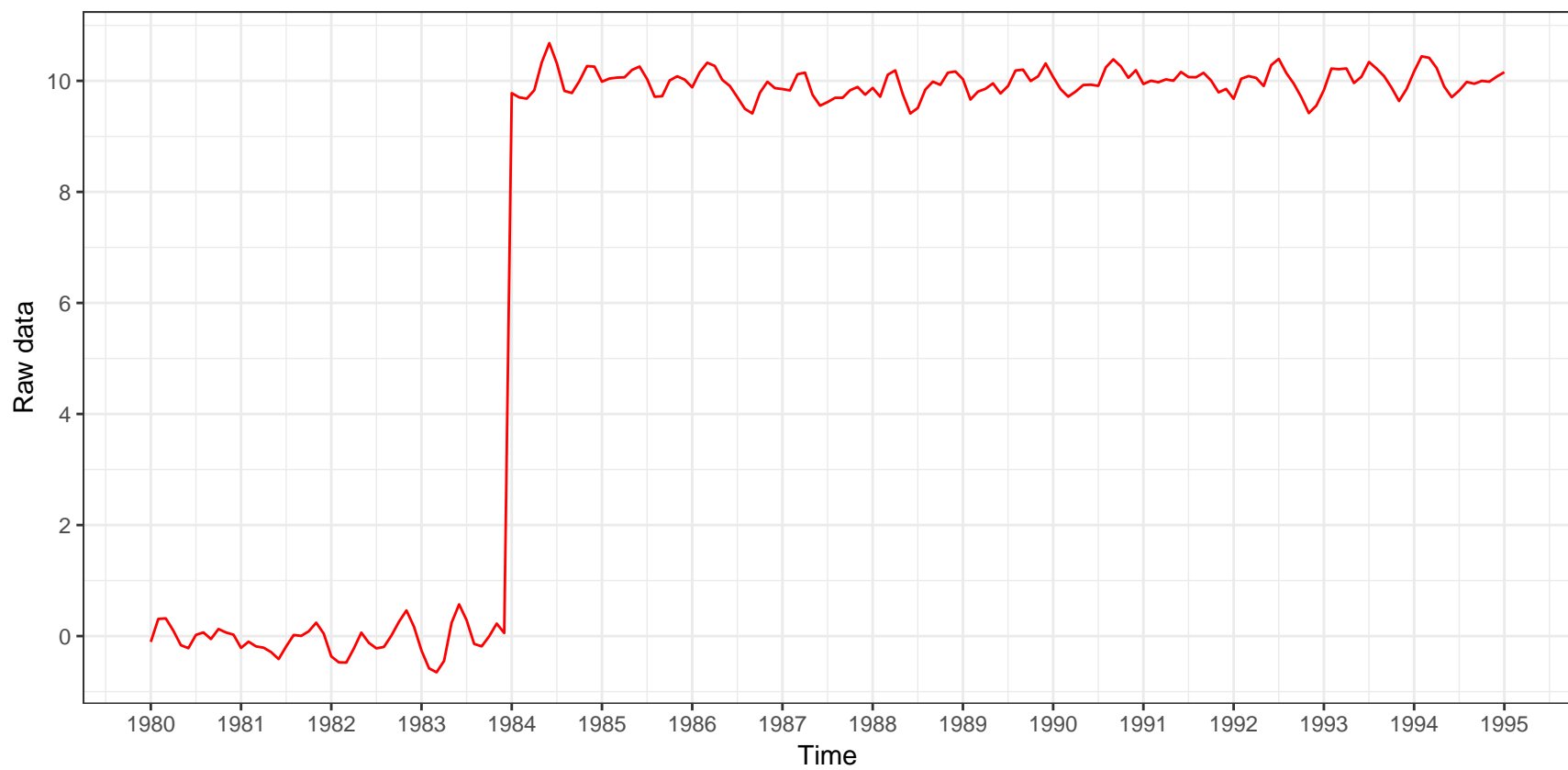


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

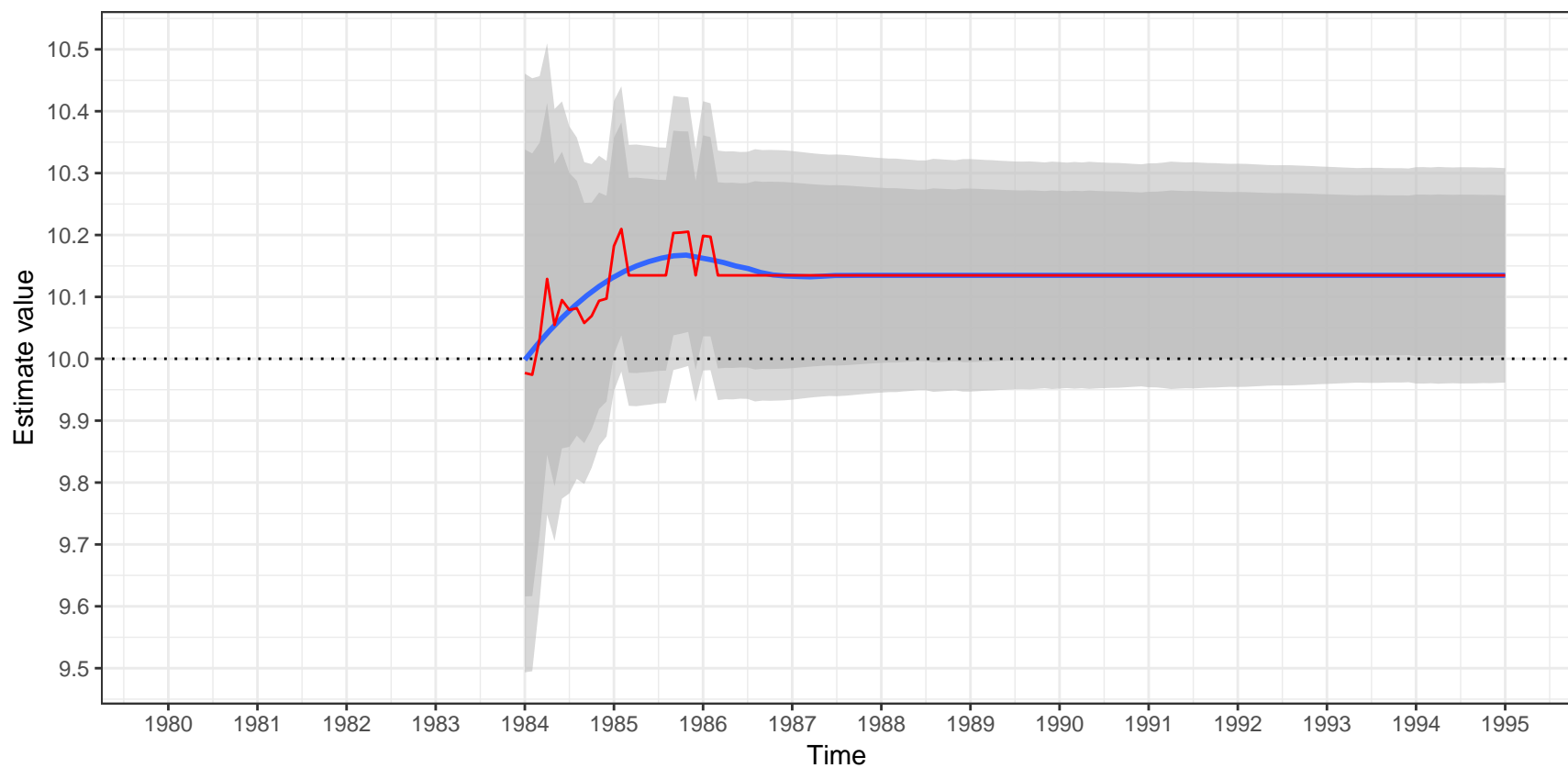


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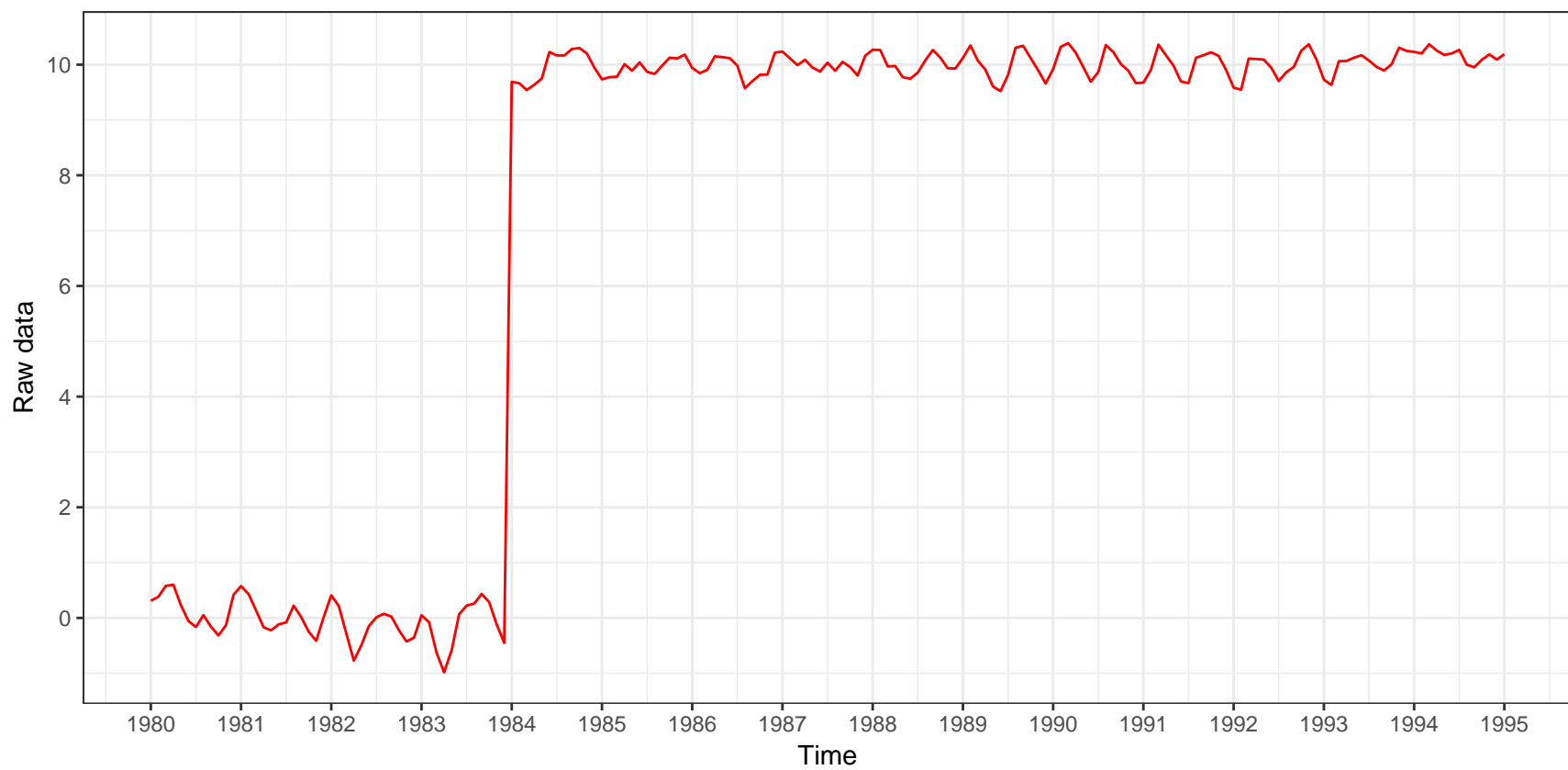


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

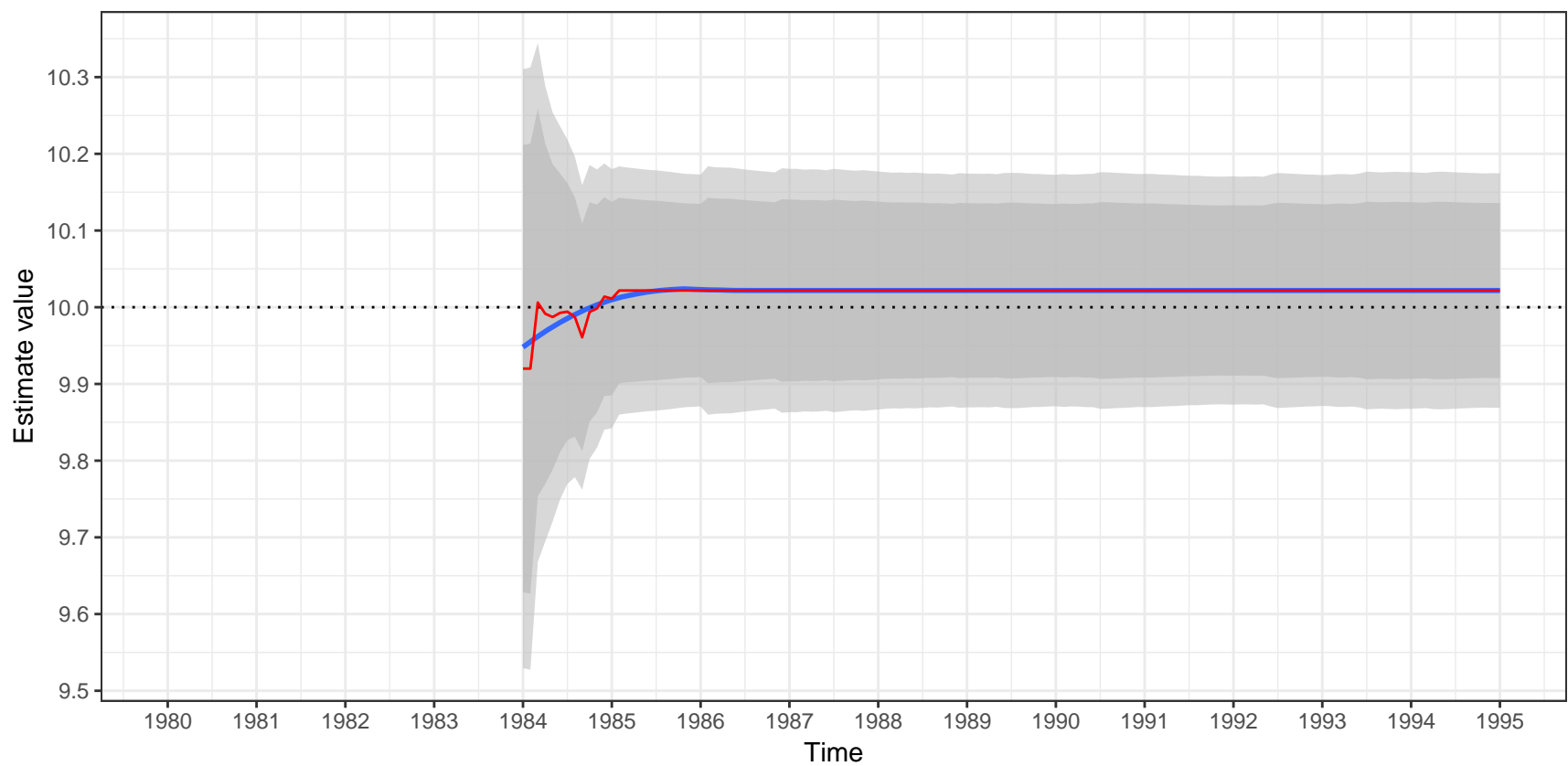


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

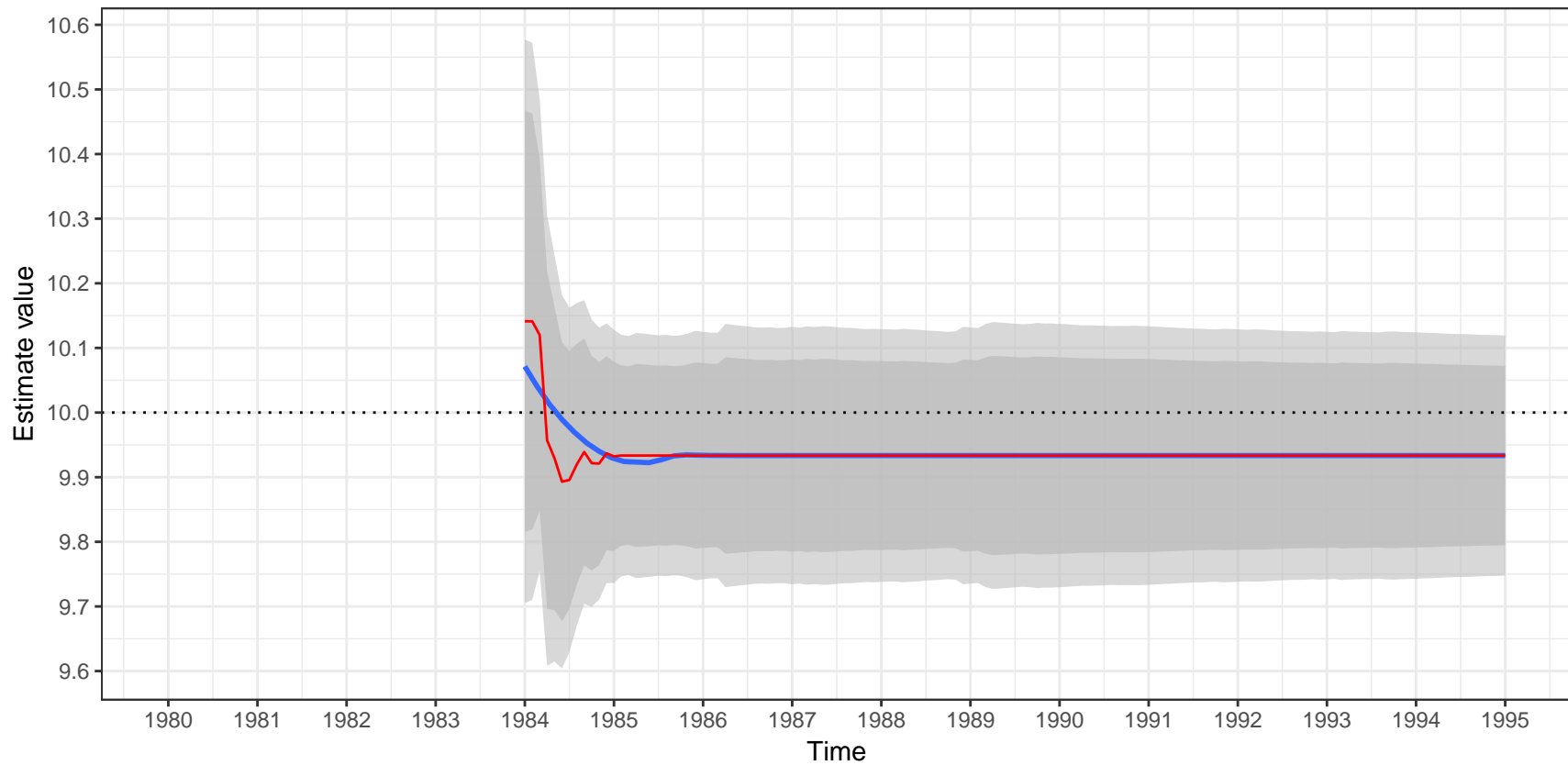


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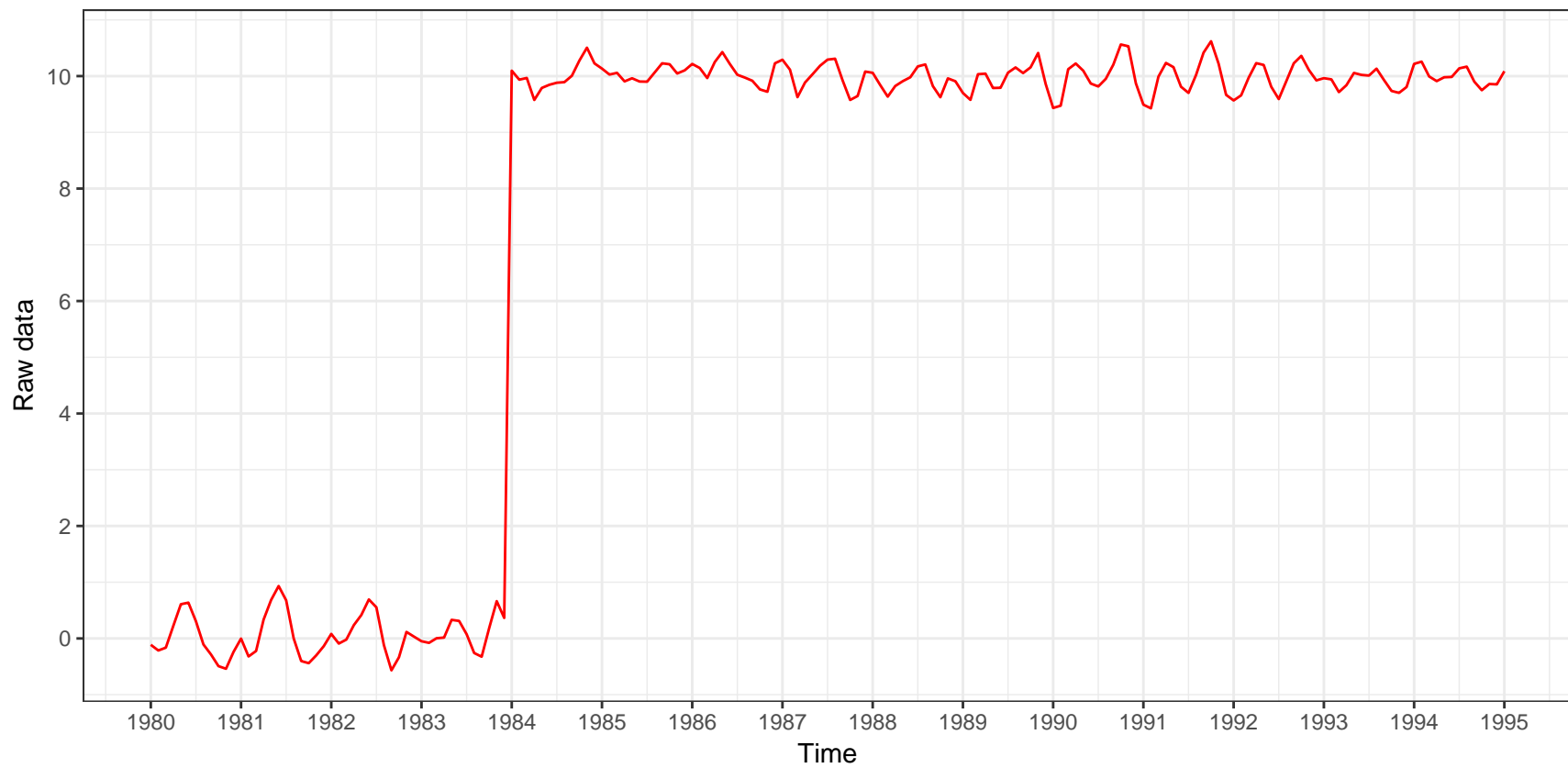


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
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Estimation of the outlier

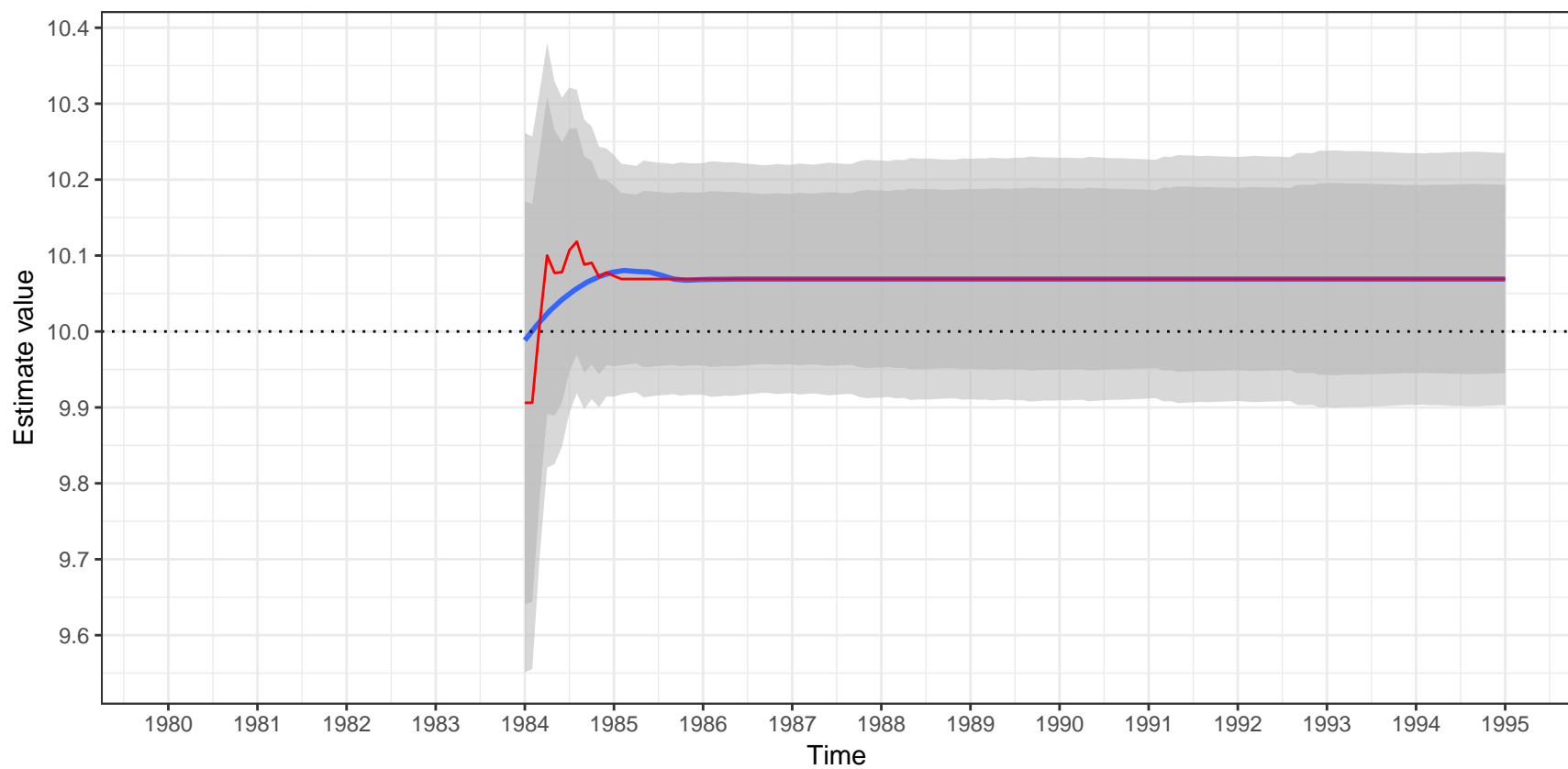


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

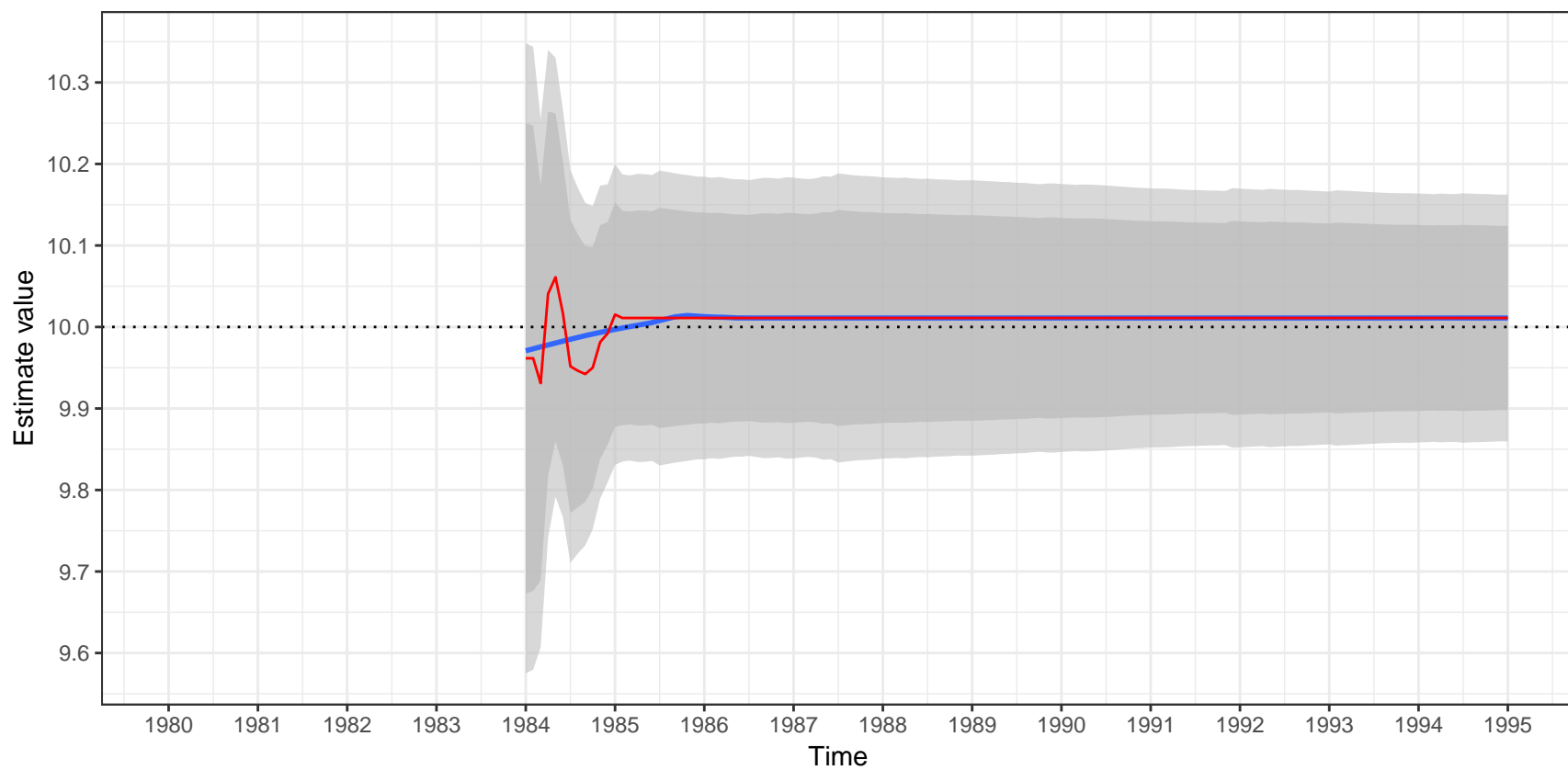


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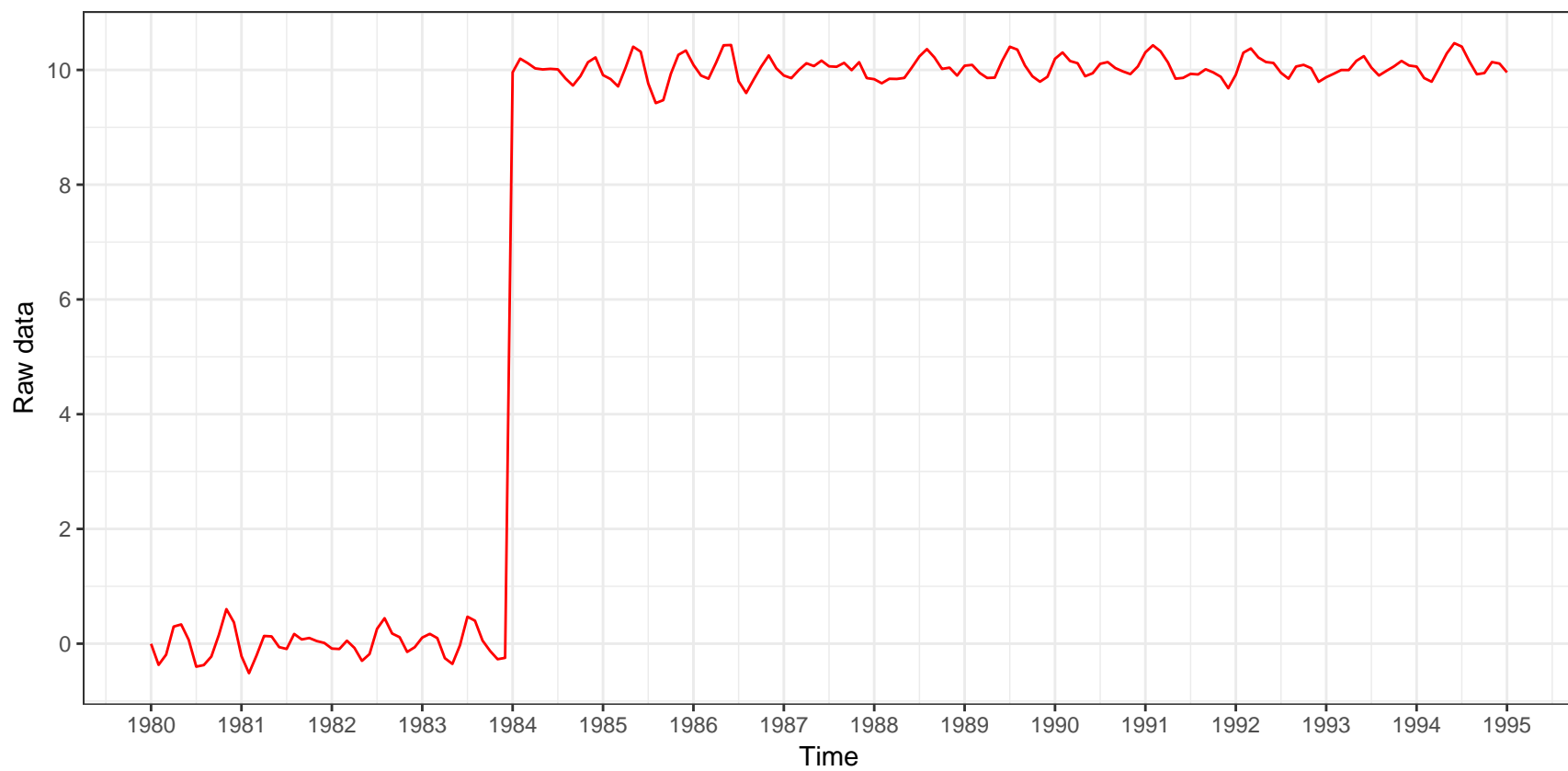


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

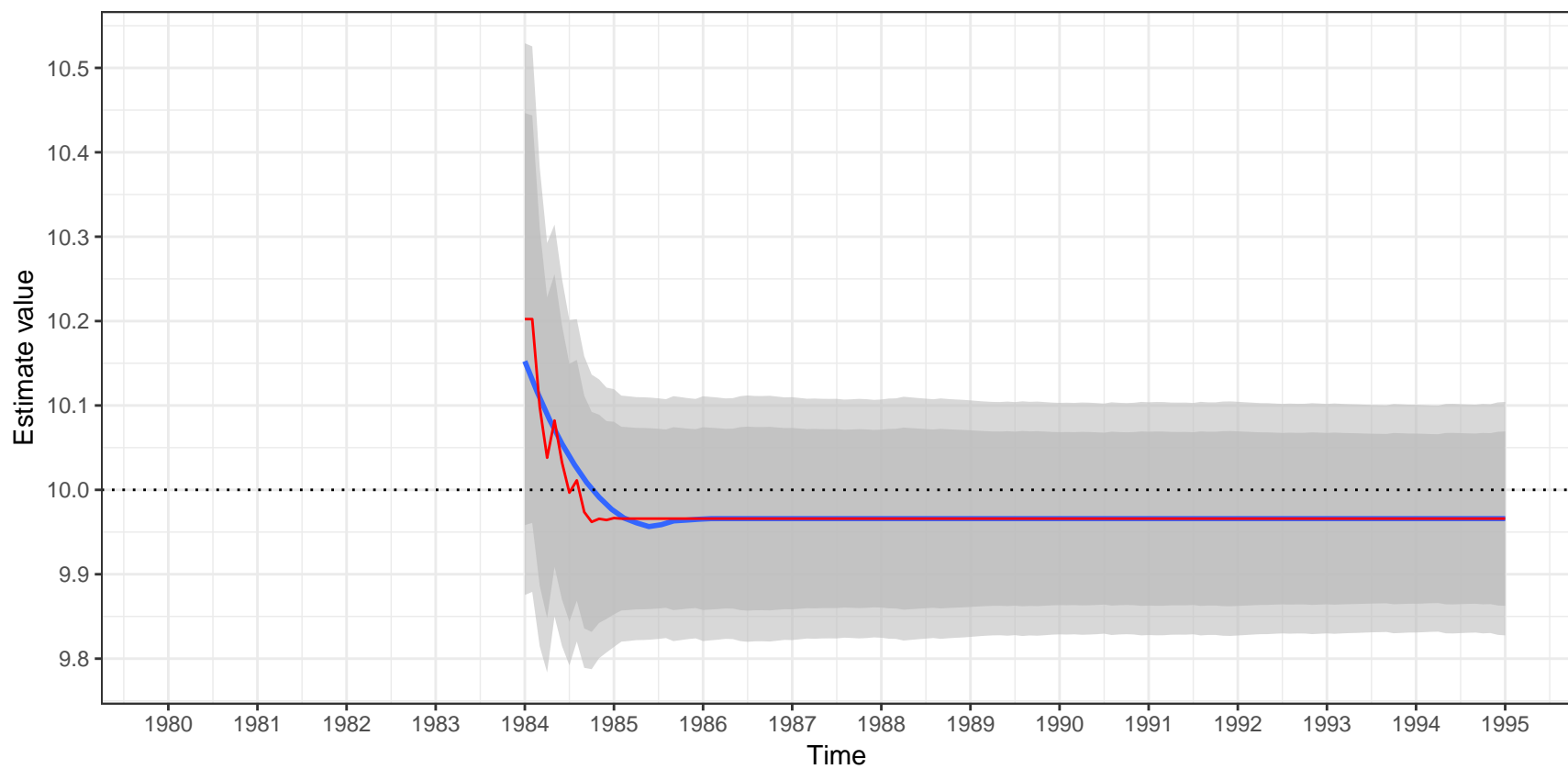


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

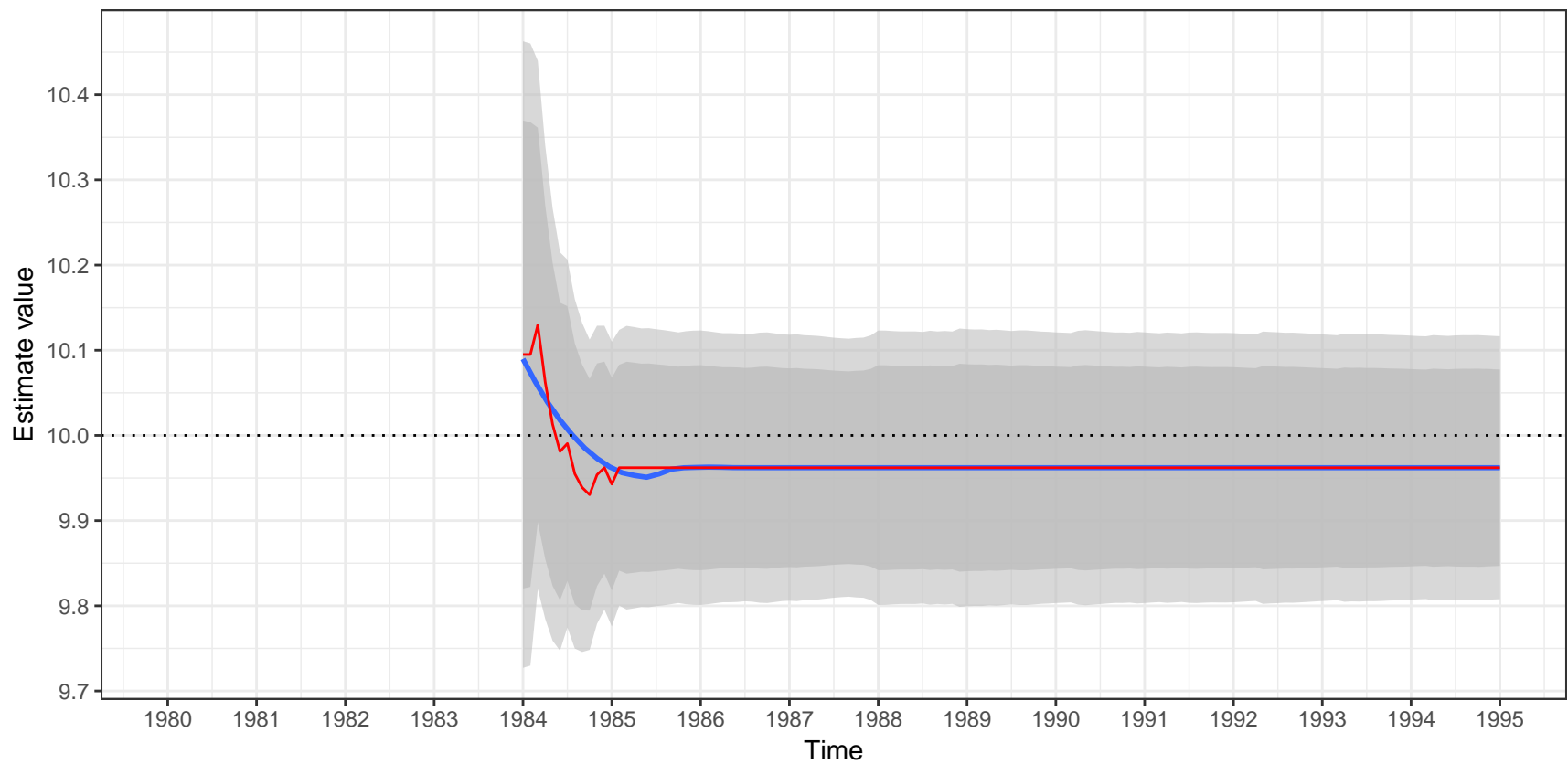


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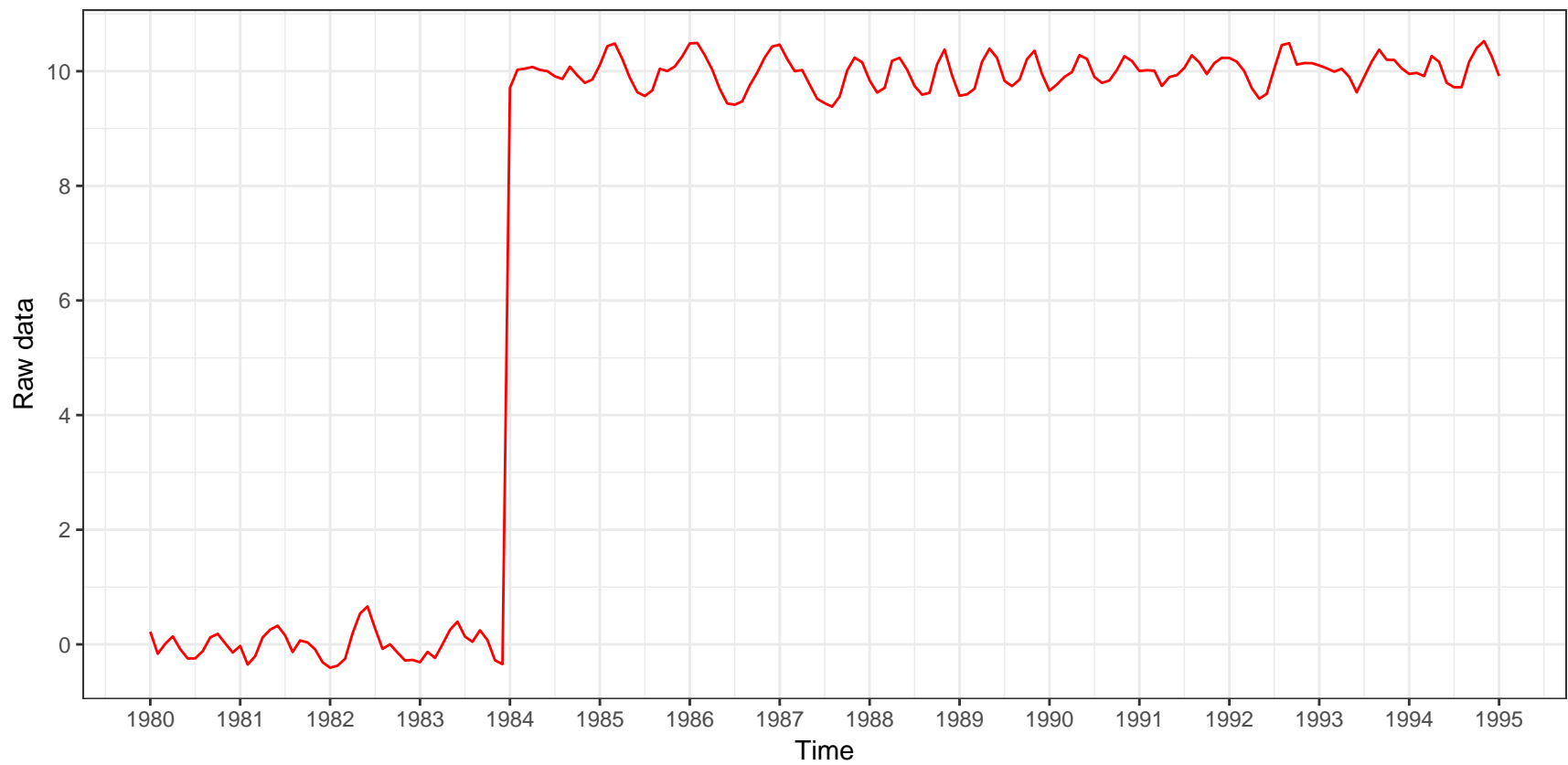


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,0,0) – additive decomposition
 $(1-B+0.6B^2)X_t=at$

Estimation of the outlier

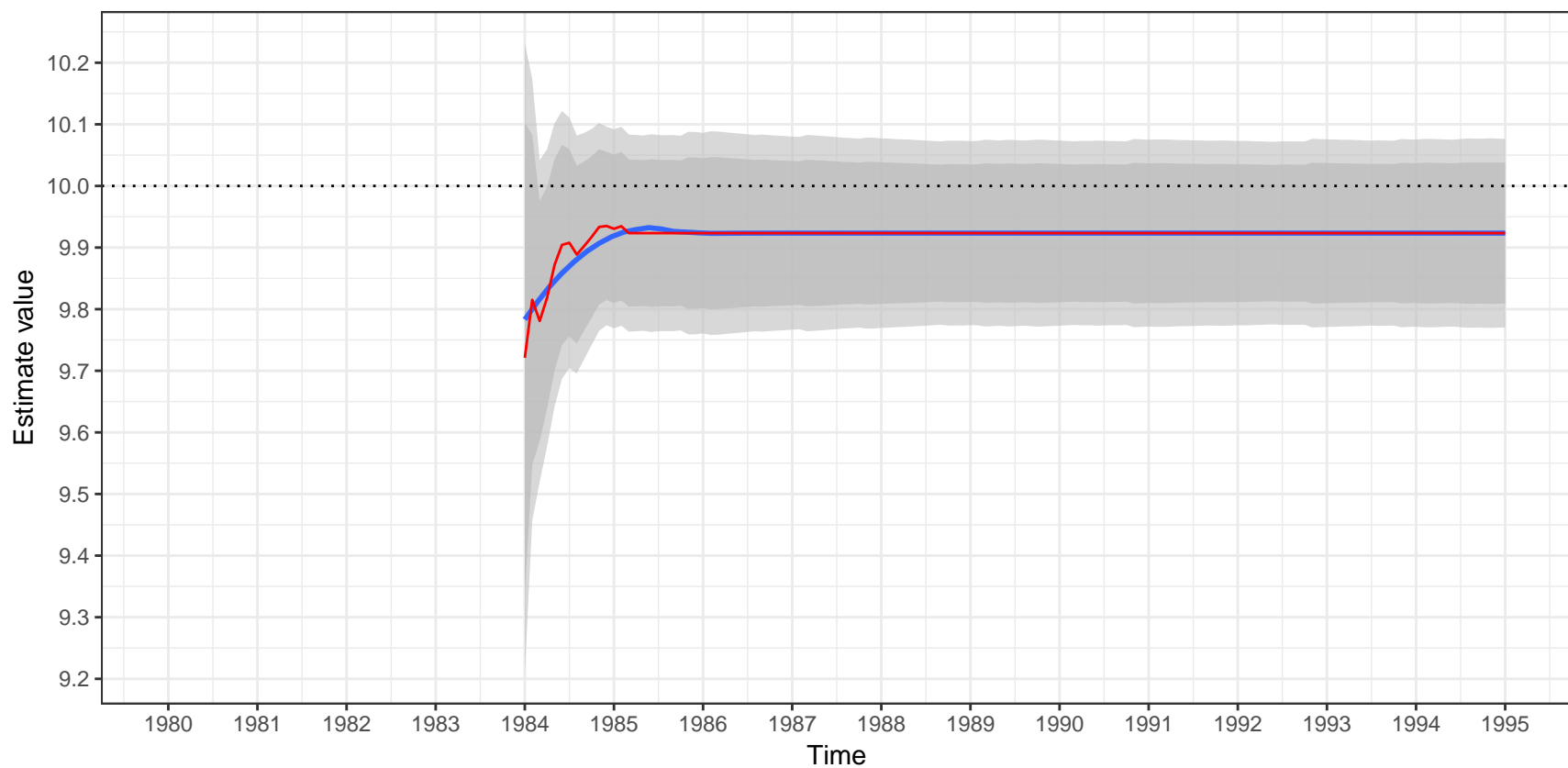


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=at$

Estimation of the outlier

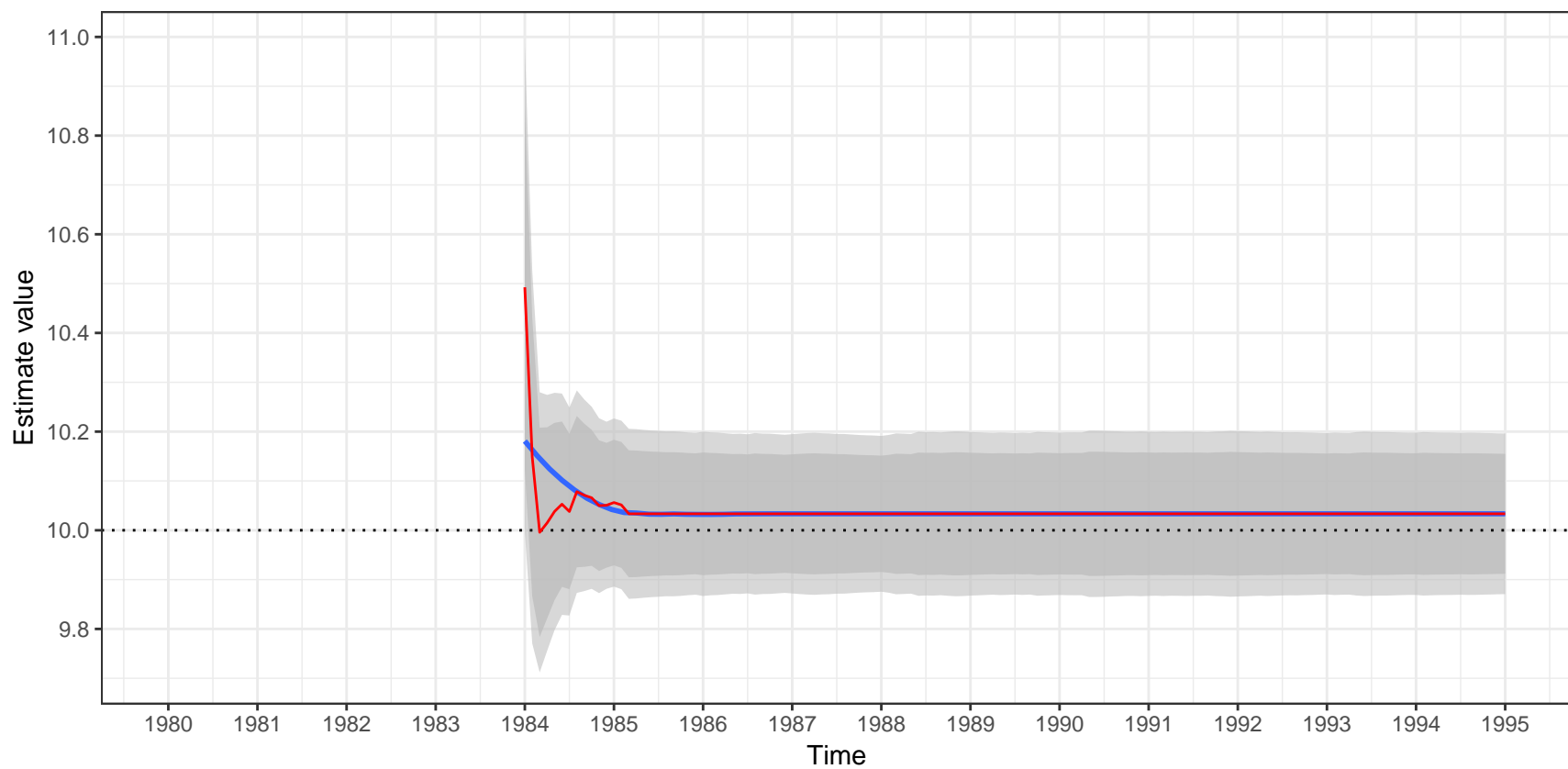


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=a_t$

Estimation of the outlier

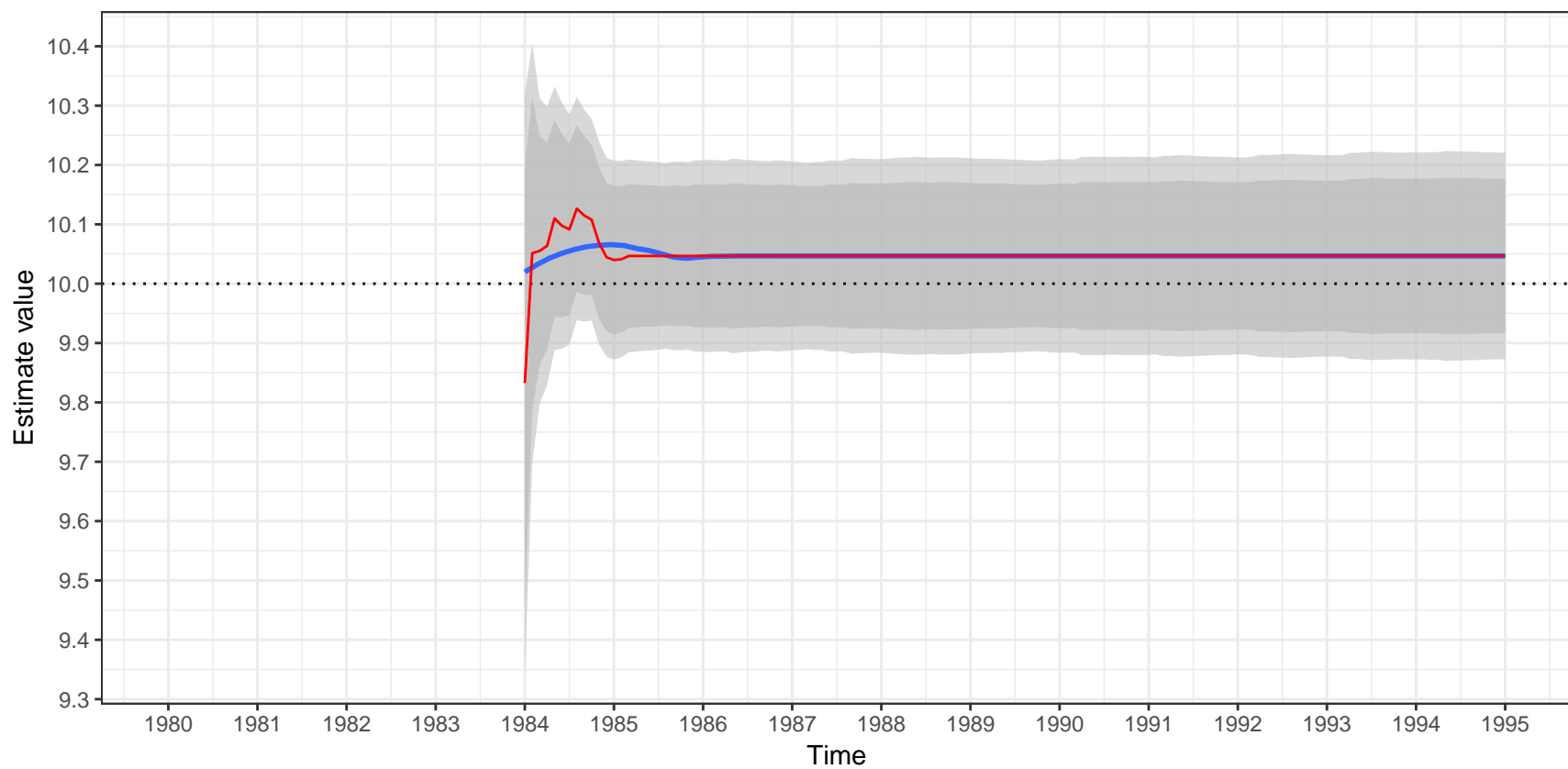


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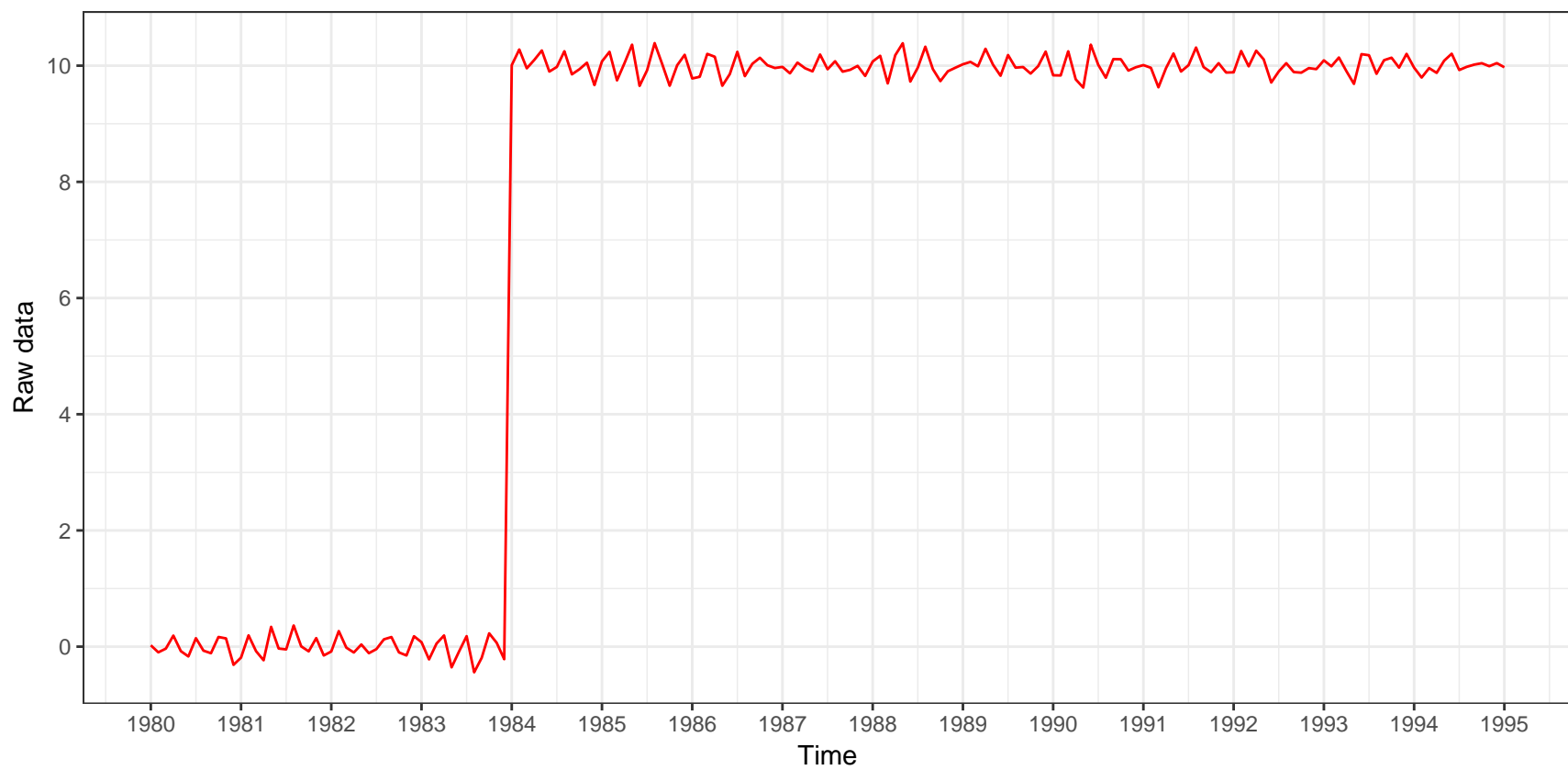


Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=at$

Estimation of the outlier

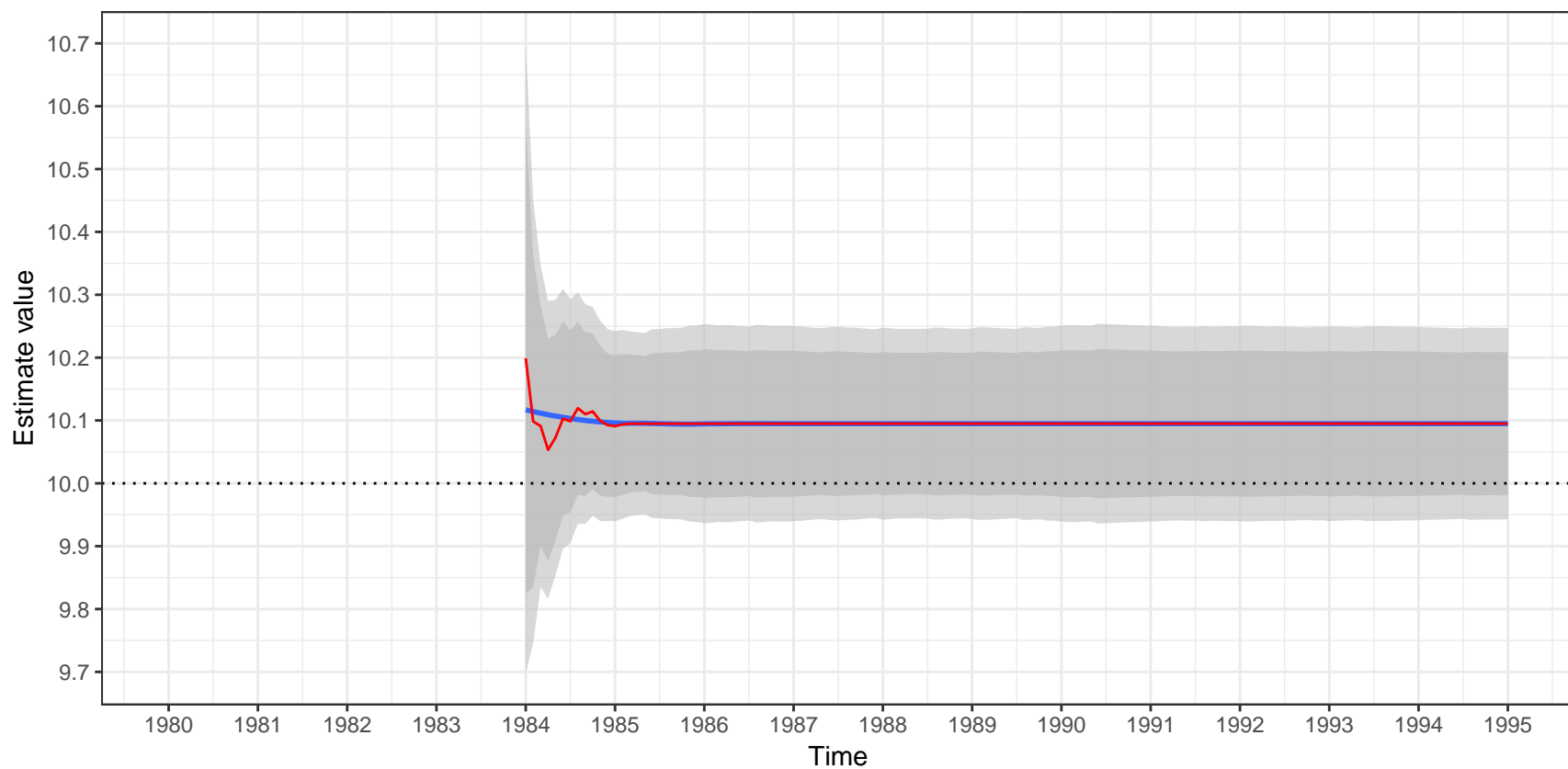


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=a_t$

Estimation of the outlier

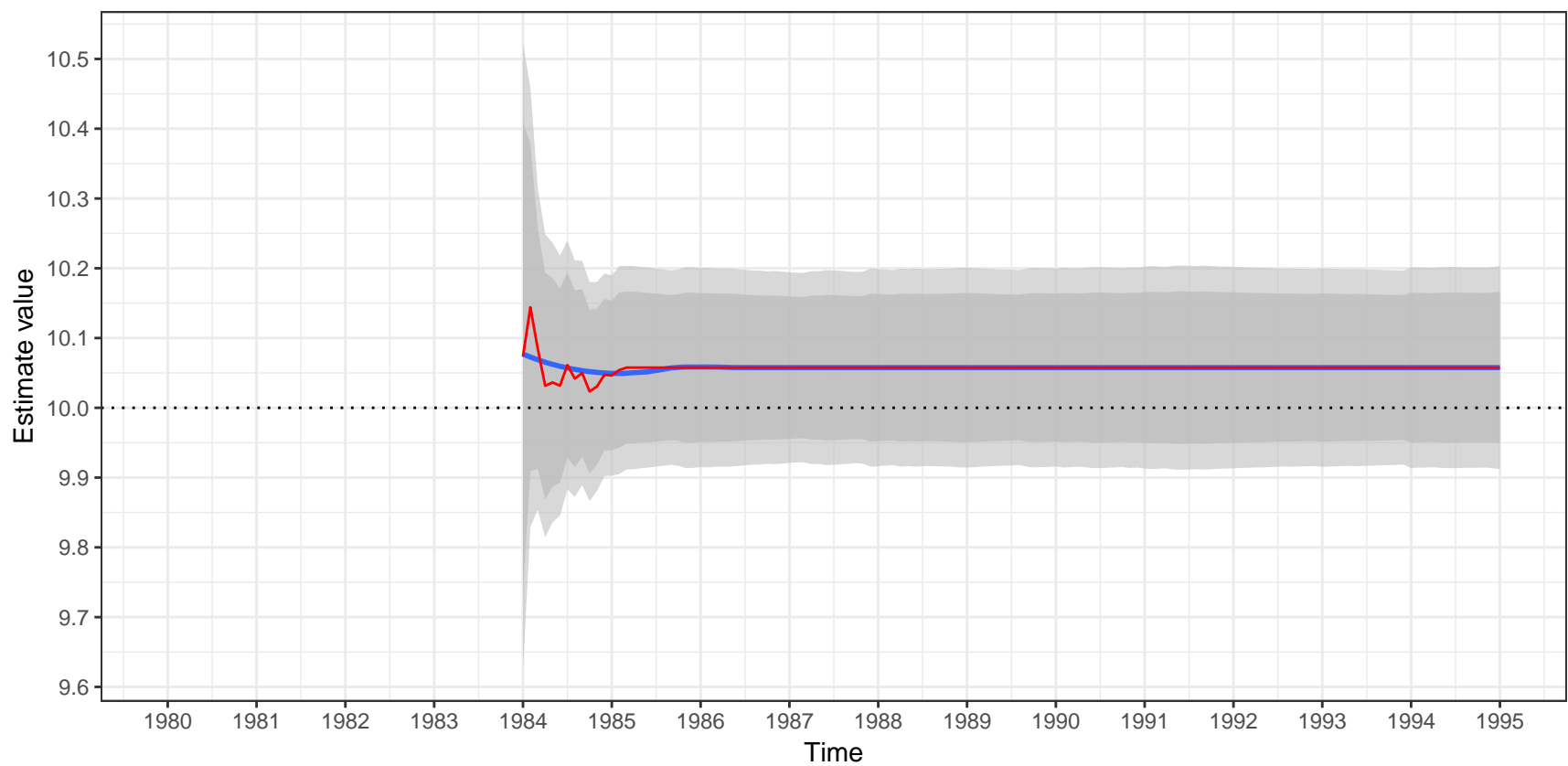


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=a_t$

Estimation of the outlier

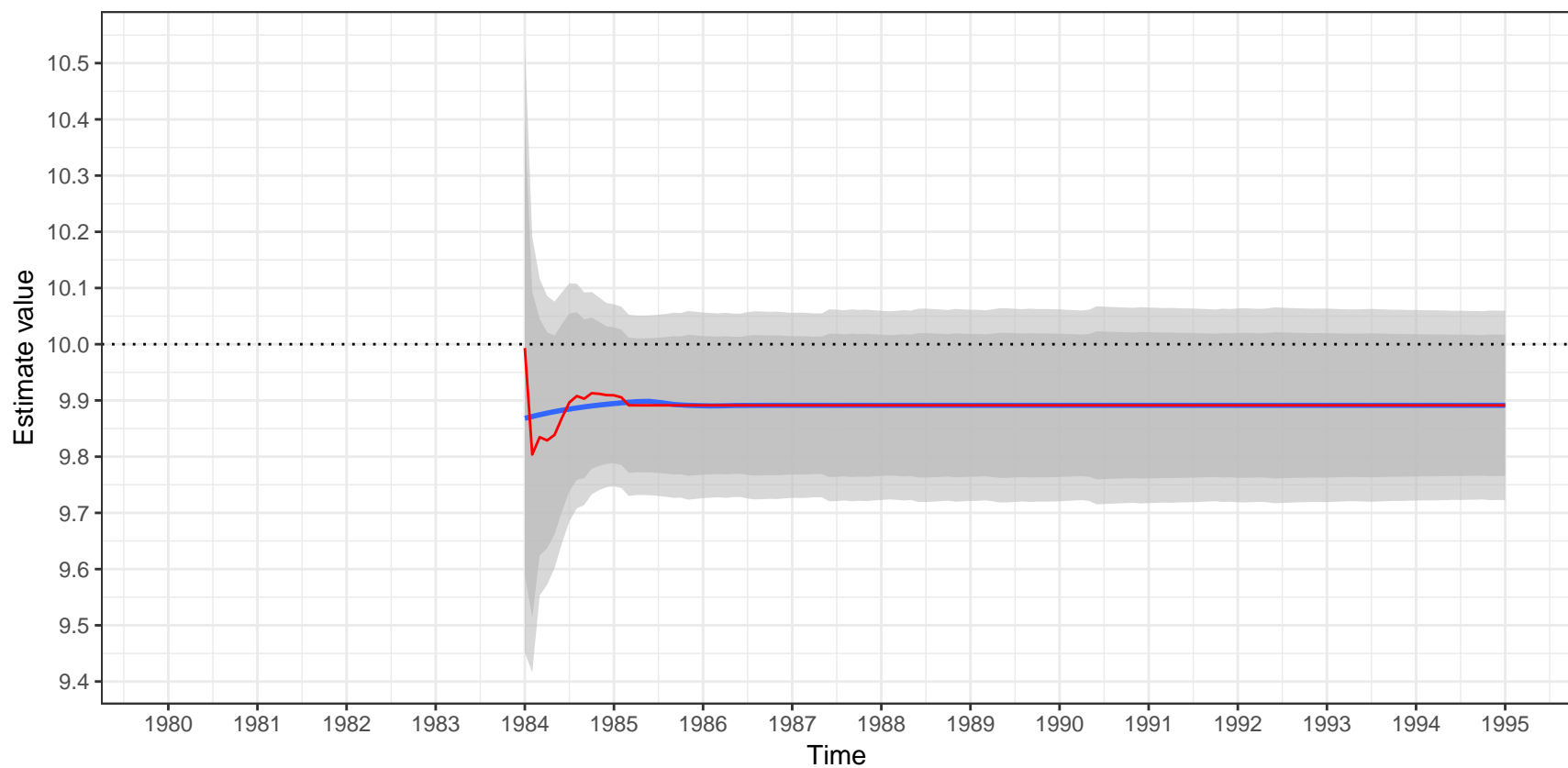


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=at$

Estimation of the outlier

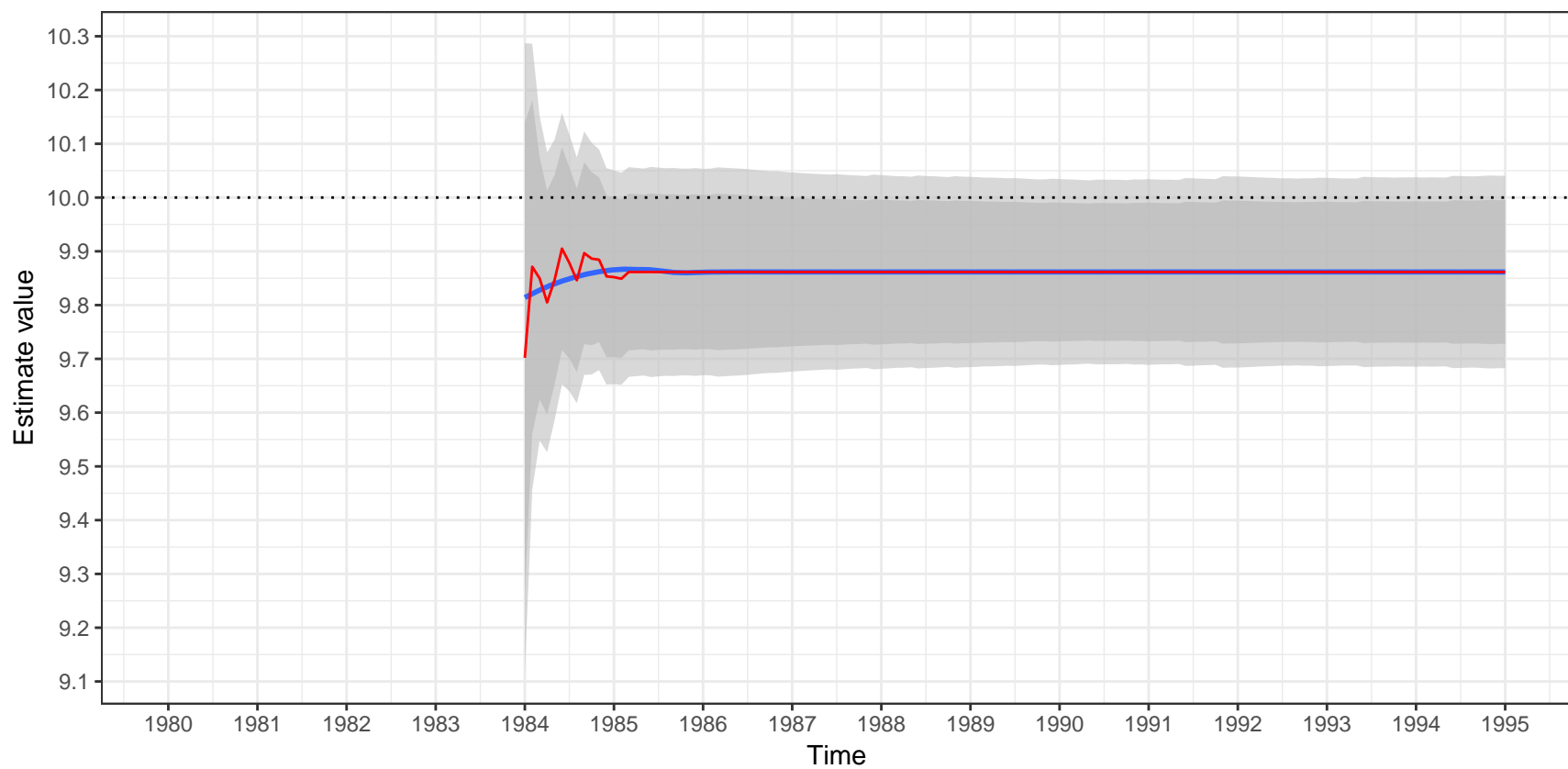


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=at$

Estimation of the outlier

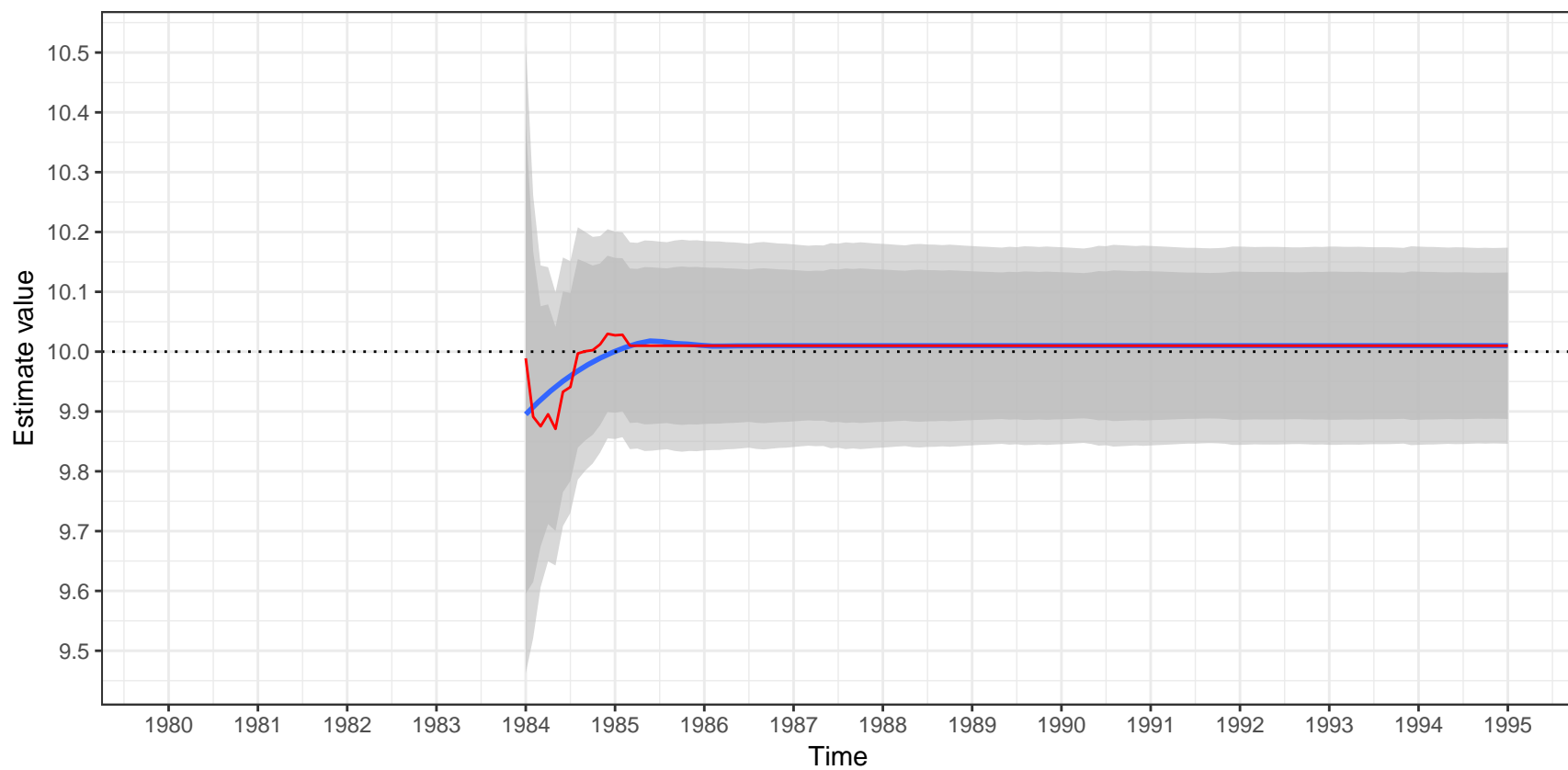


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=a_t$

Estimation of the outlier

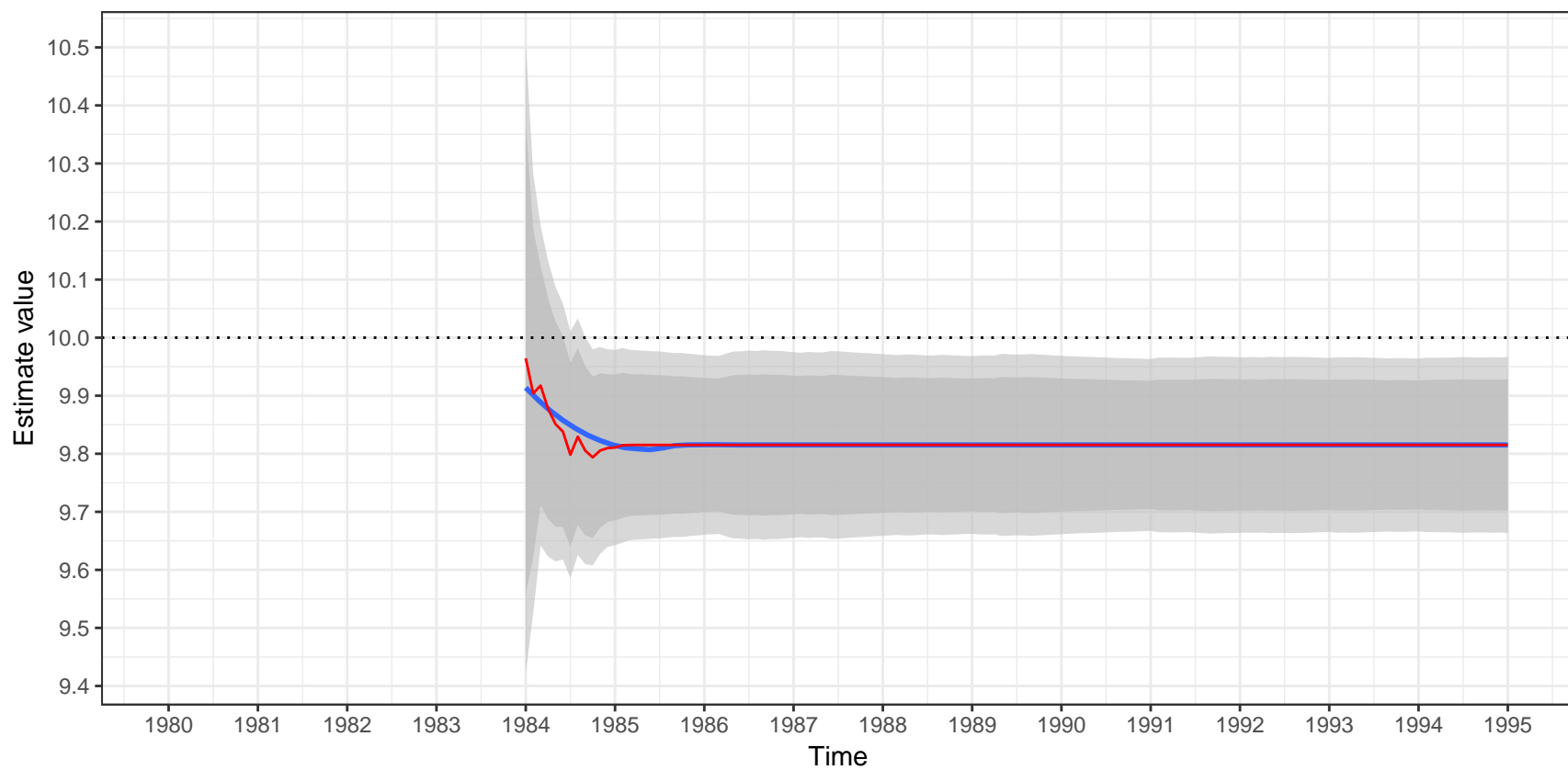


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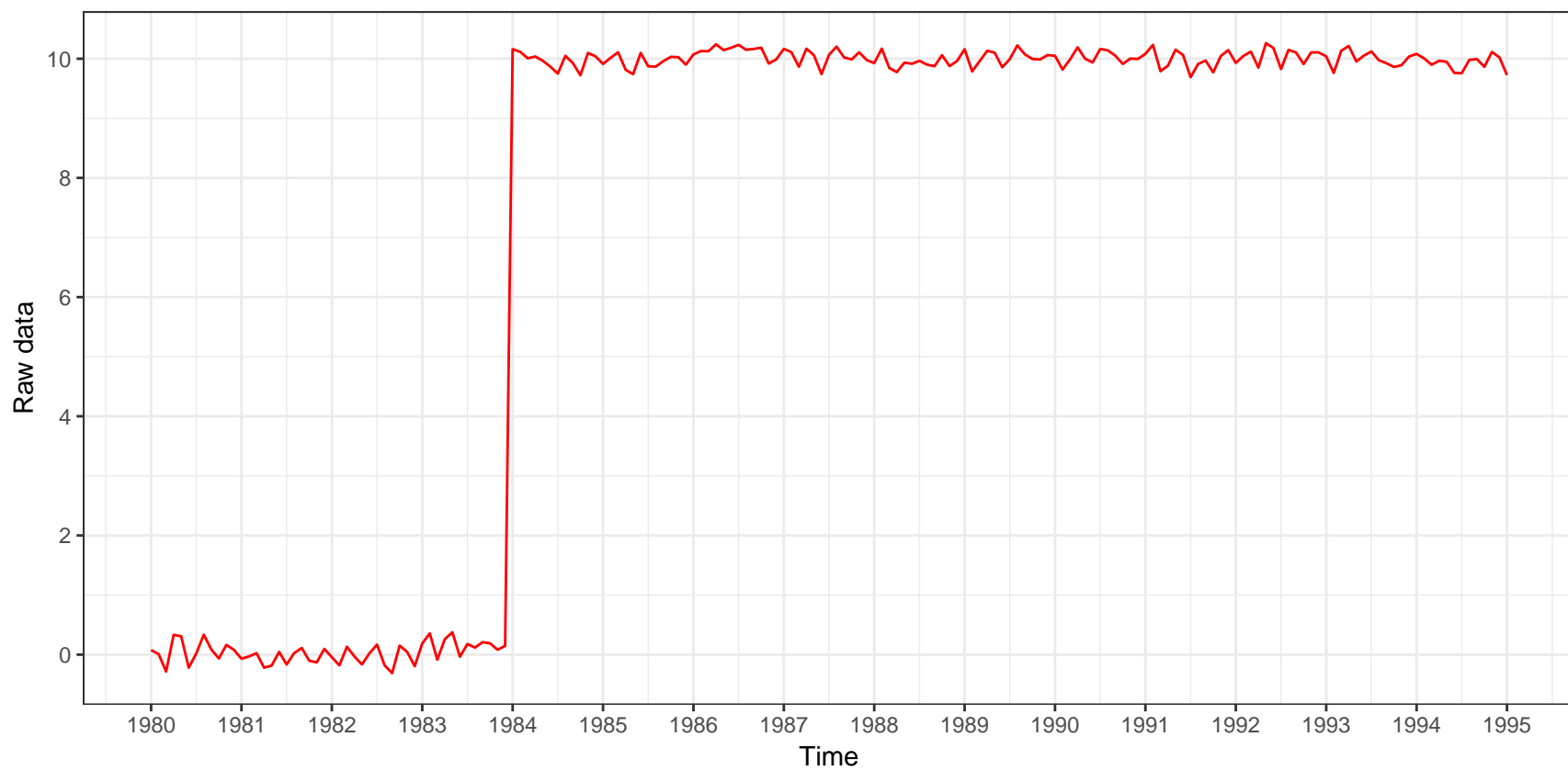


Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=a_t$

Estimation of the outlier

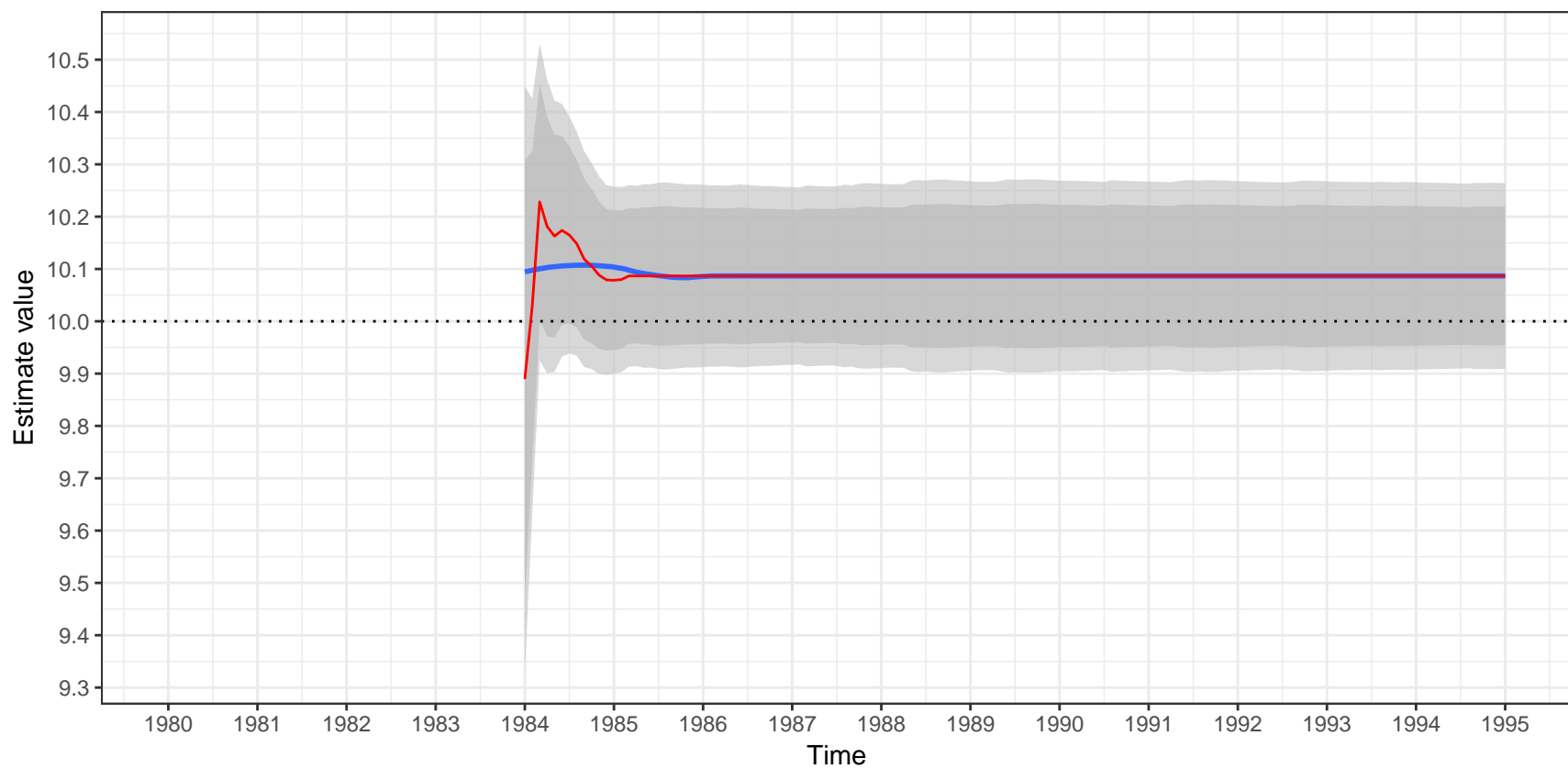


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,0,0)(0,0,0) – additive decomposition
 $(1+0.3B^2-0.5B^3)X_t=a_t$

Estimation of the outlier

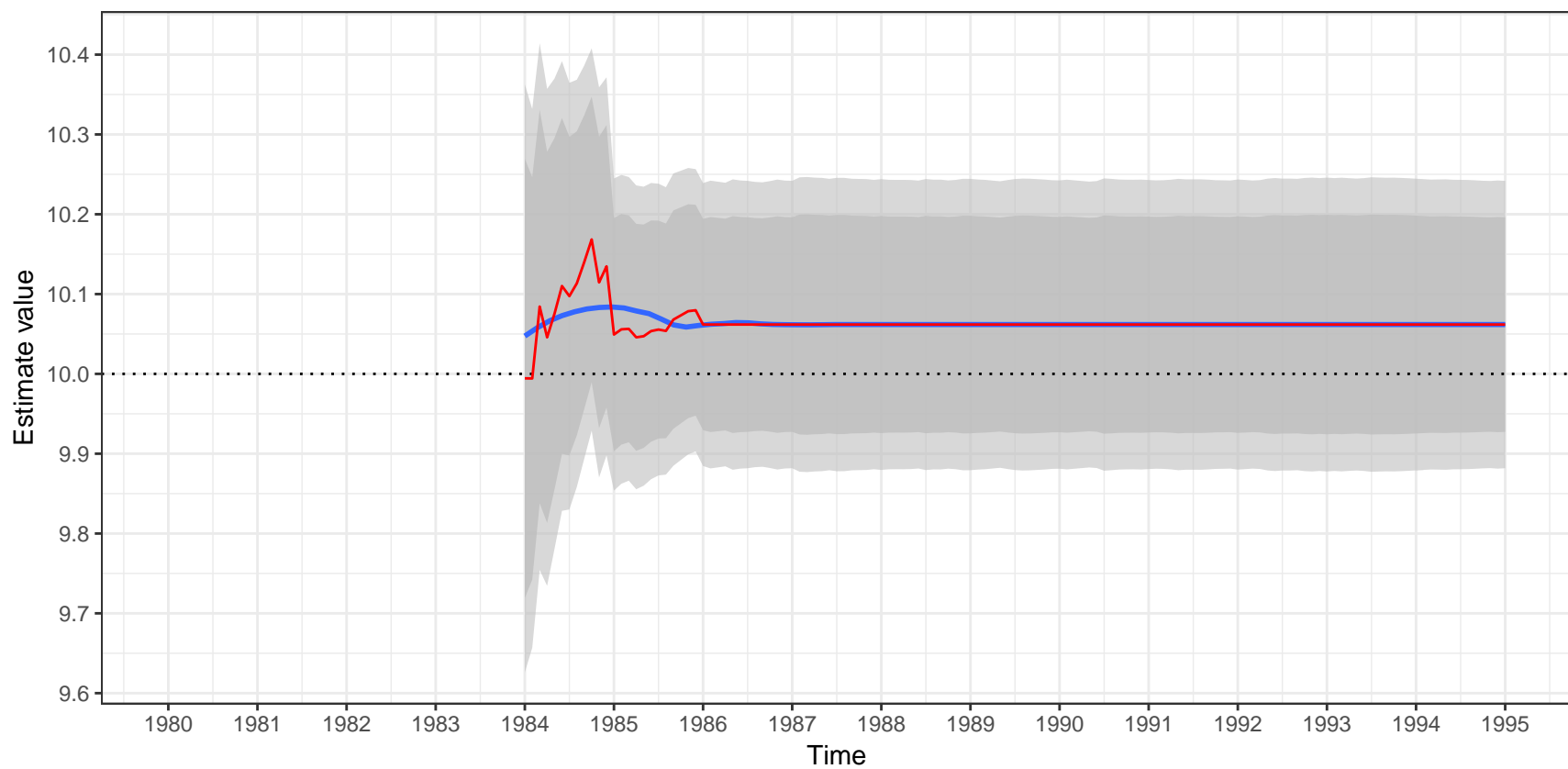


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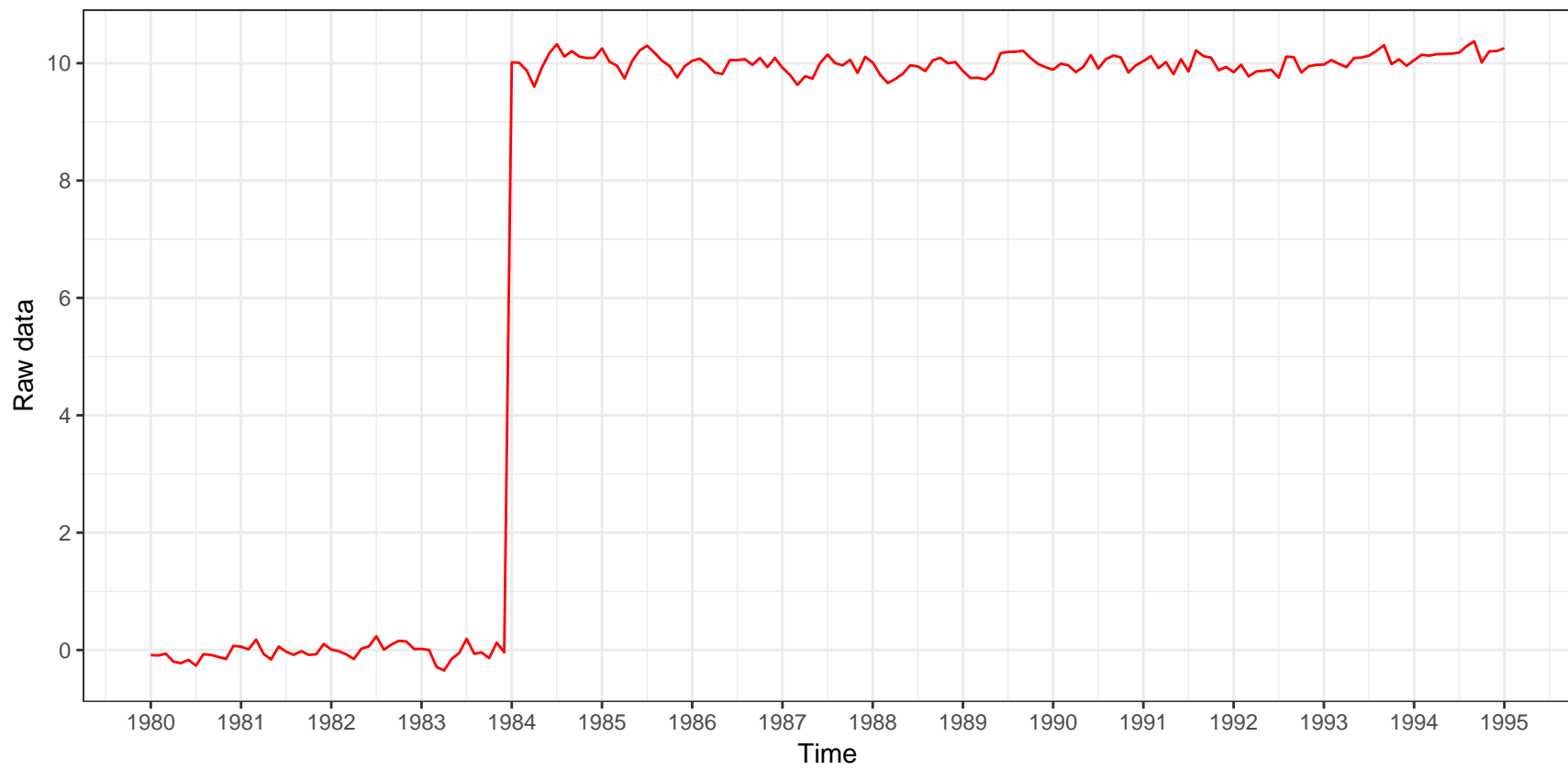


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

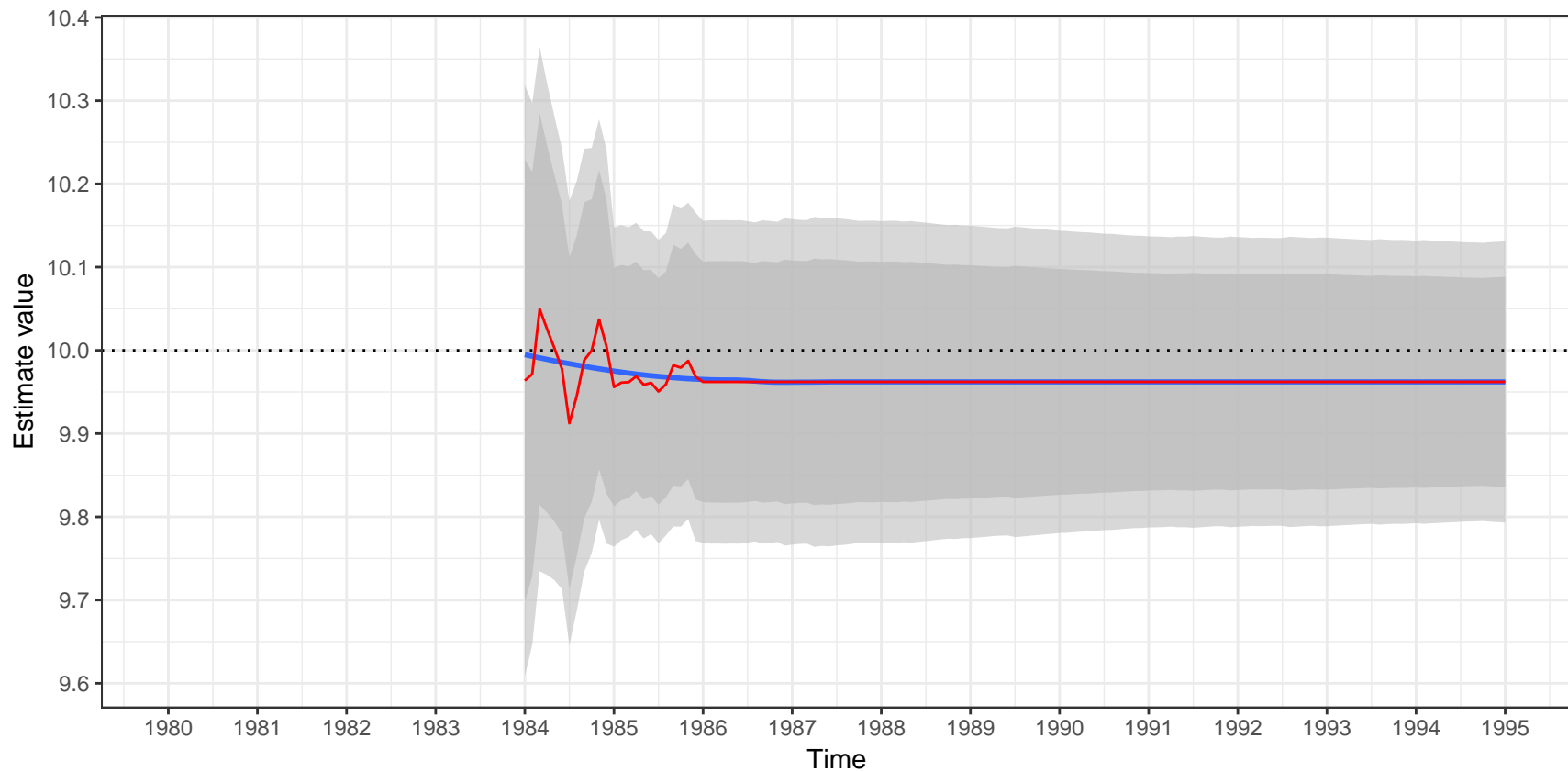


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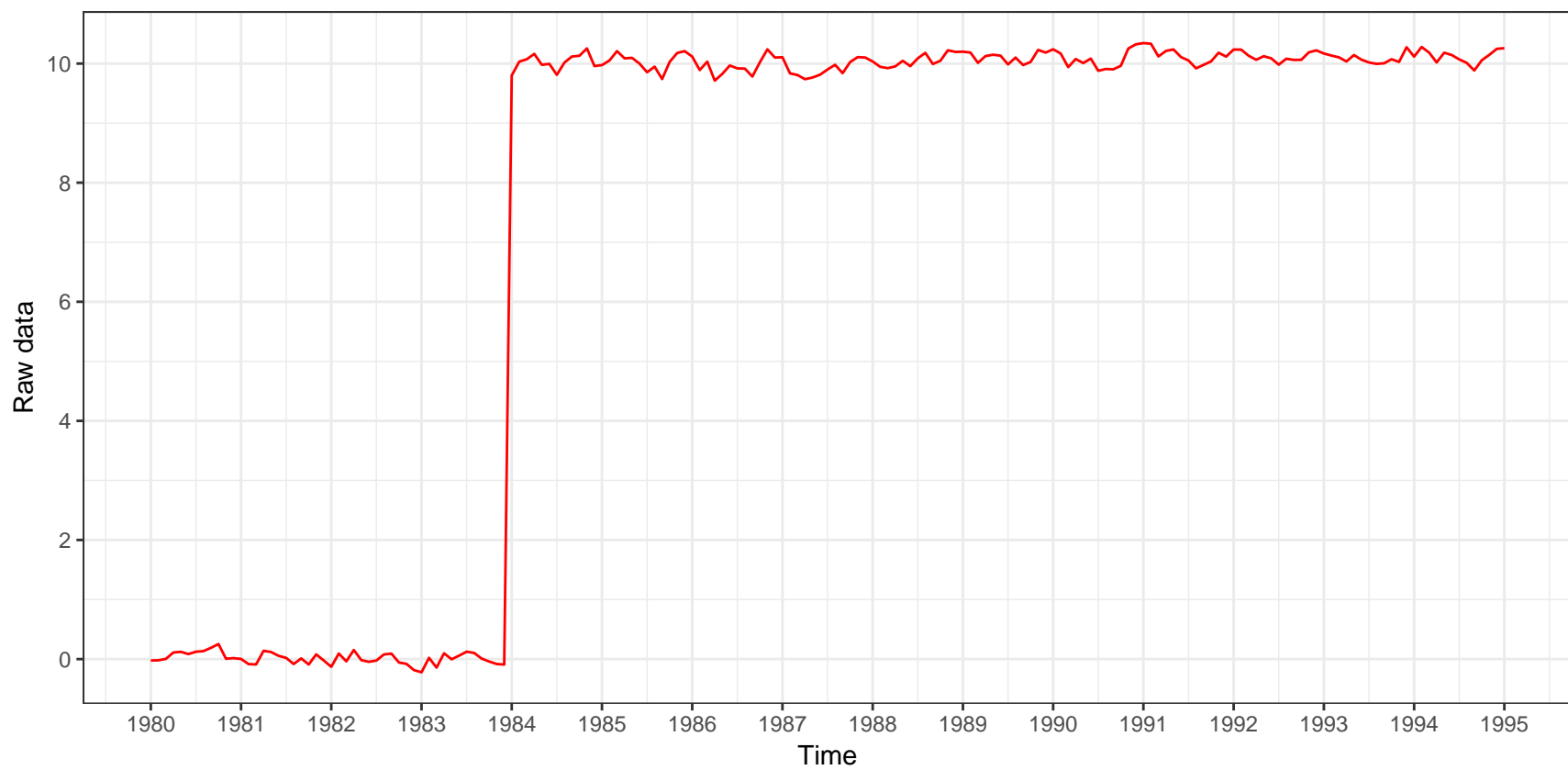


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

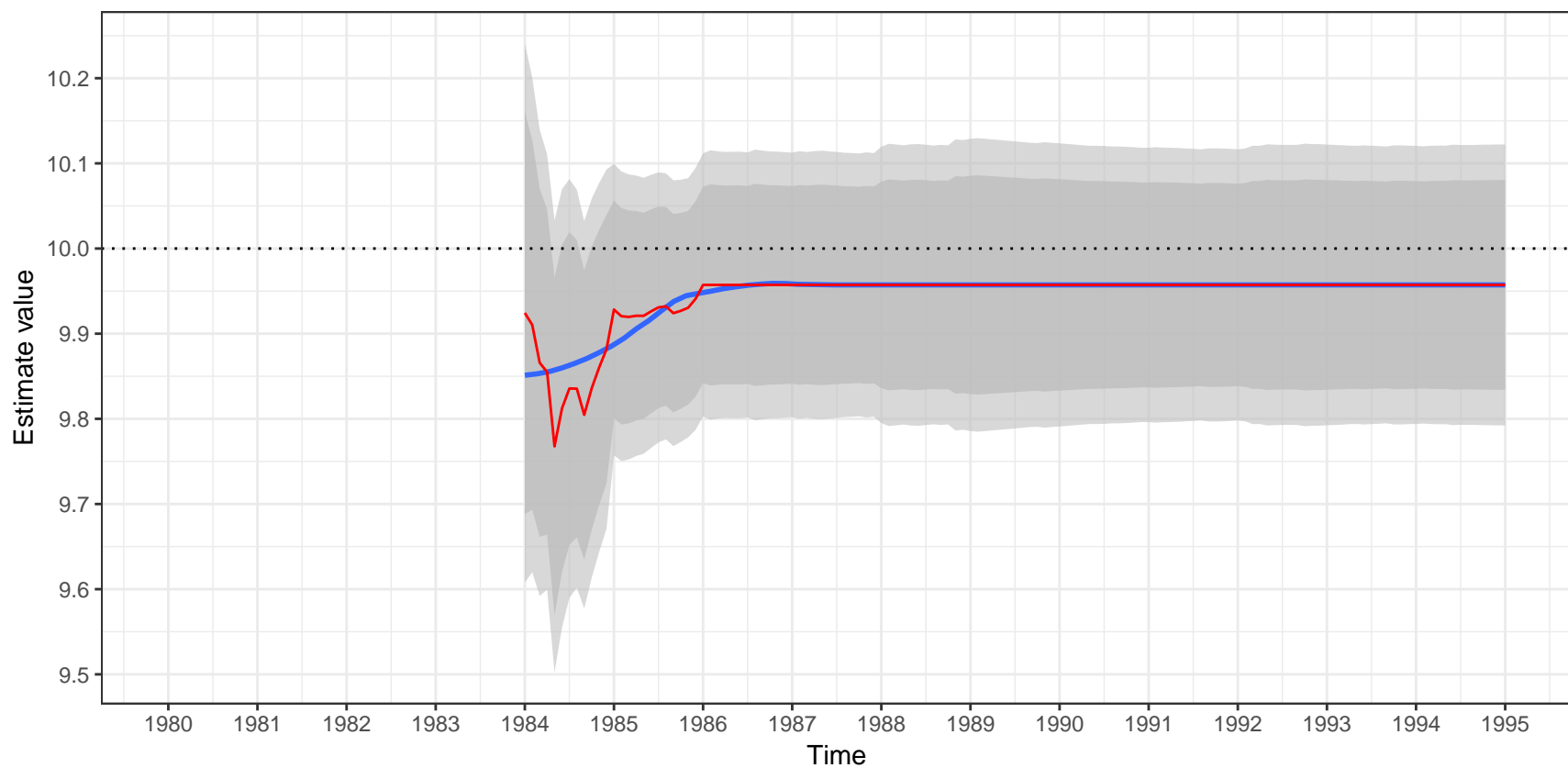


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

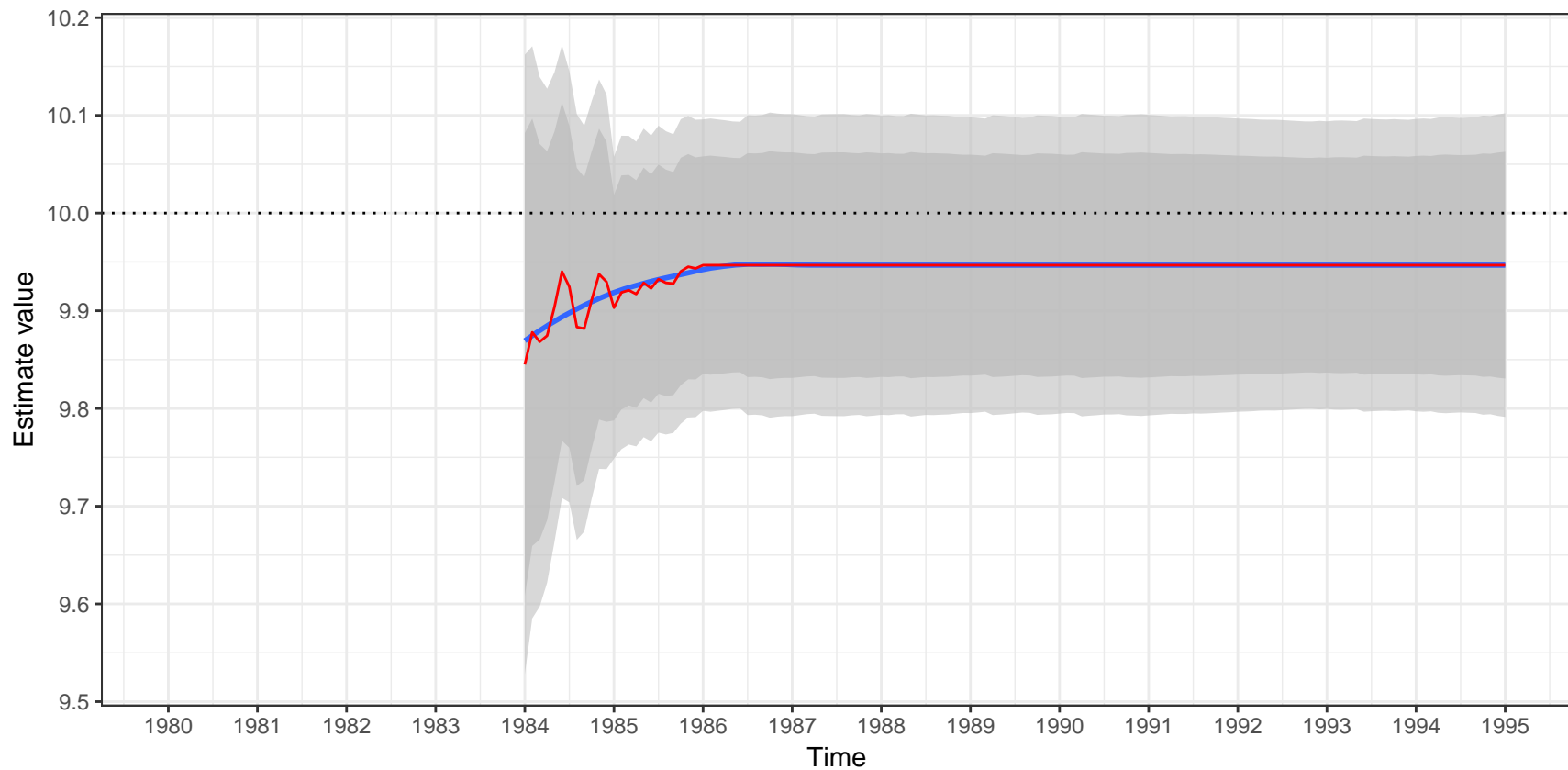


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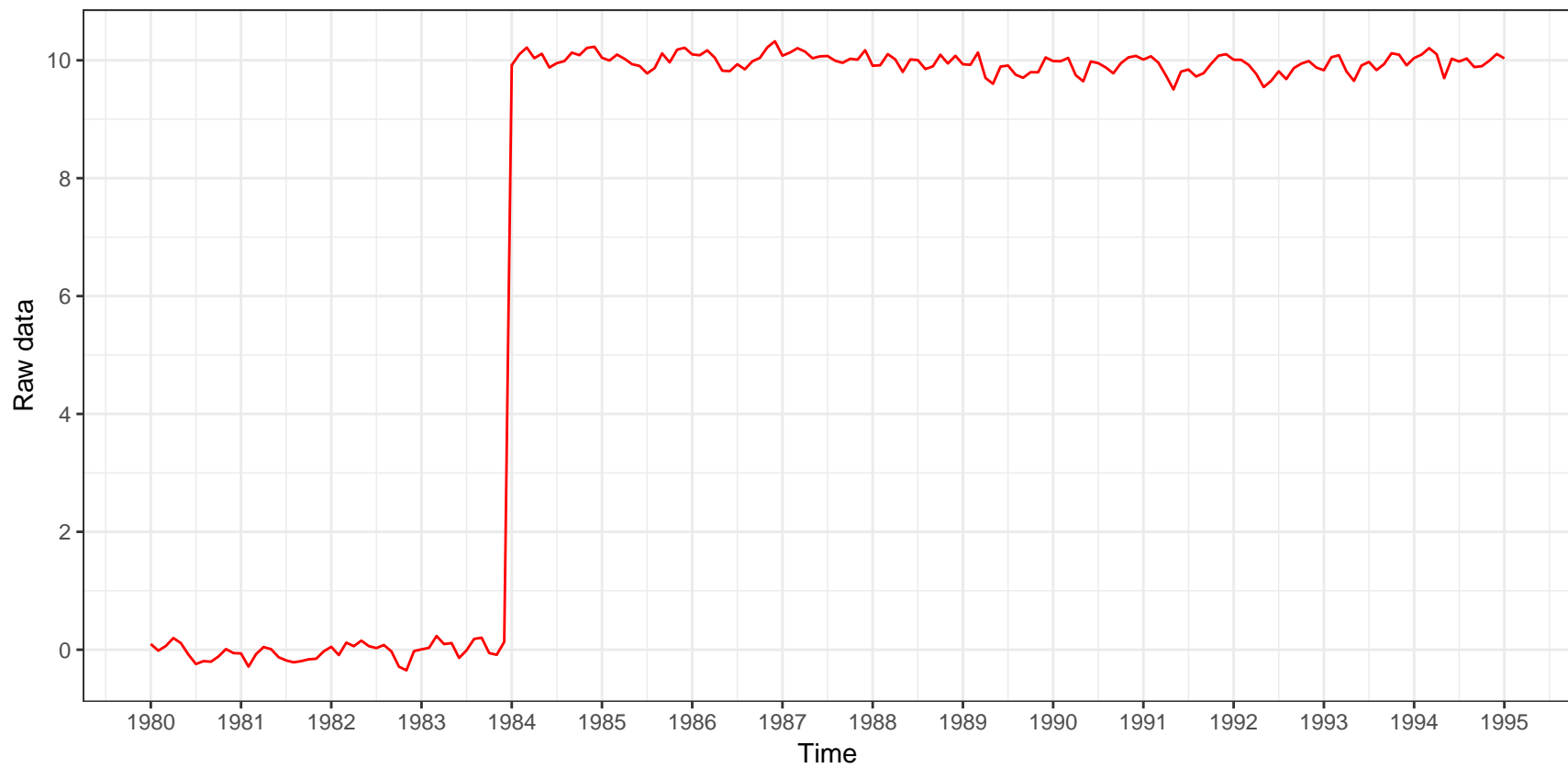


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

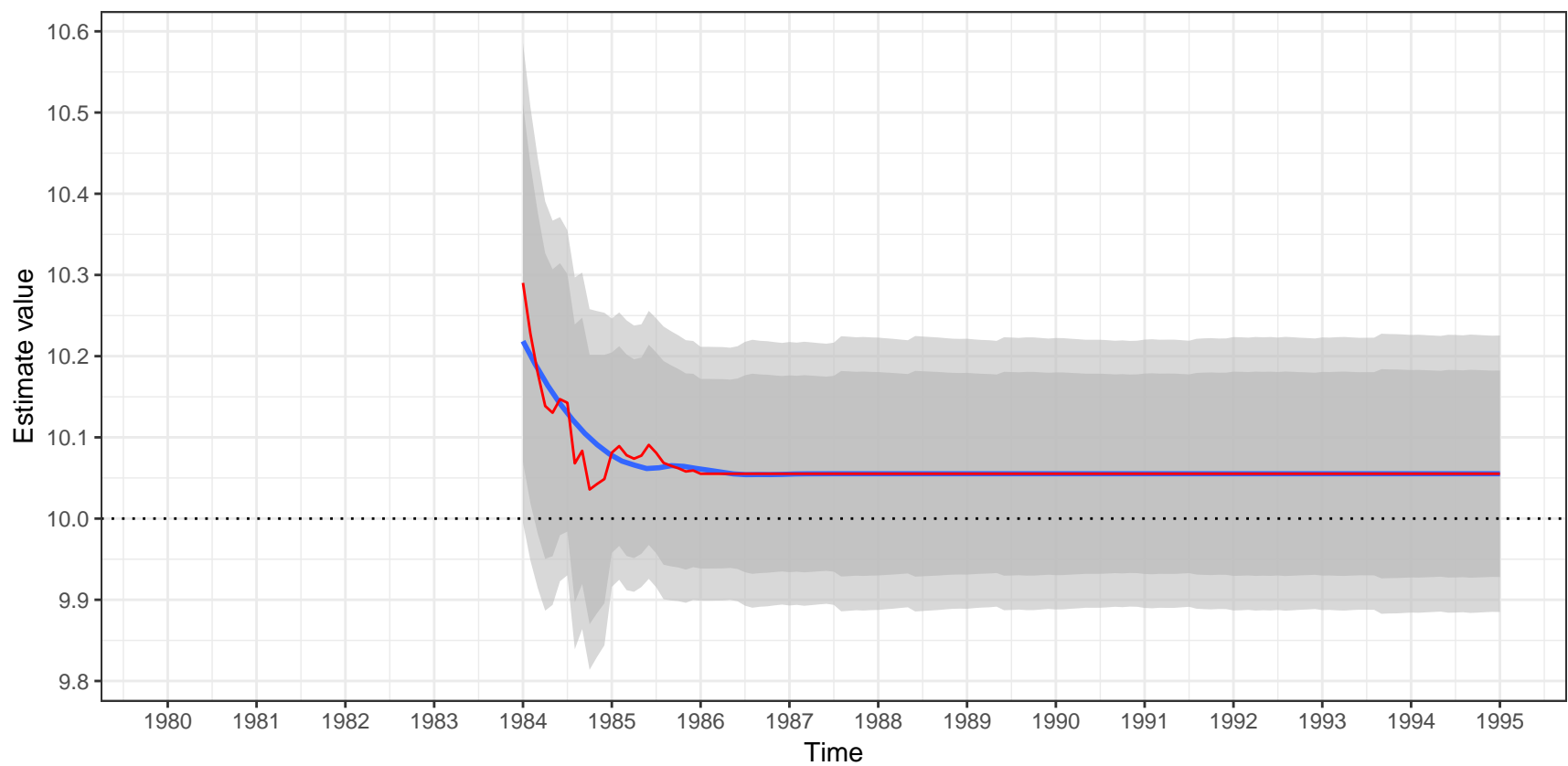


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t=a_t$

Estimation of the outlier

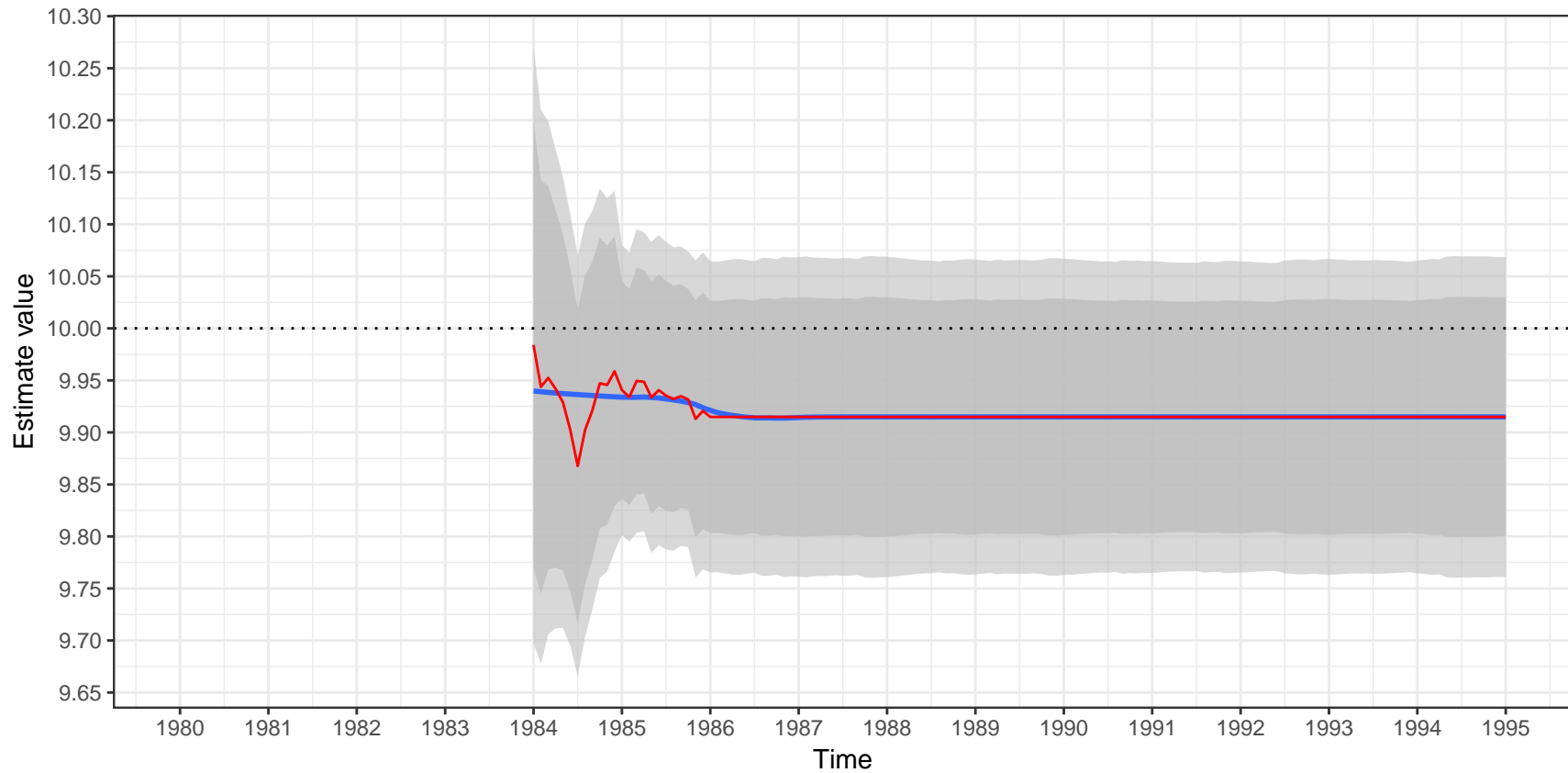


Raw data

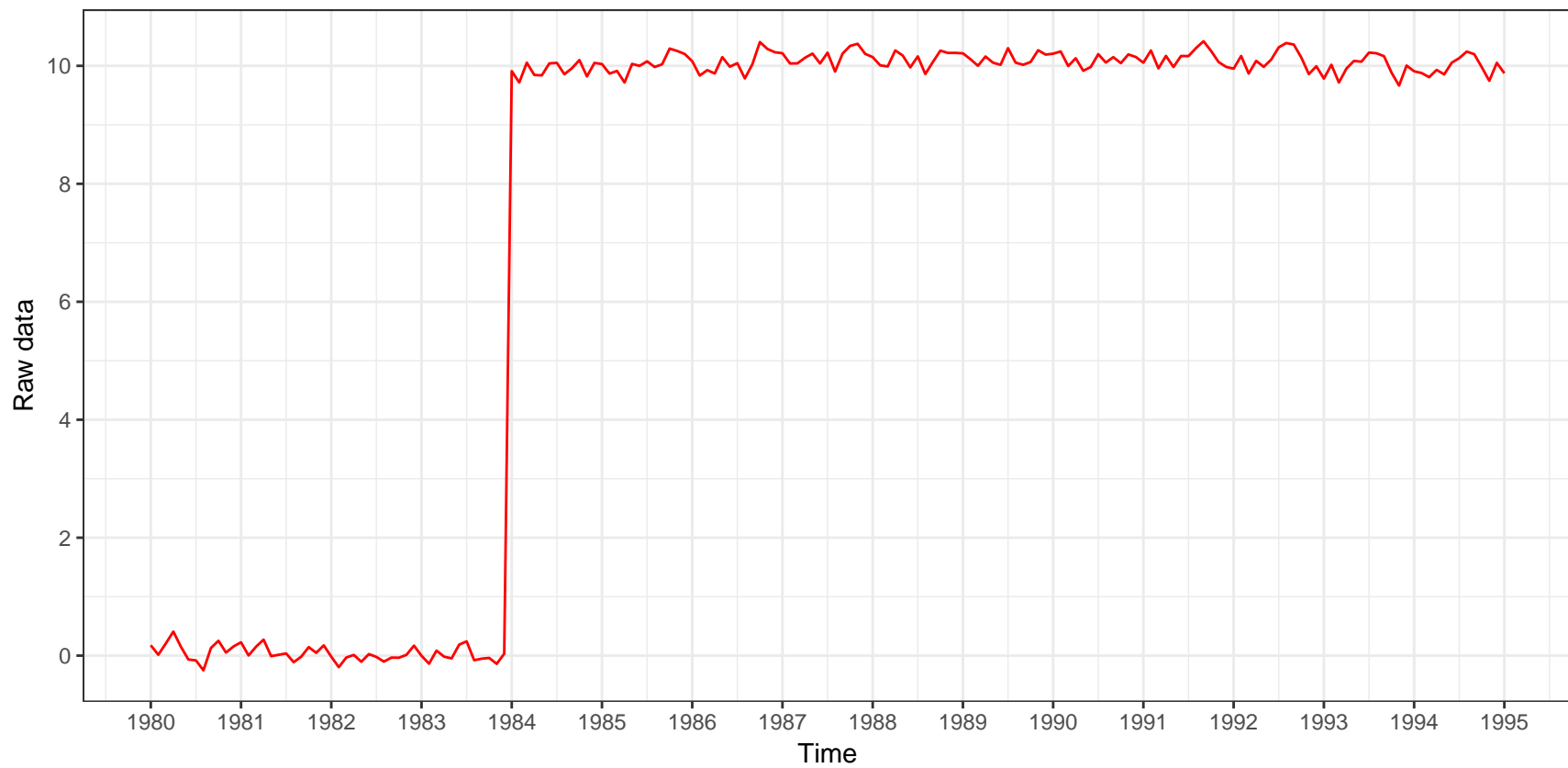


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

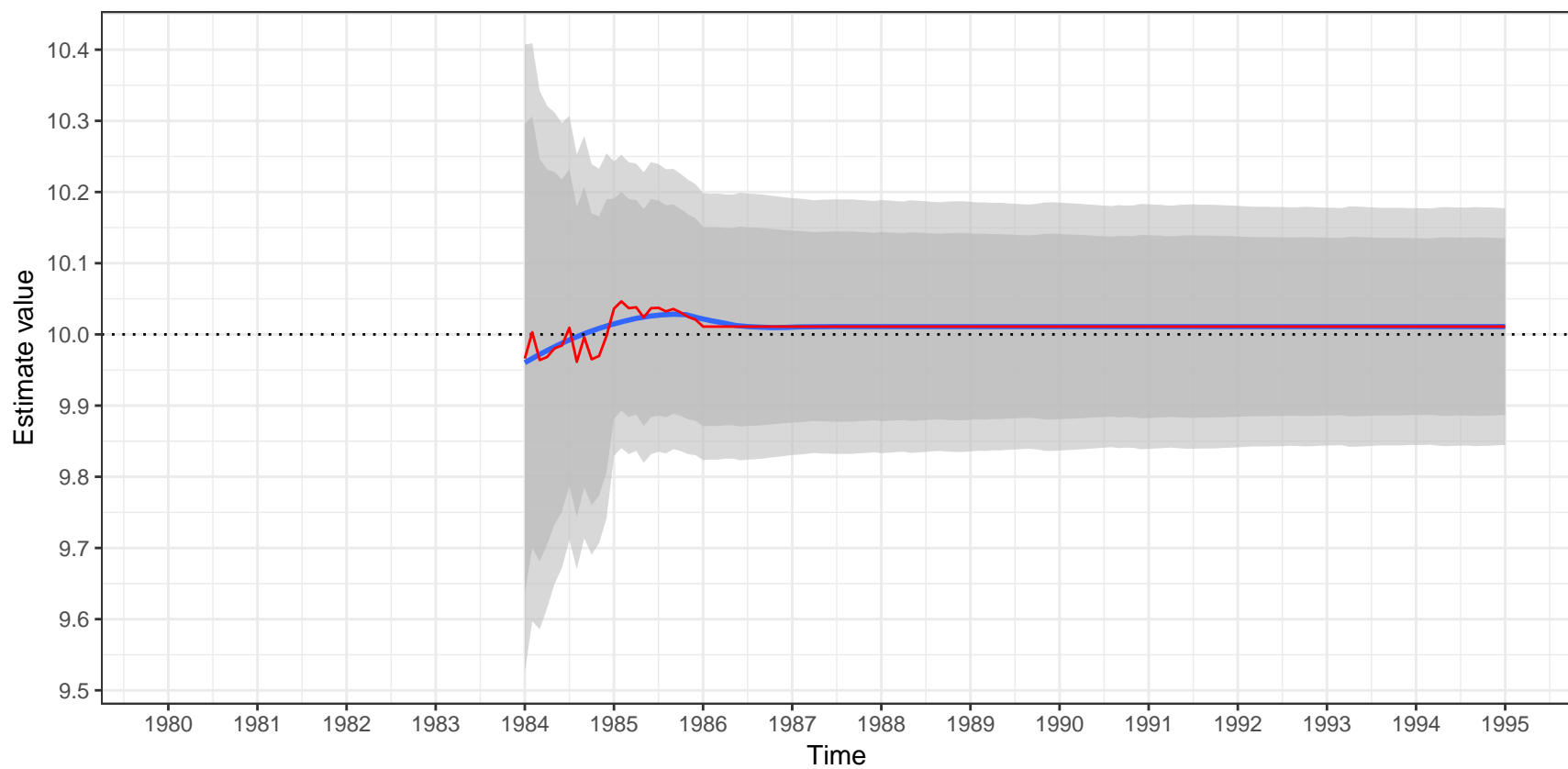


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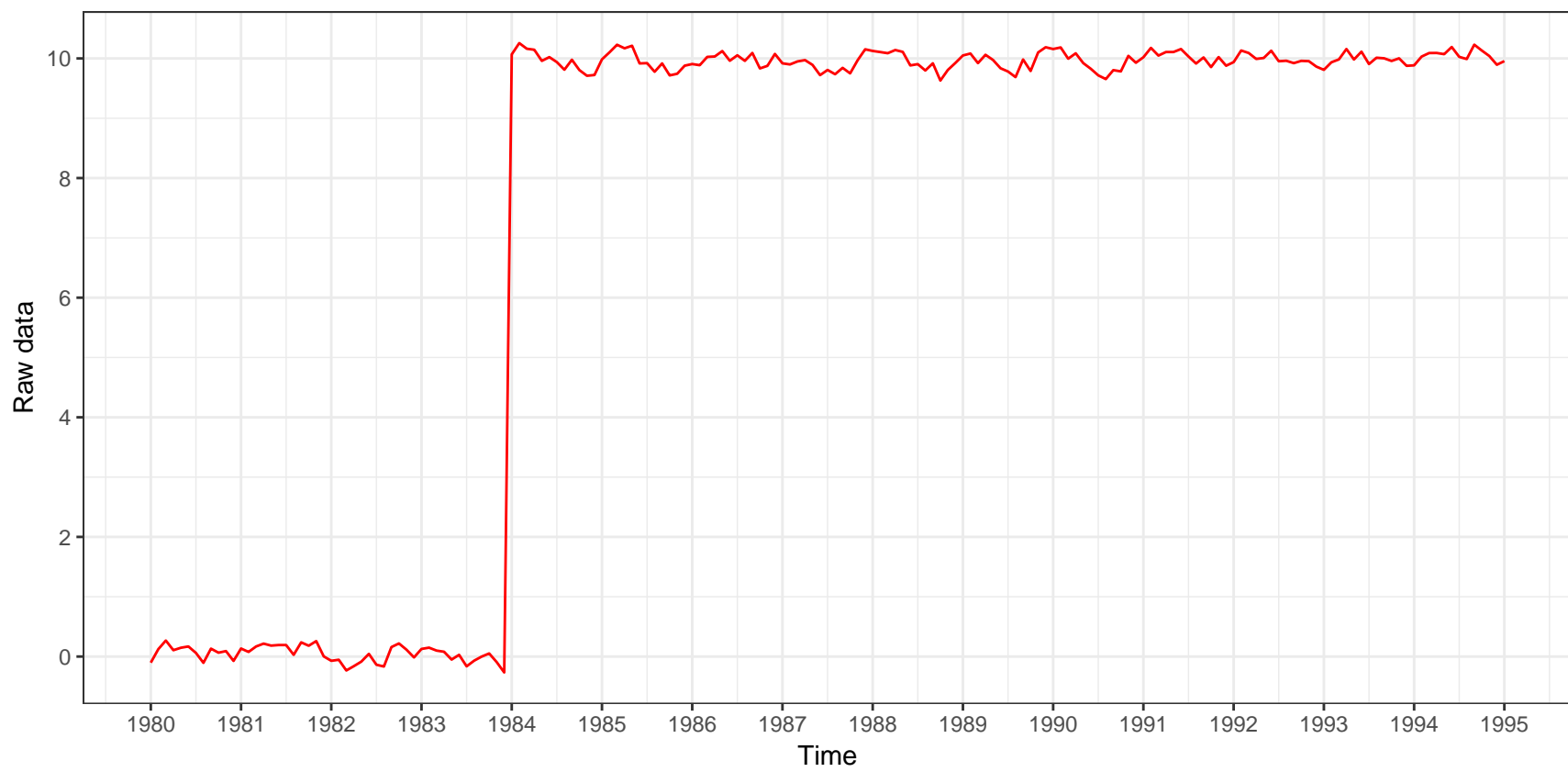


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

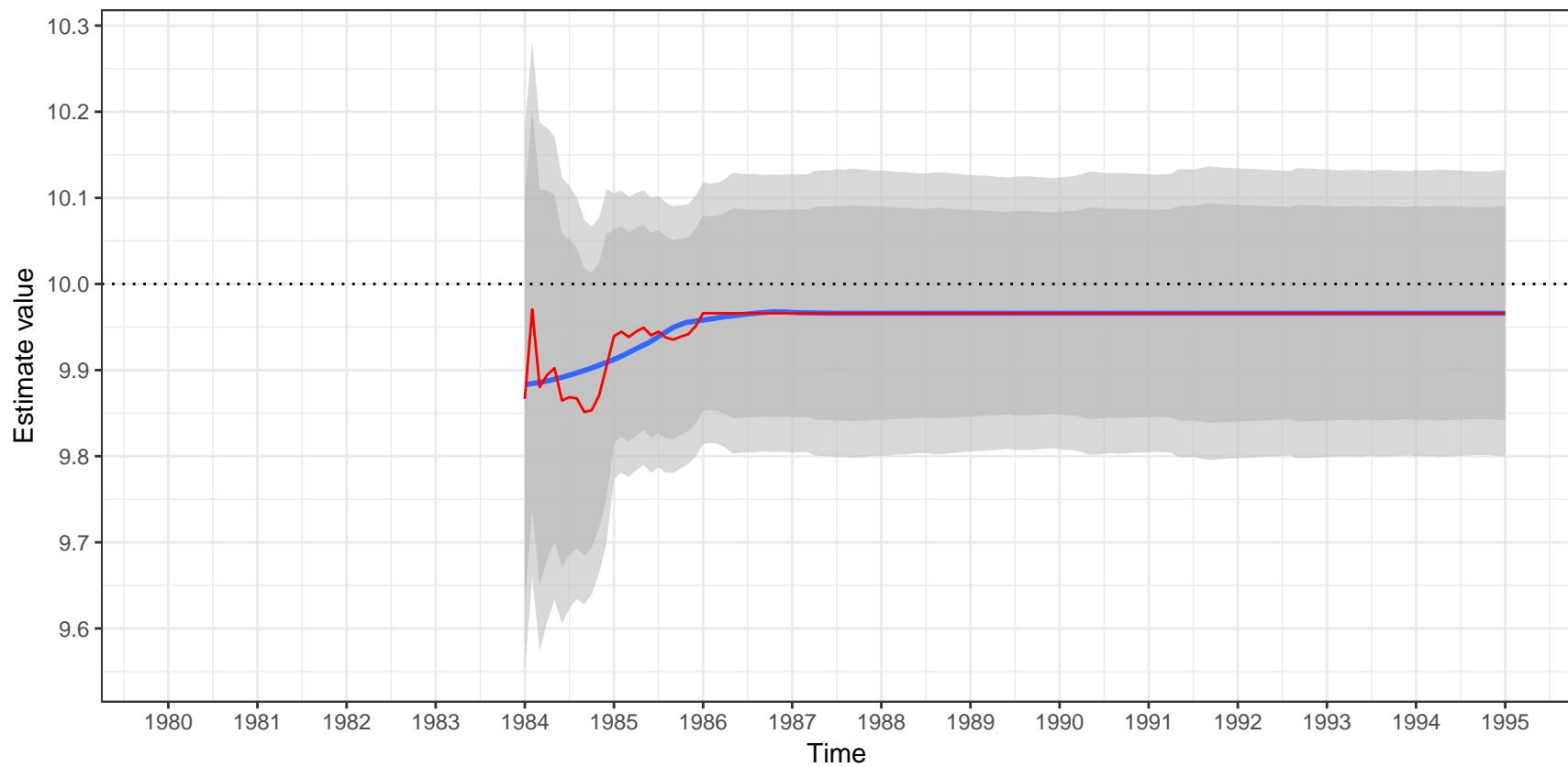


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t=a_t$

Estimation of the outlier

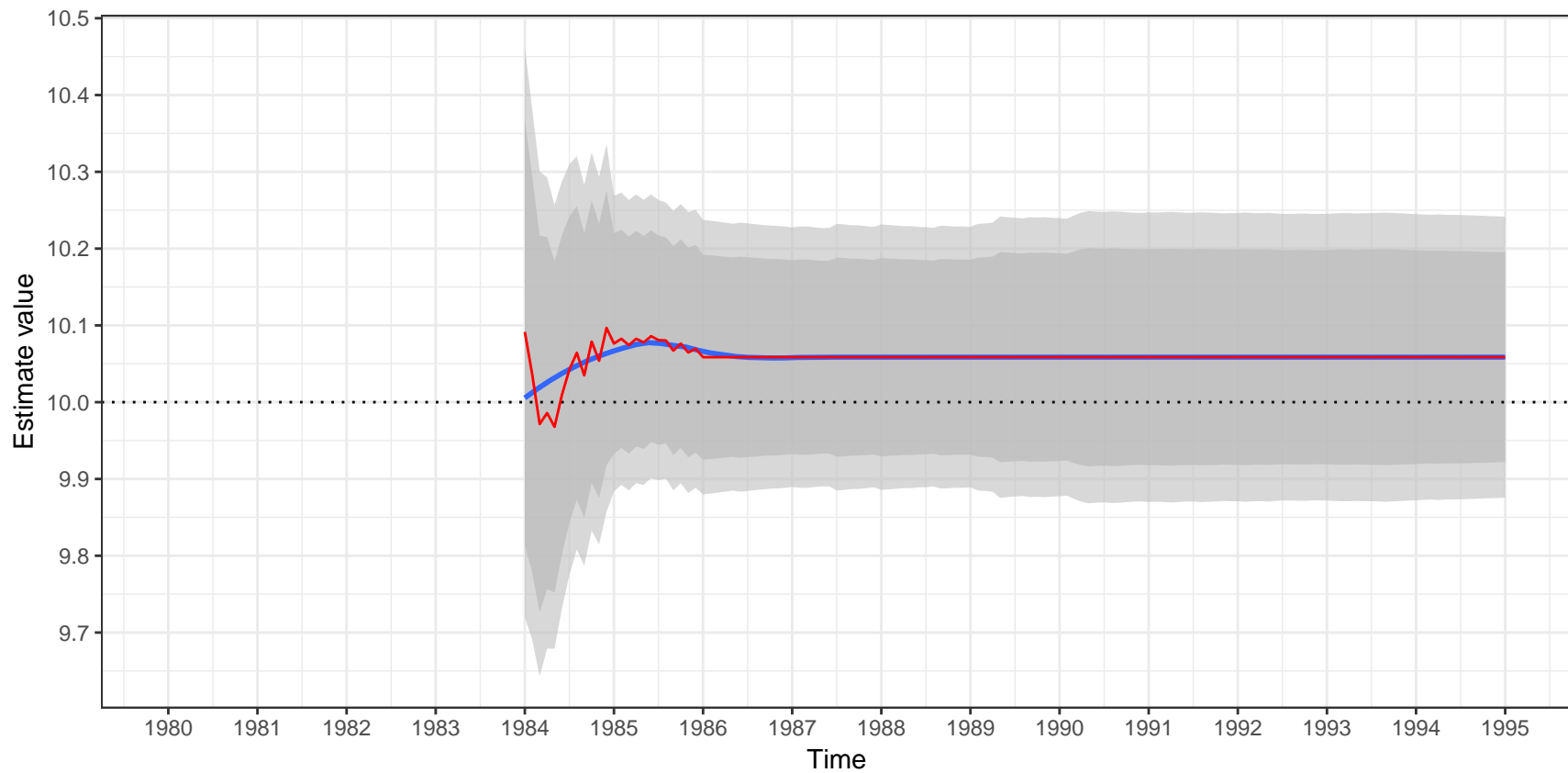


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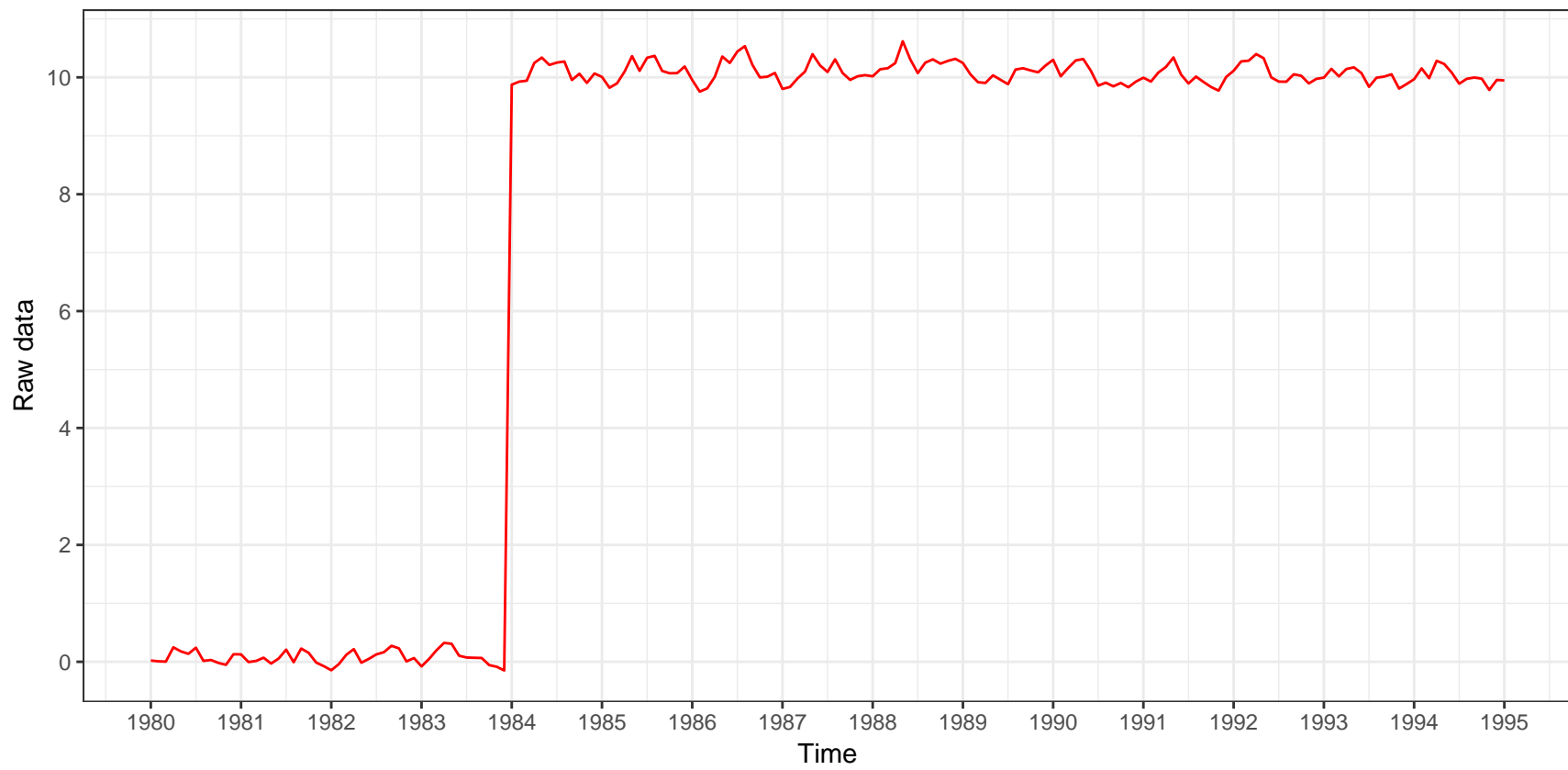


Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

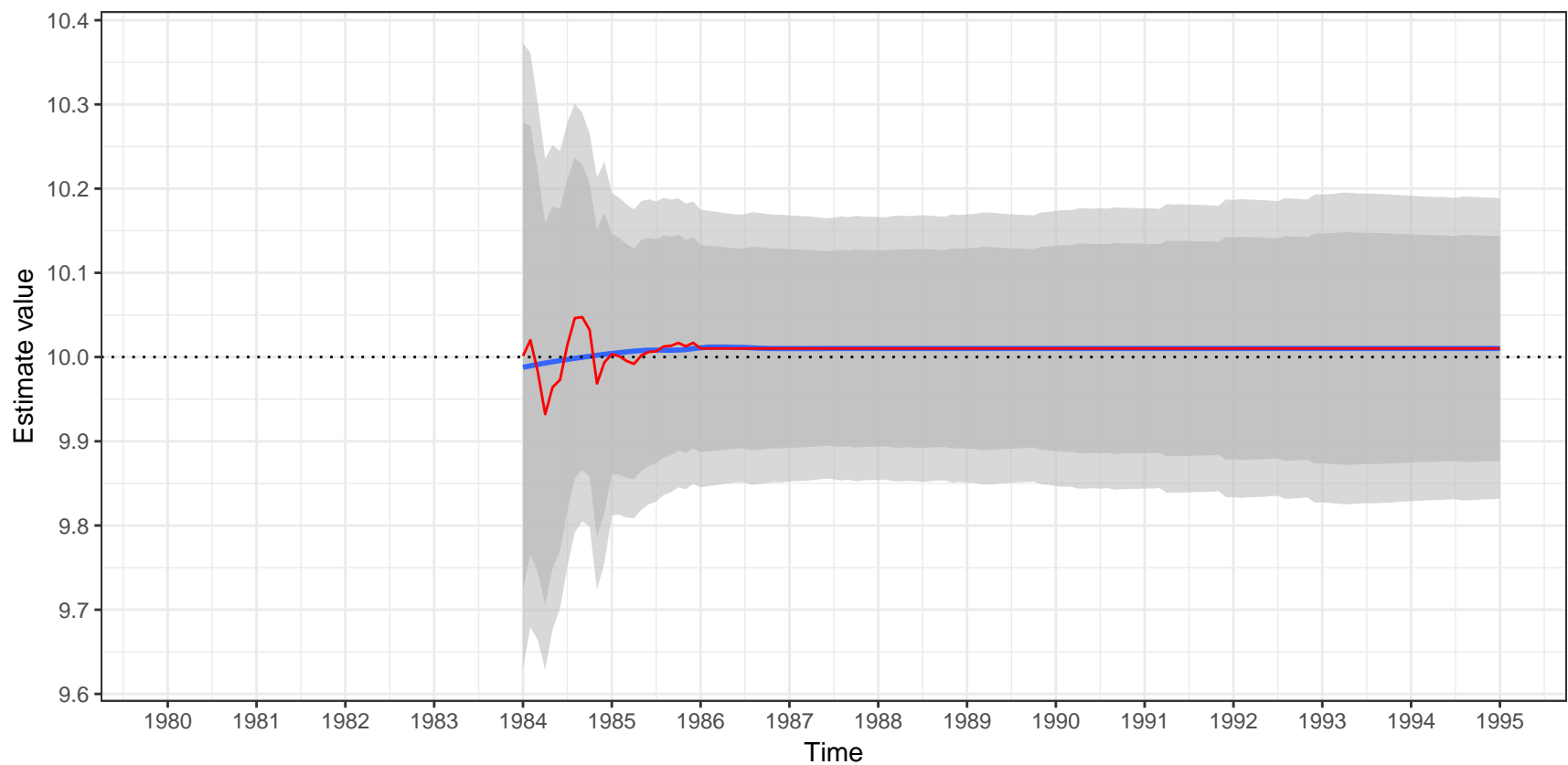


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,0)(1,0,0) – additive decomposition
 $(1-0.6B)(1-0.6B^{12})X_t = a_t$

Estimation of the outlier

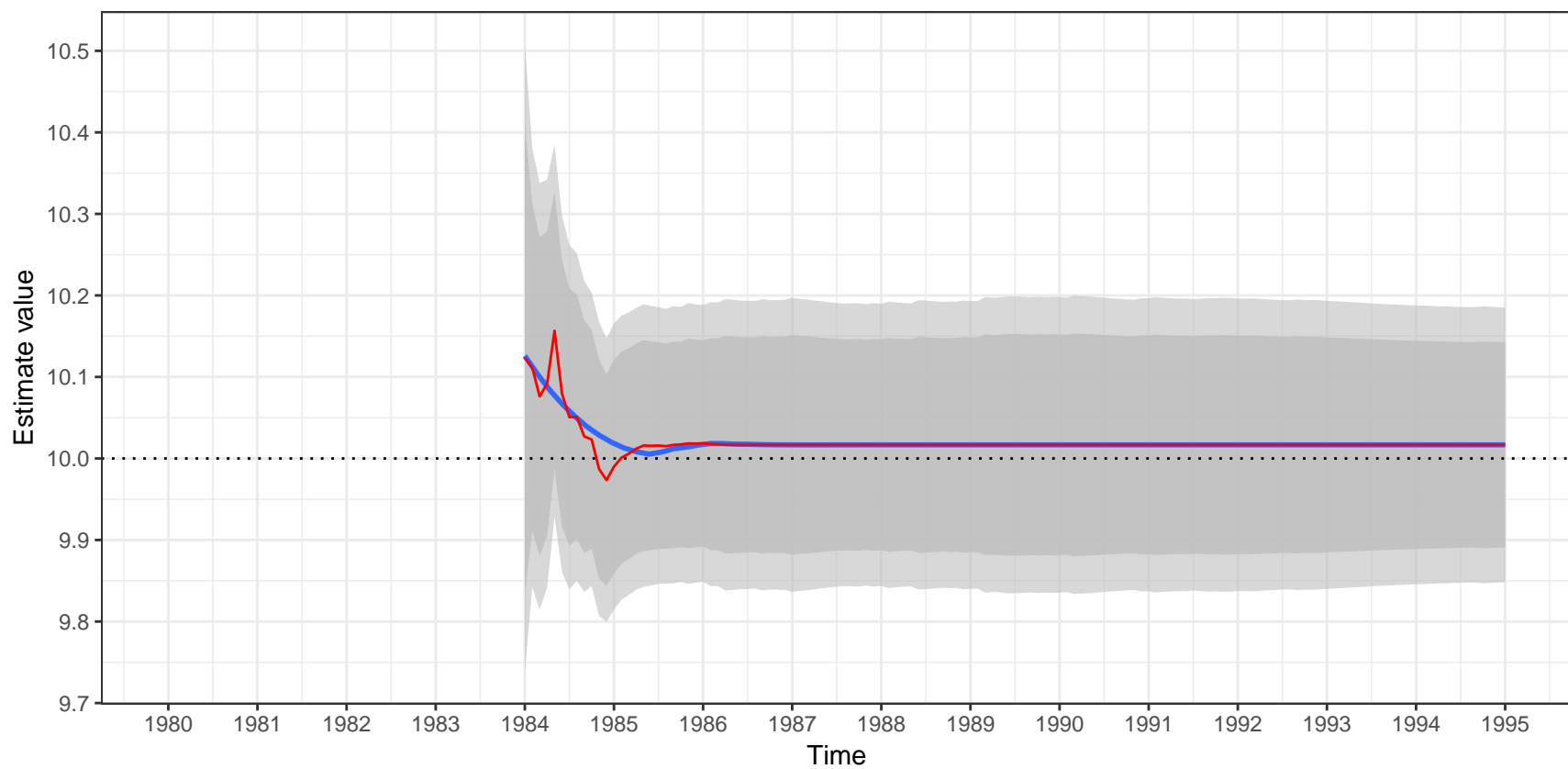


Raw data

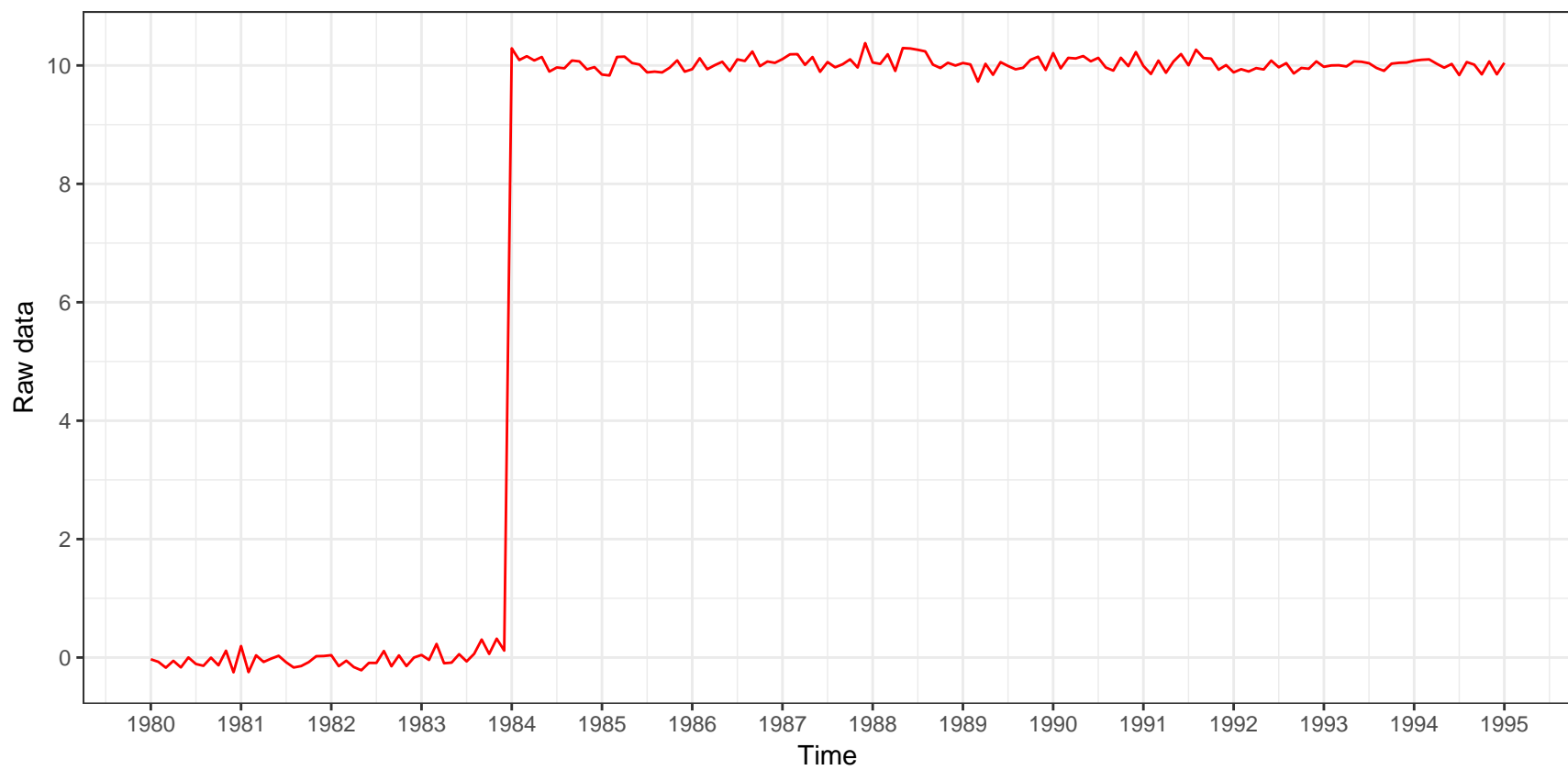


Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

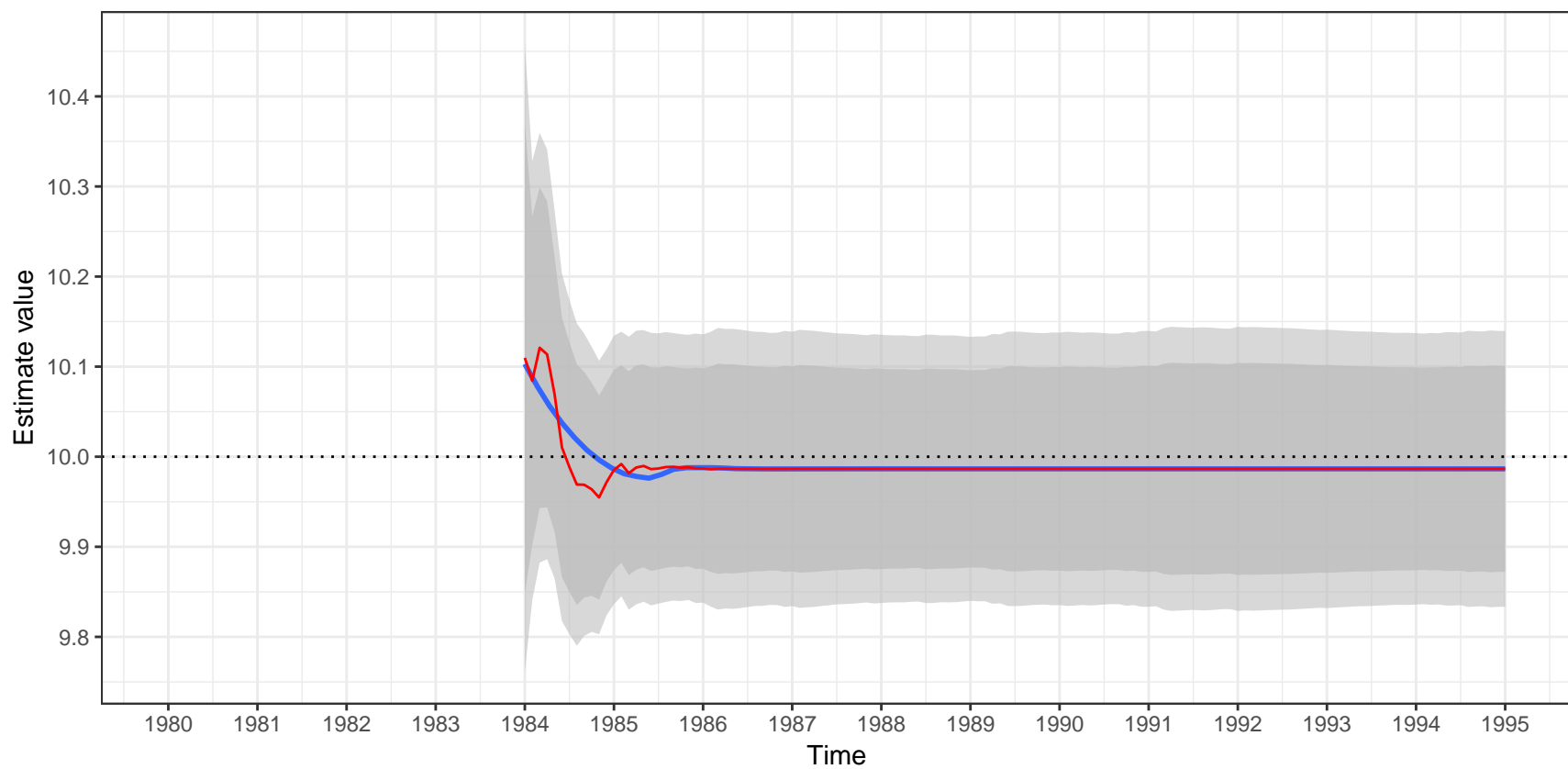


Raw data

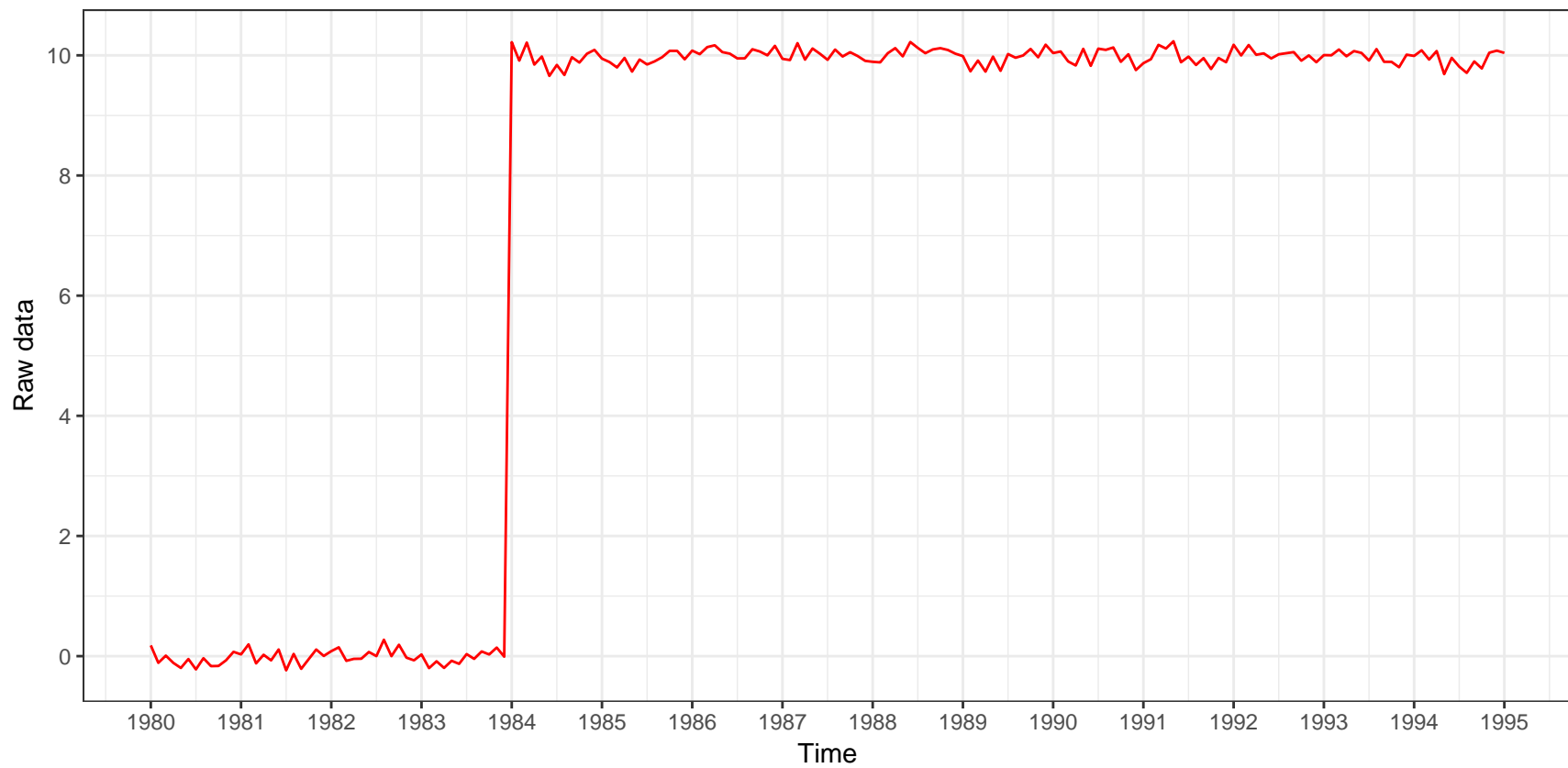


Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

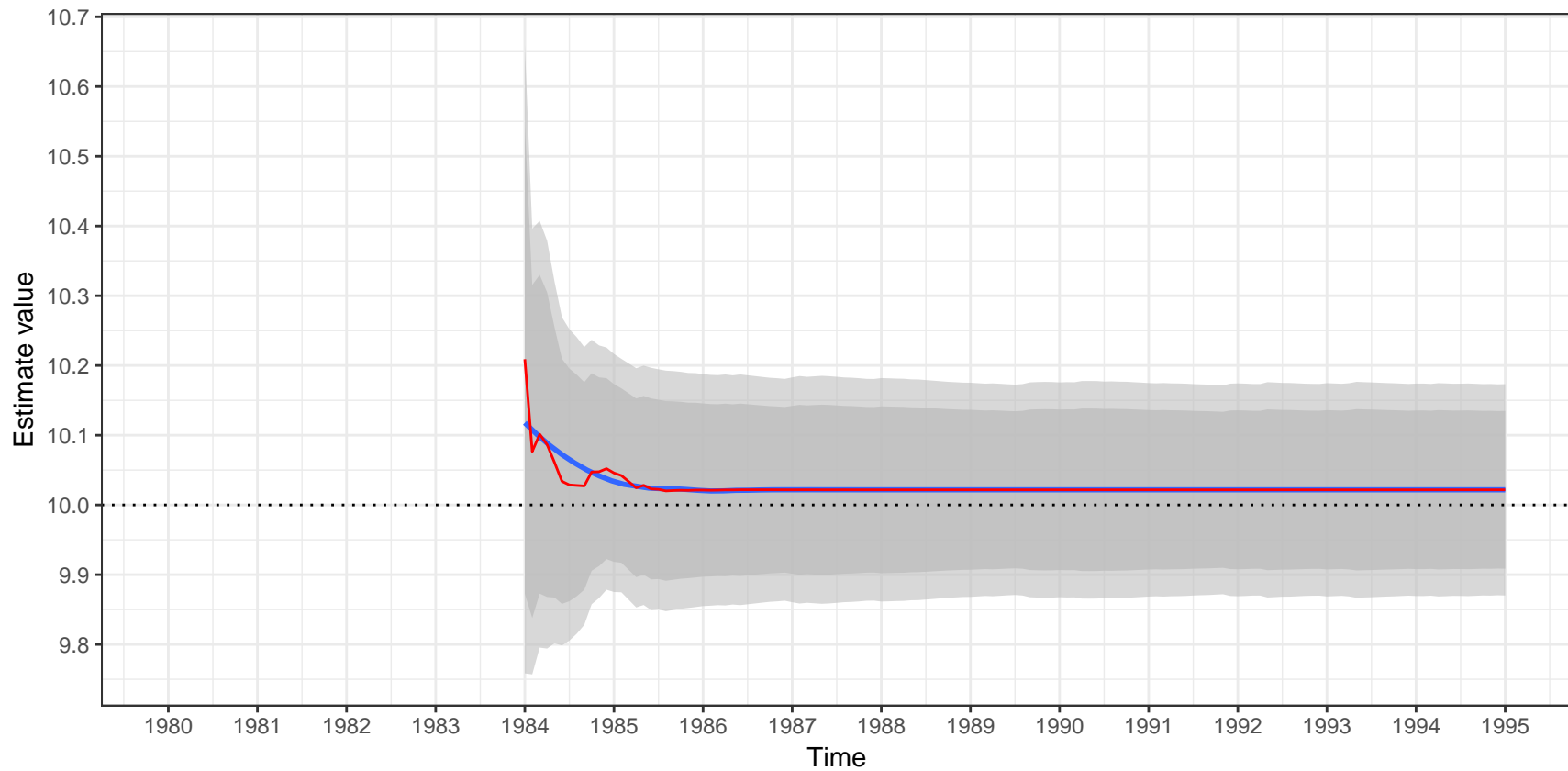


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

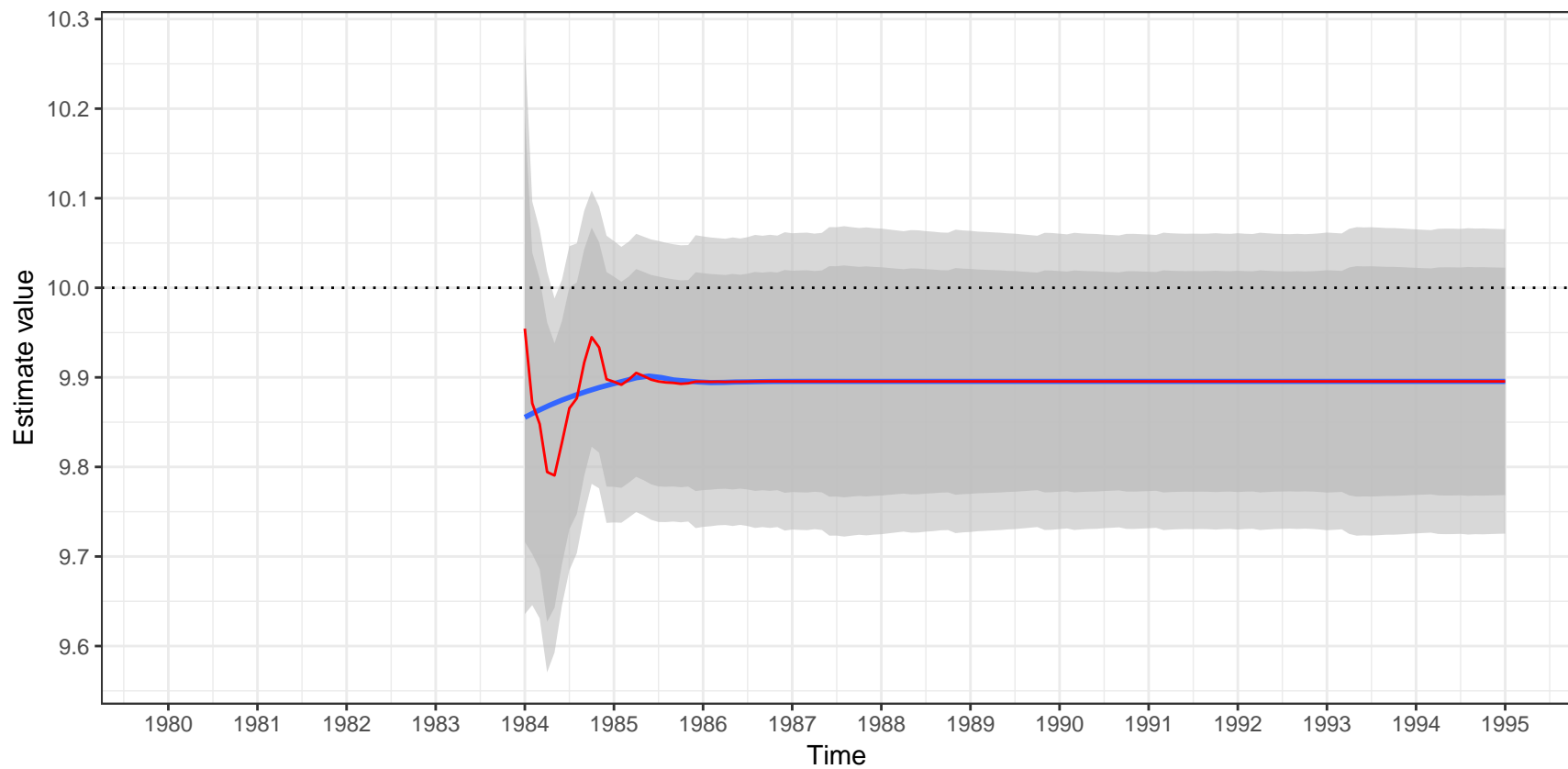


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

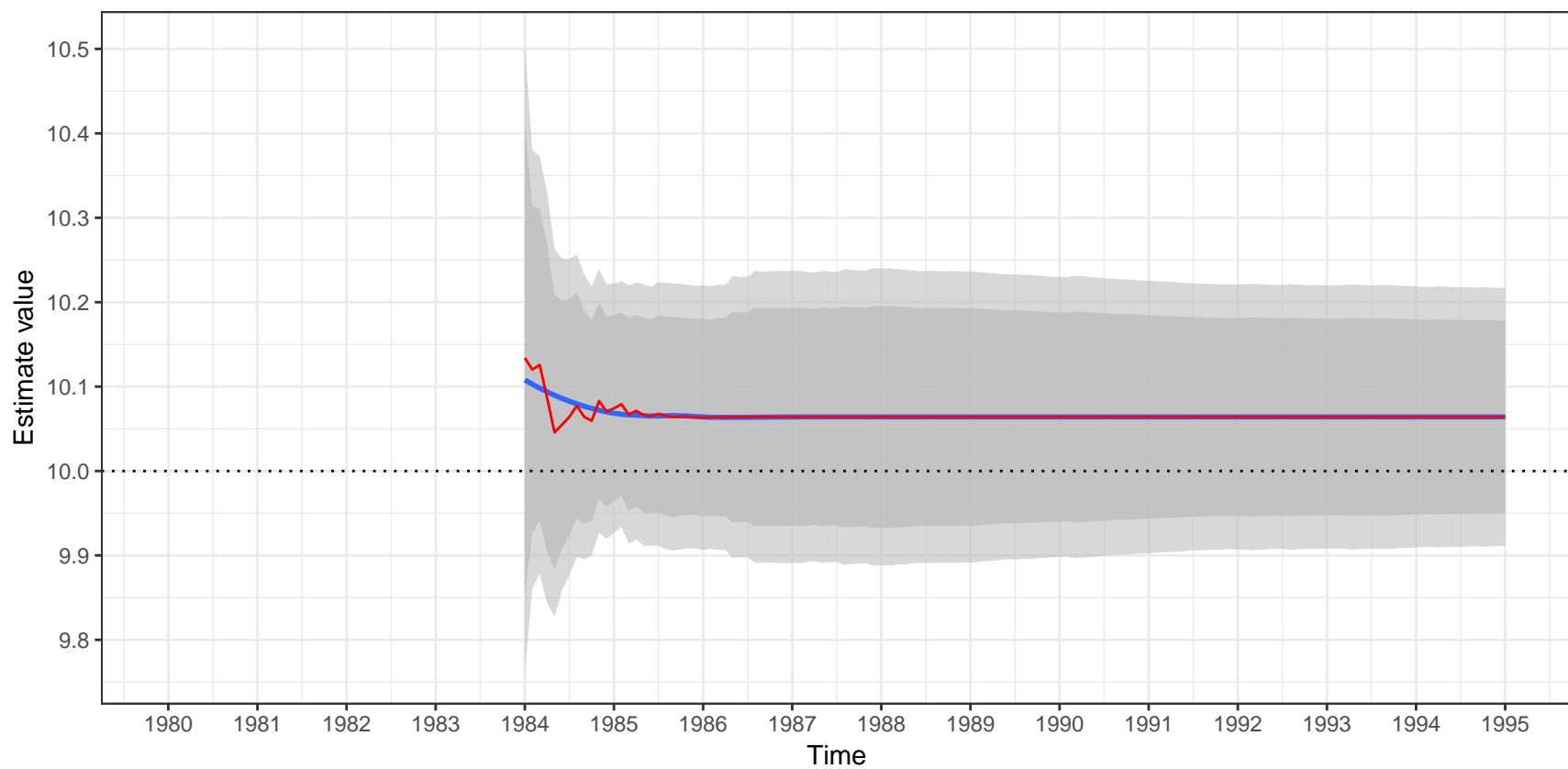


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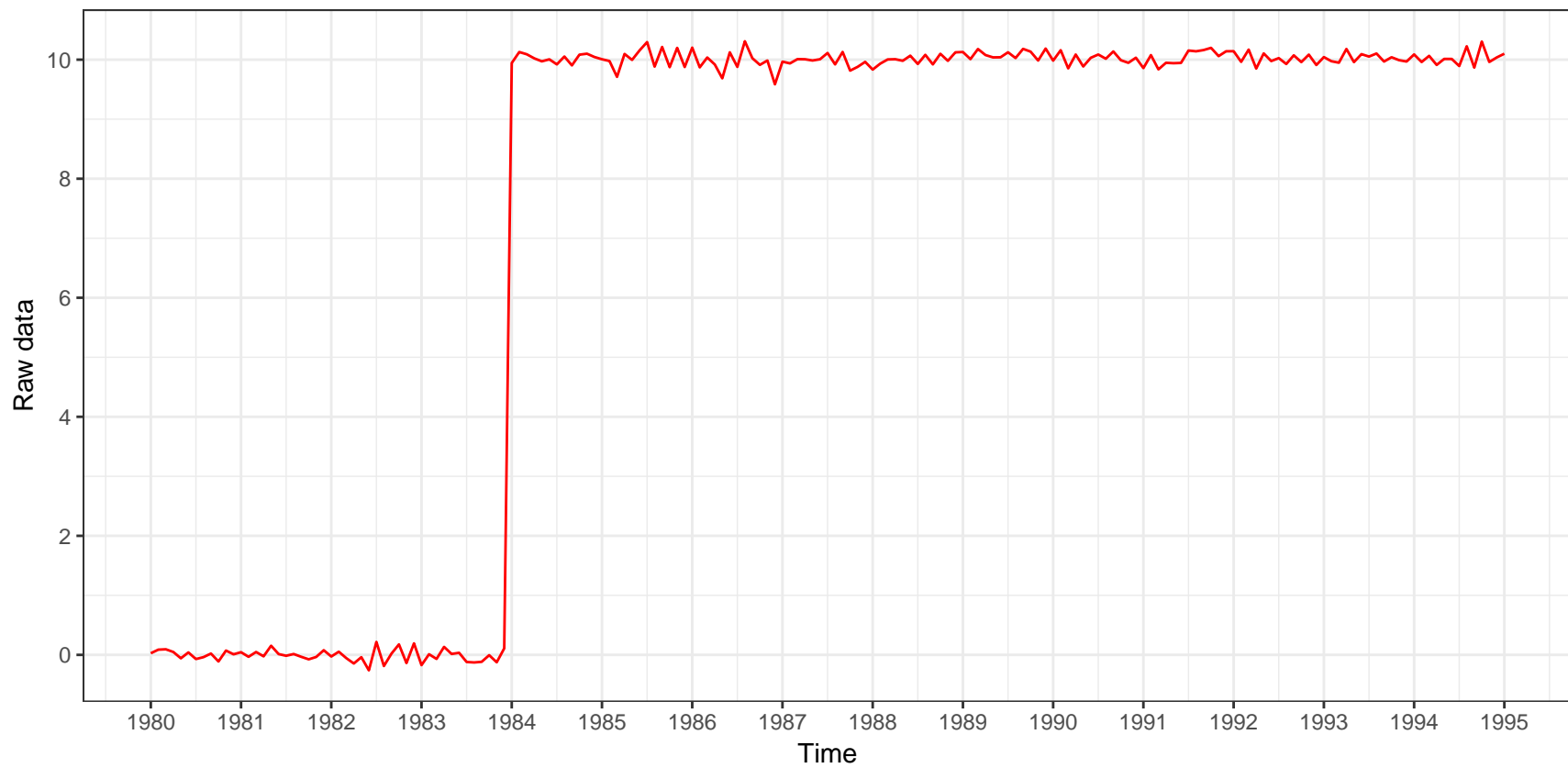


Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

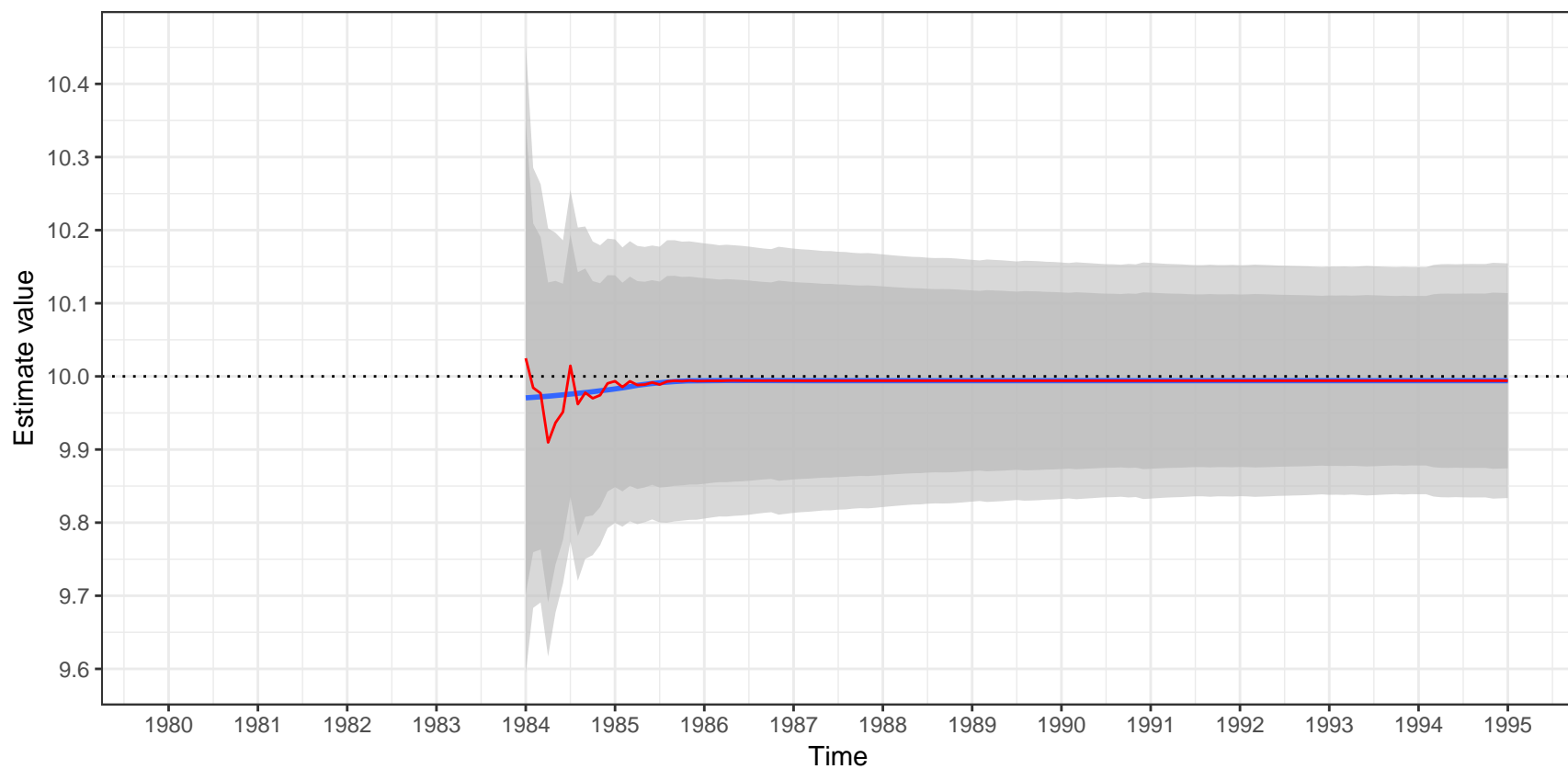


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

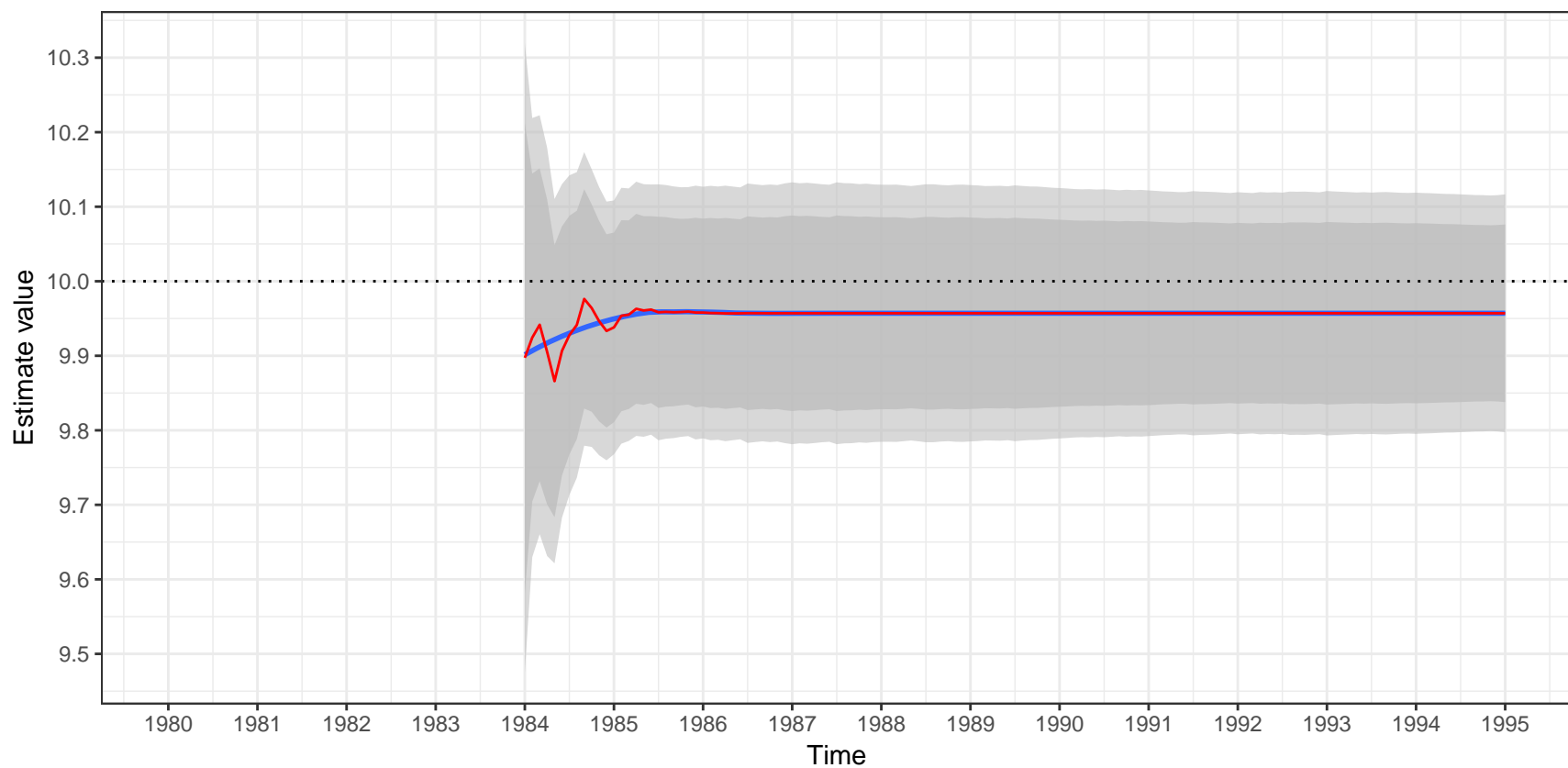


Raw data

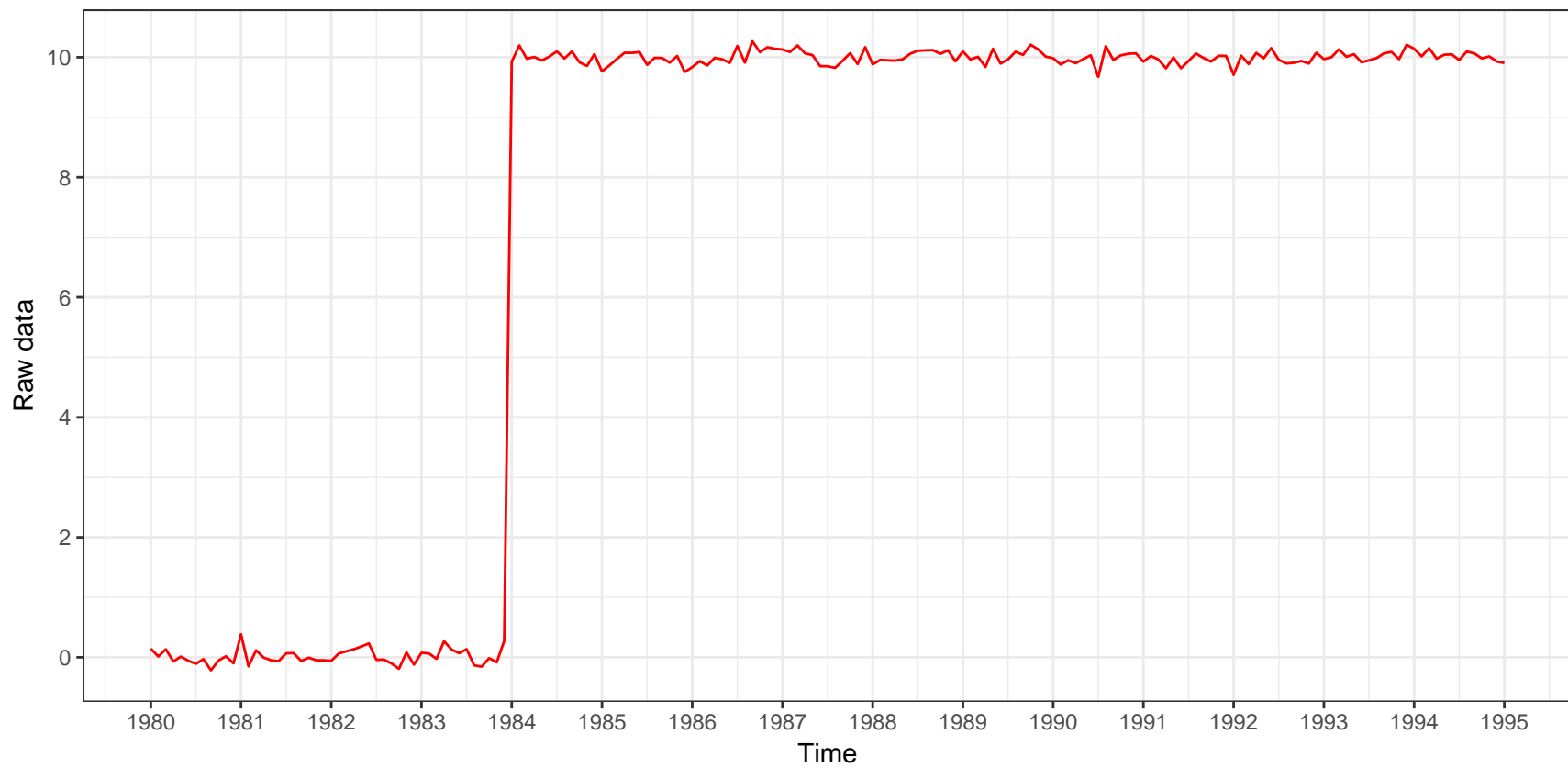


Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

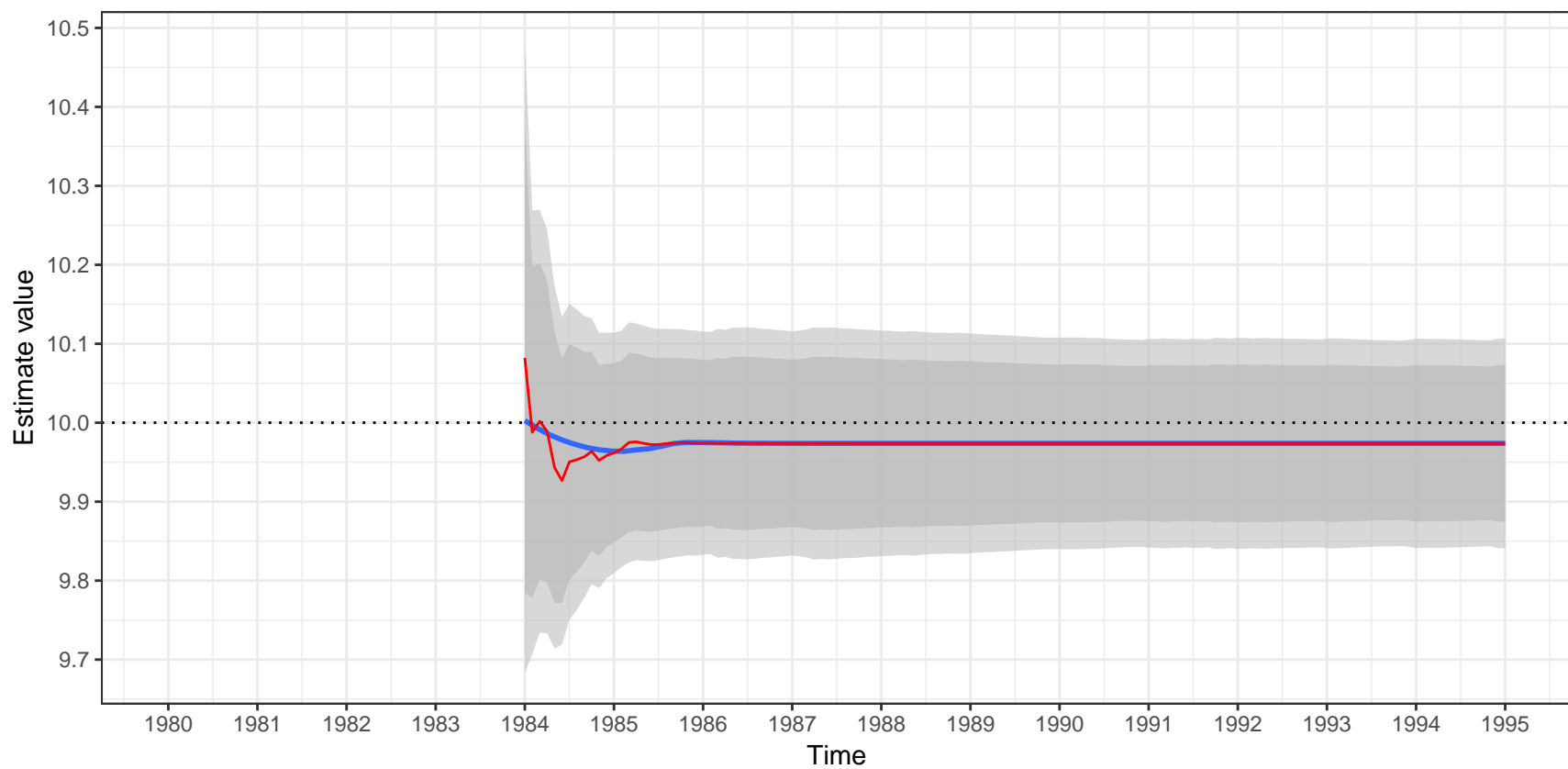


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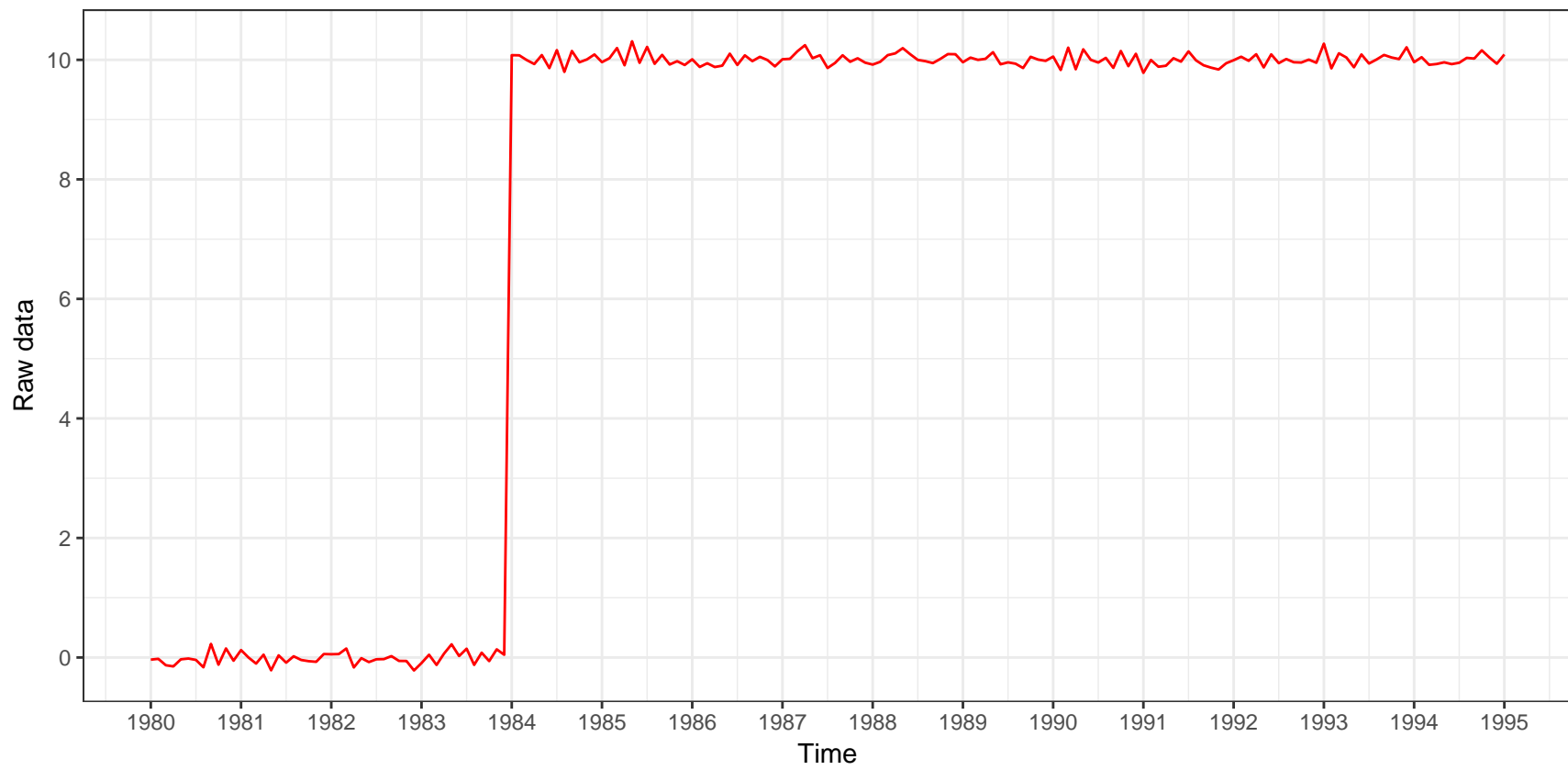


Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

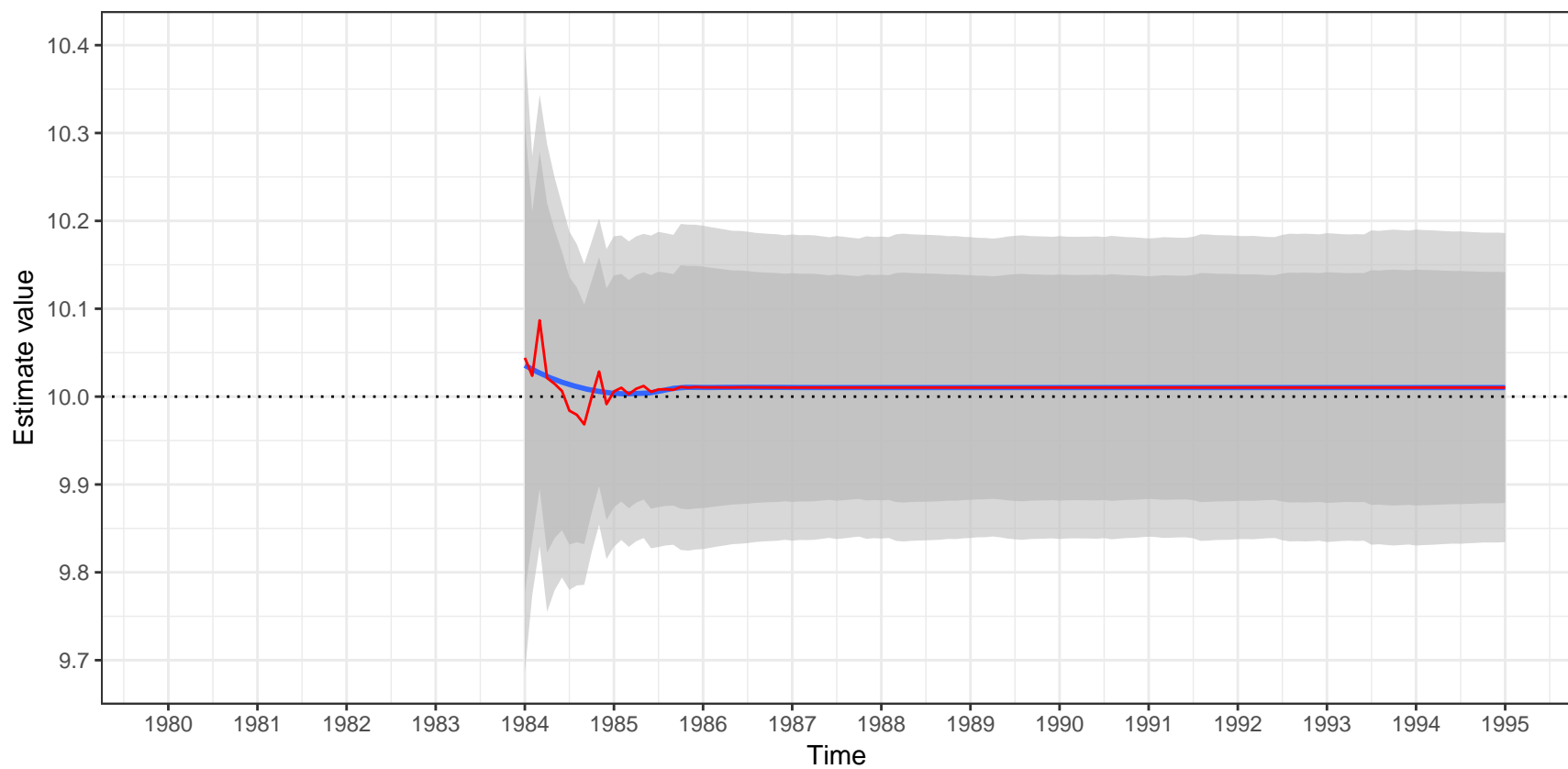


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

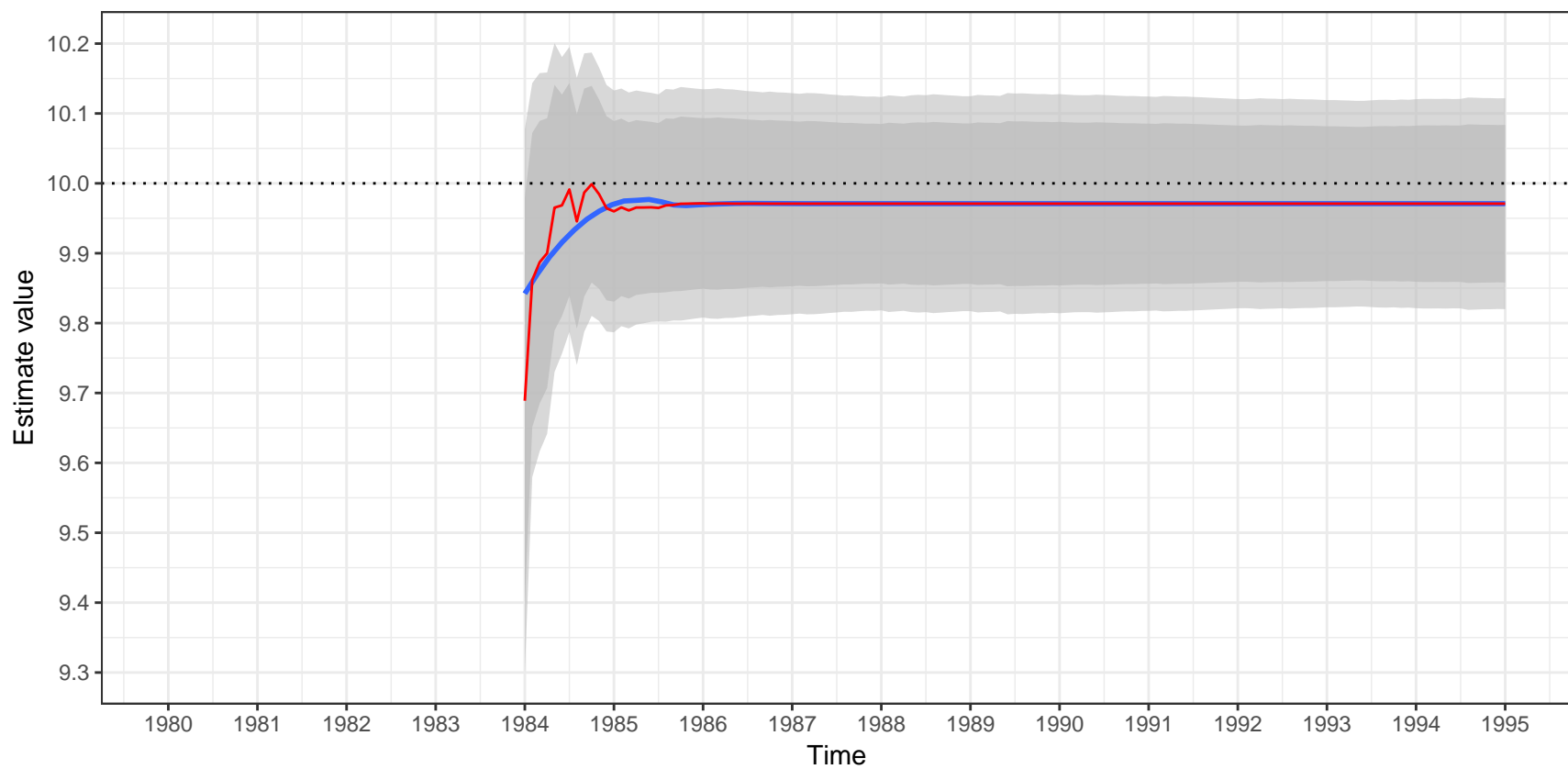


Raw data

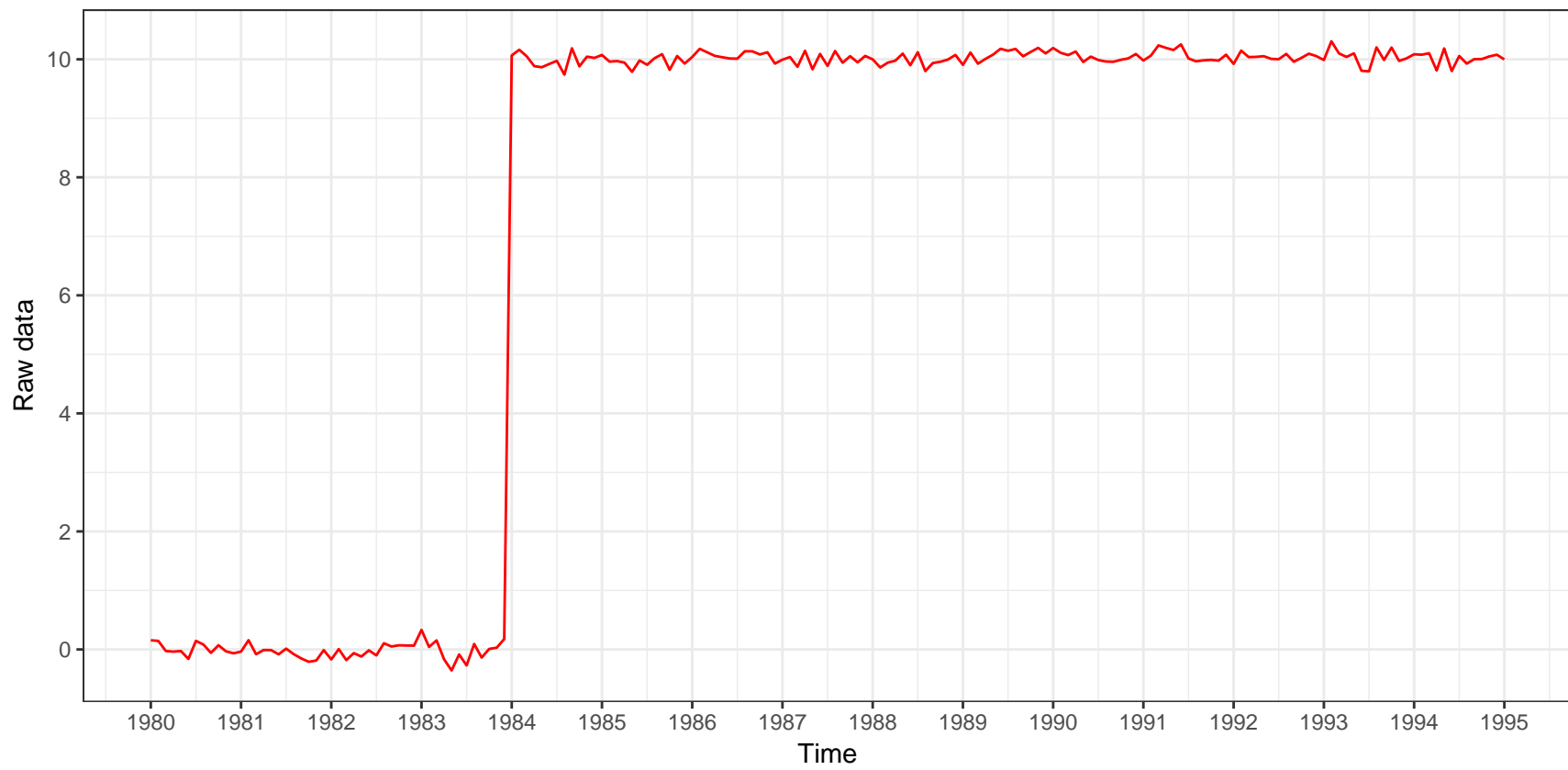


Estimate value of a LS(1984-01)
ARIMA (0,0,2)(0,0,0) – additive decomposition
 $X_t = (1 + 0.6B^2)a_t$

Estimation of the outlier

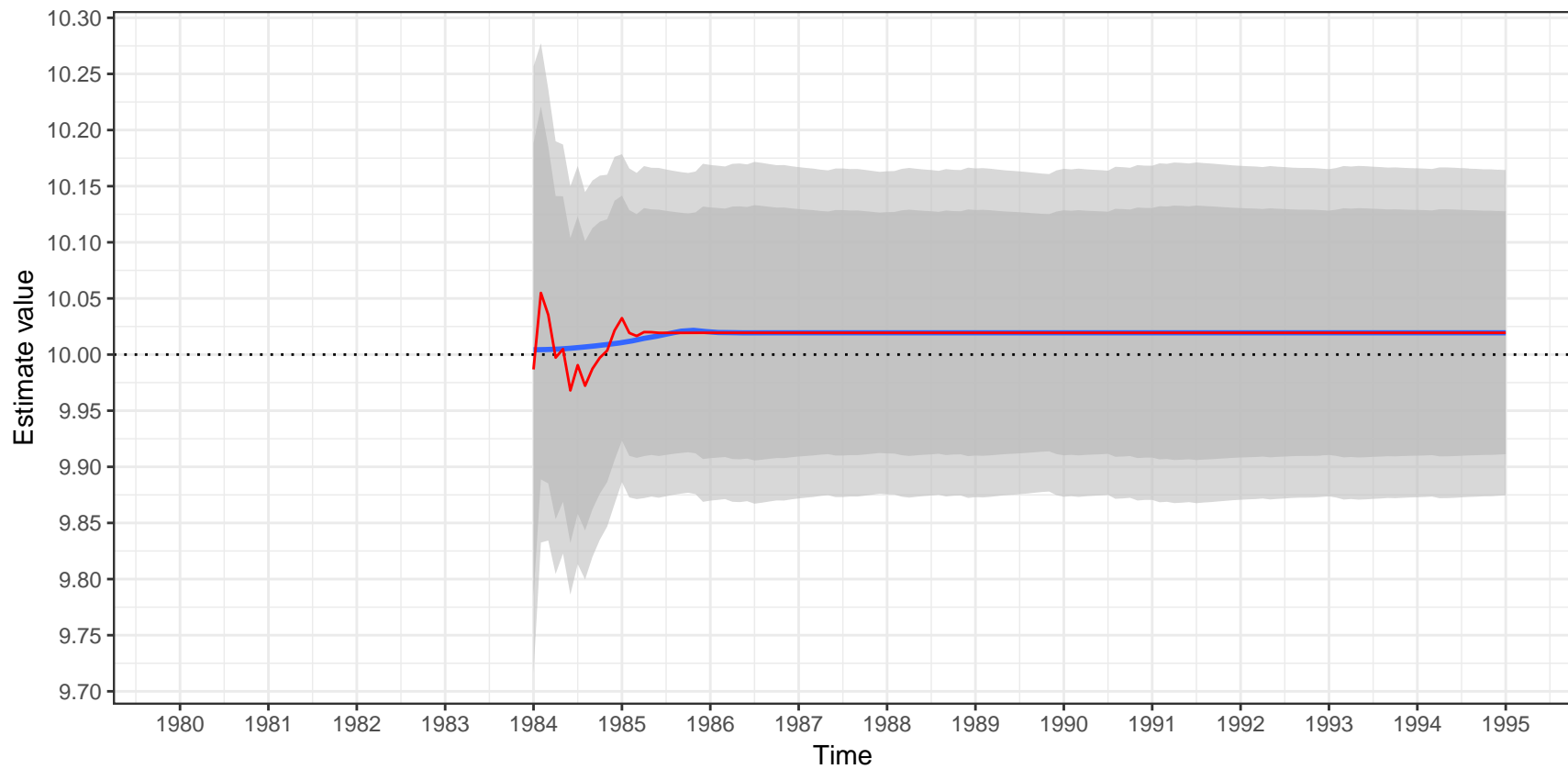


Raw data

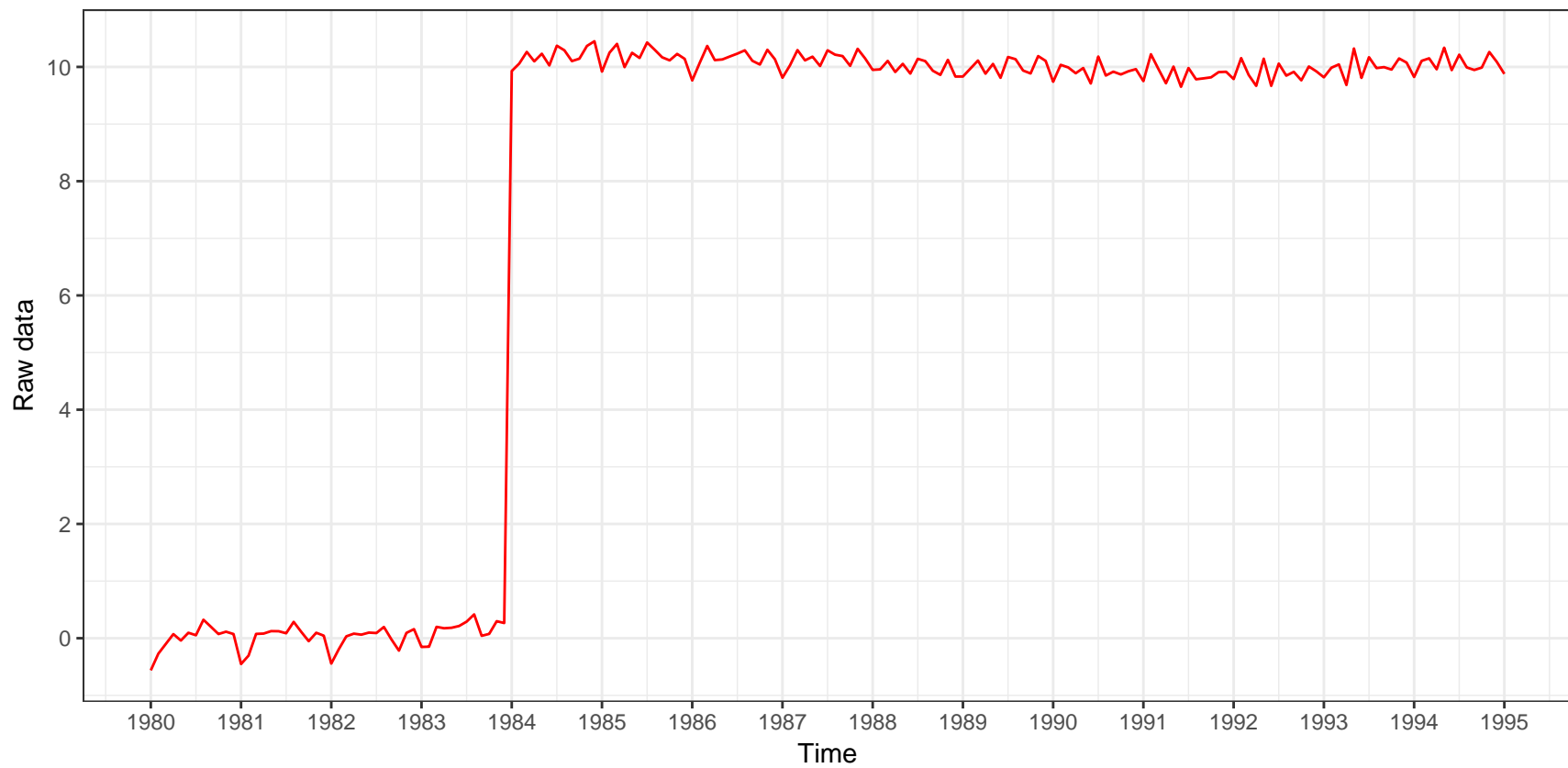


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

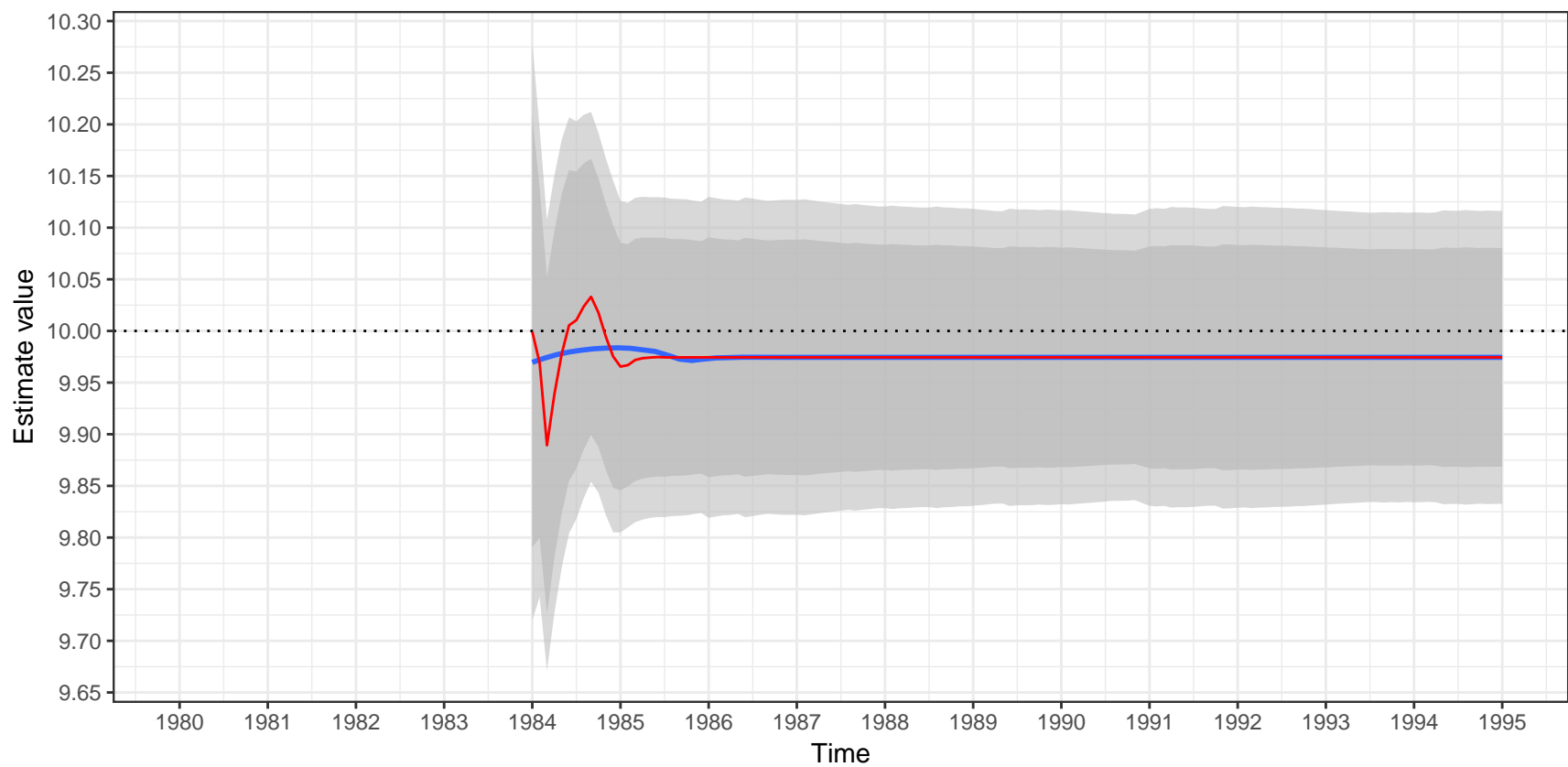


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

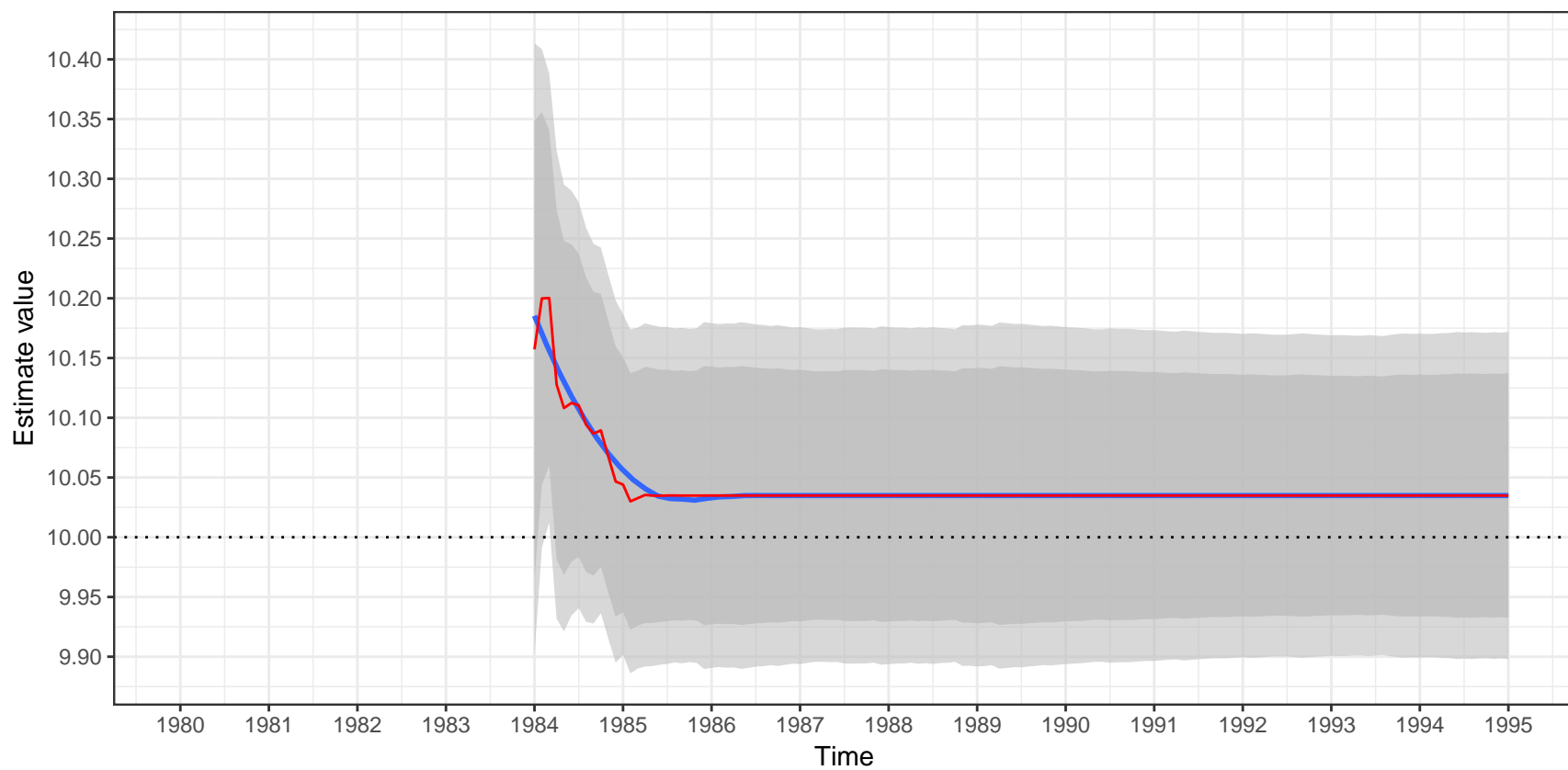


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

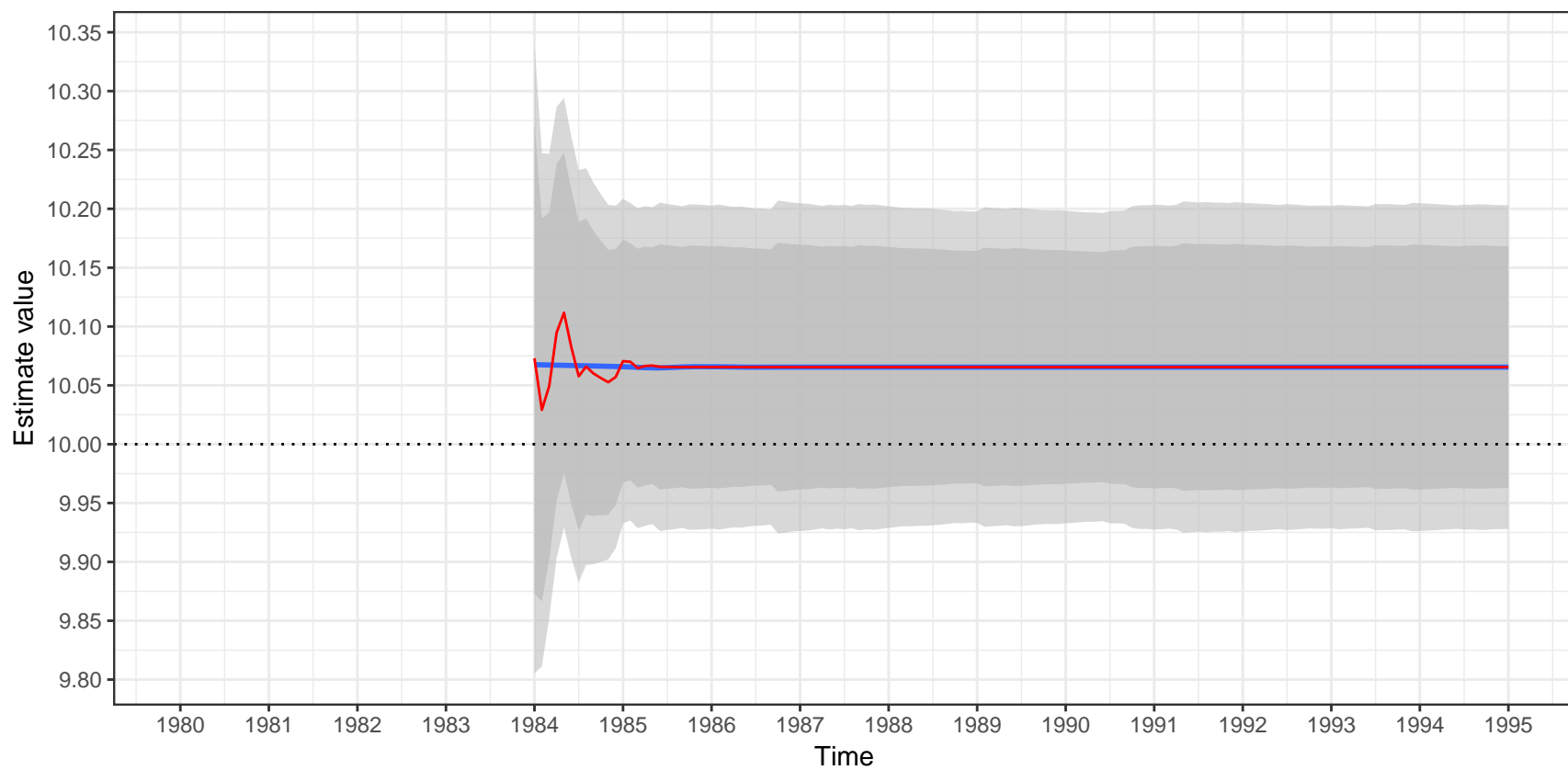


Raw data

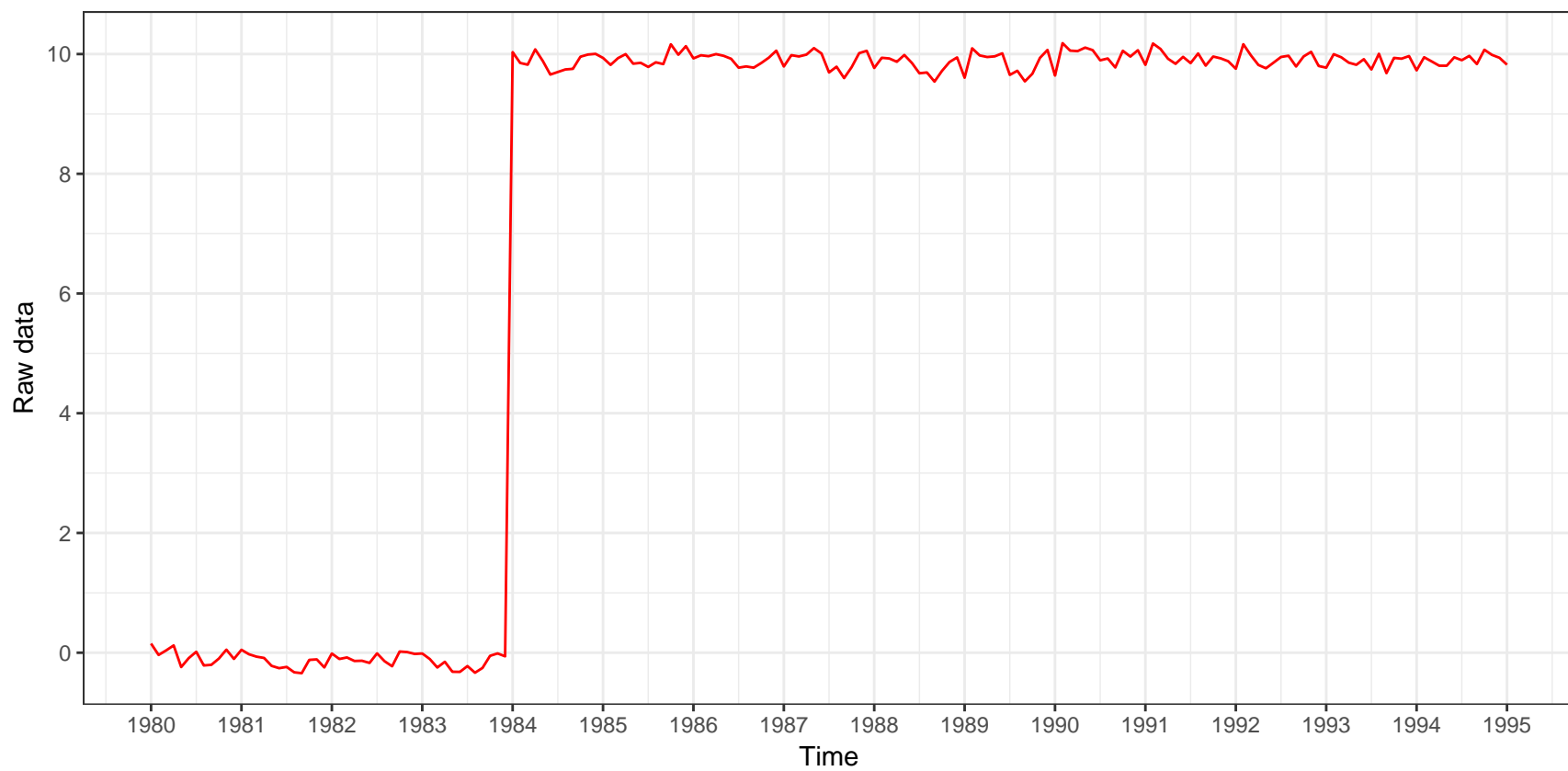


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

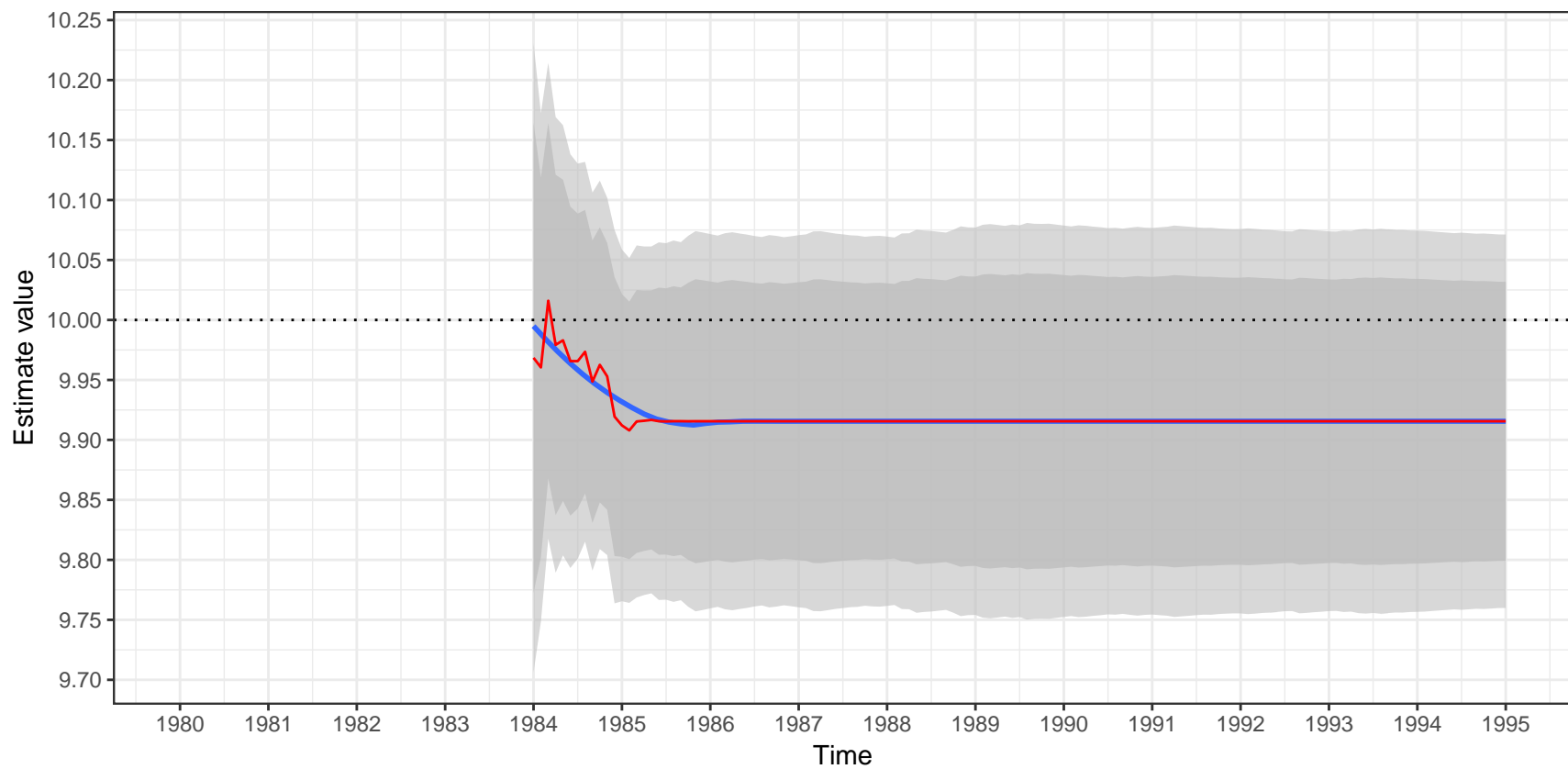


Raw data

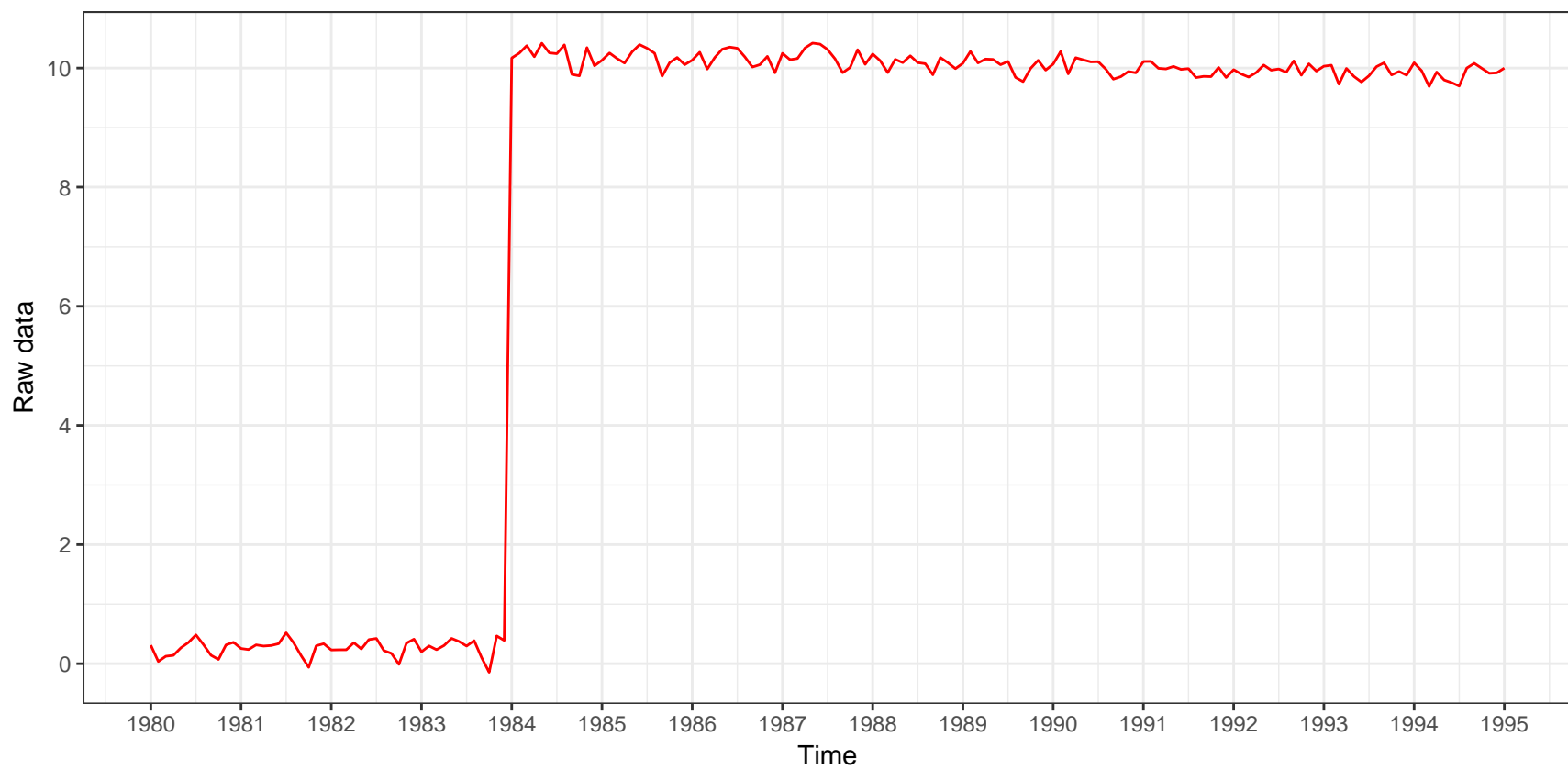


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

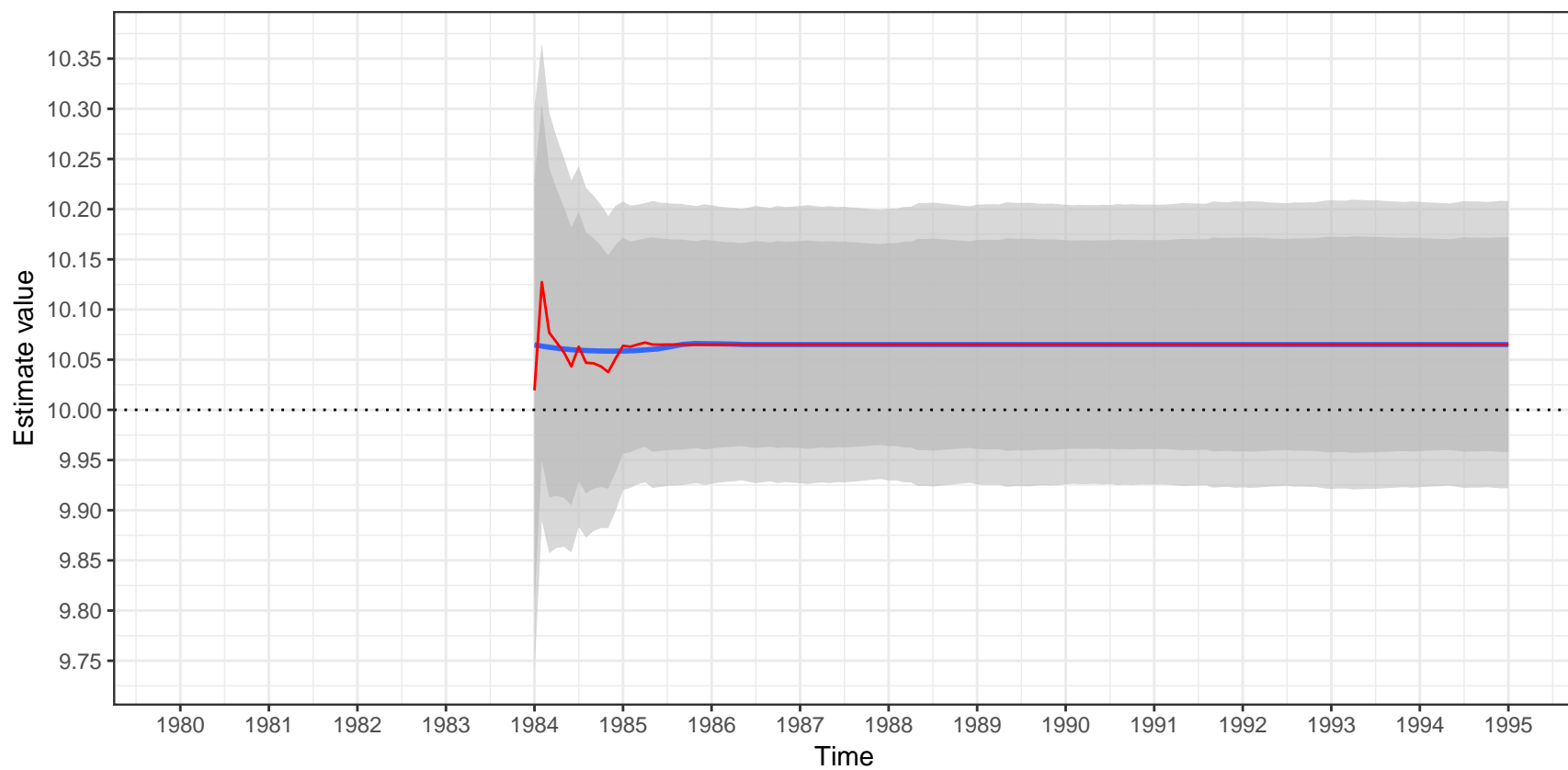


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

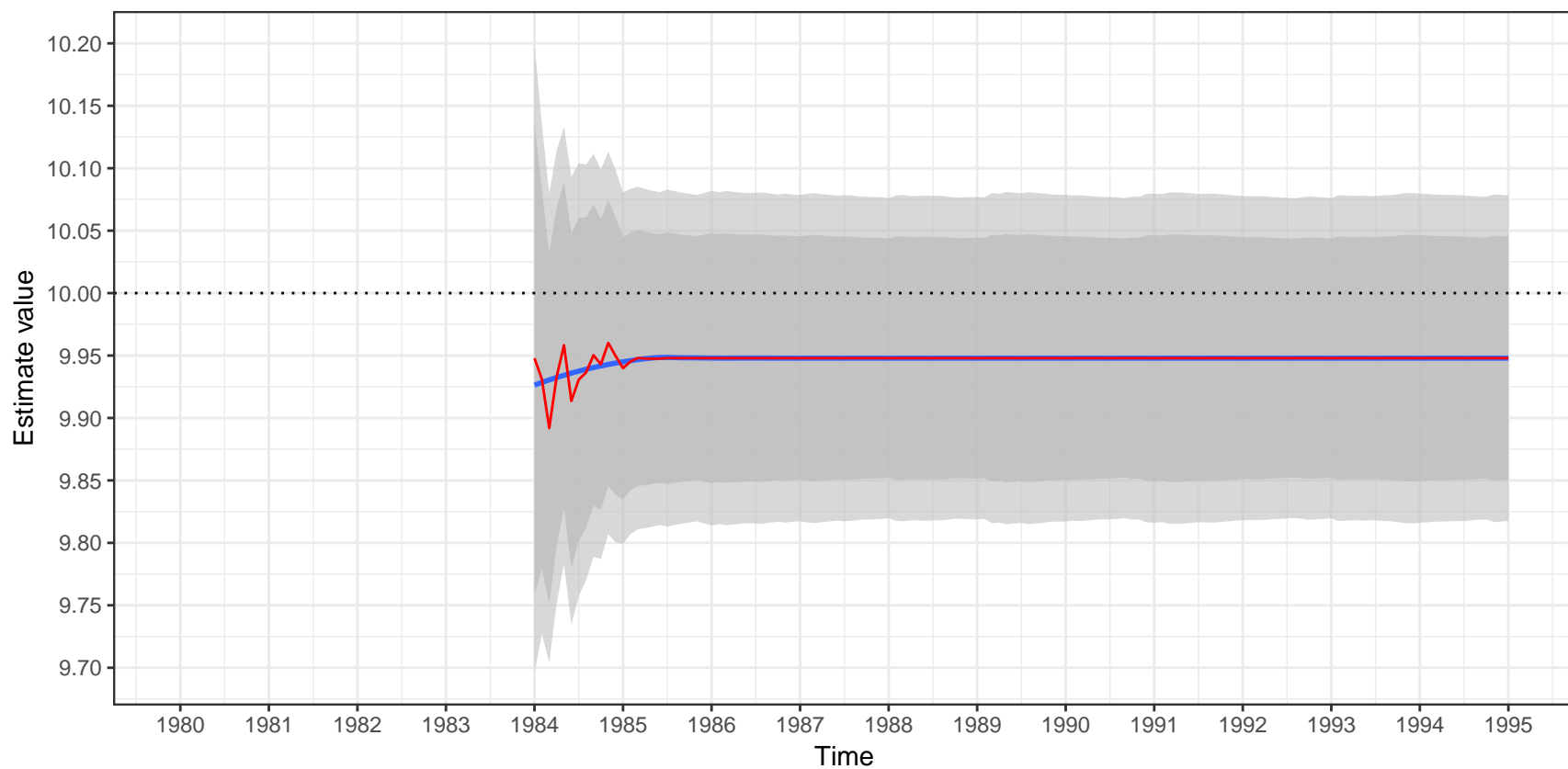


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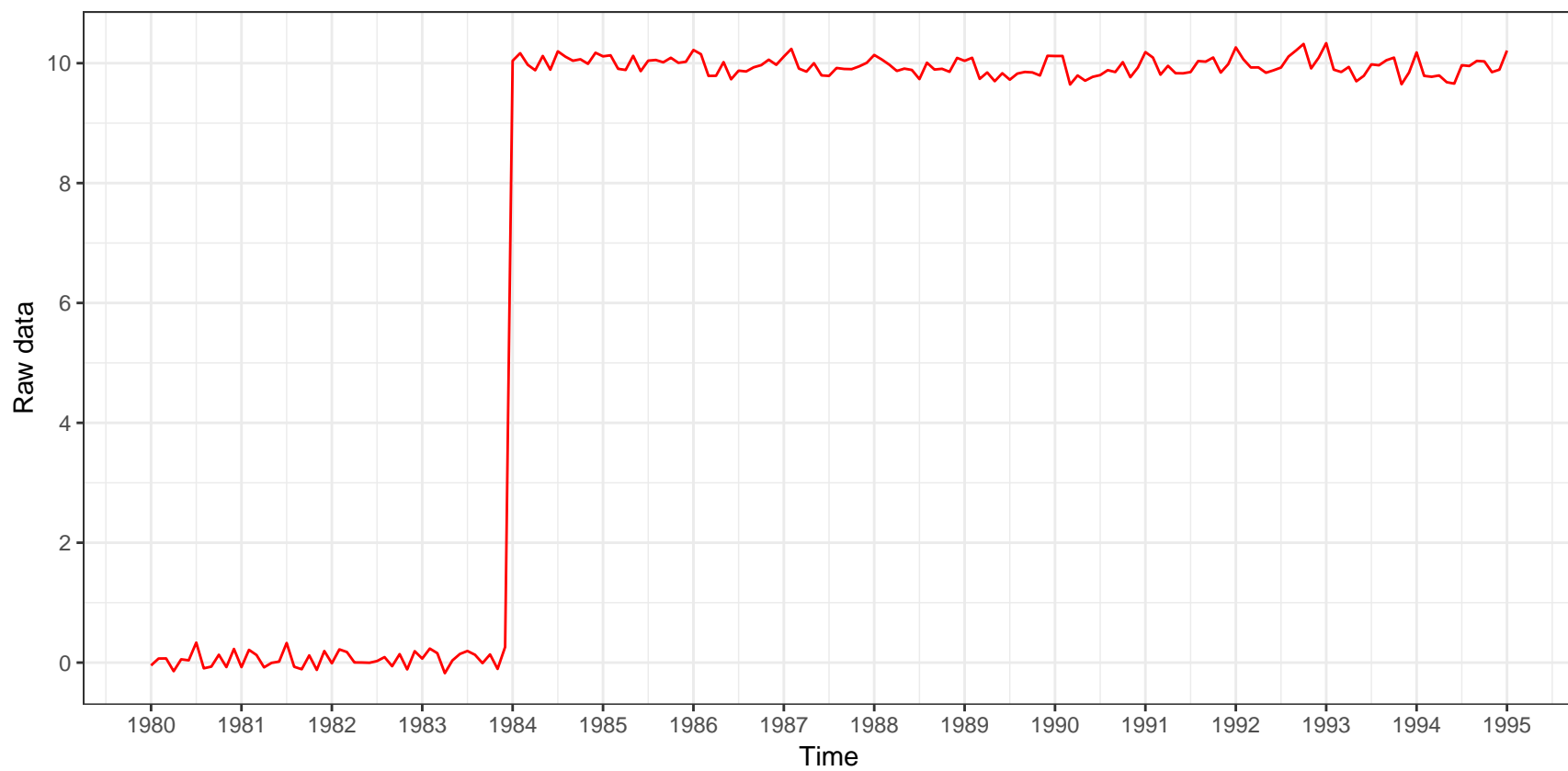


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
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Estimation of the outlier

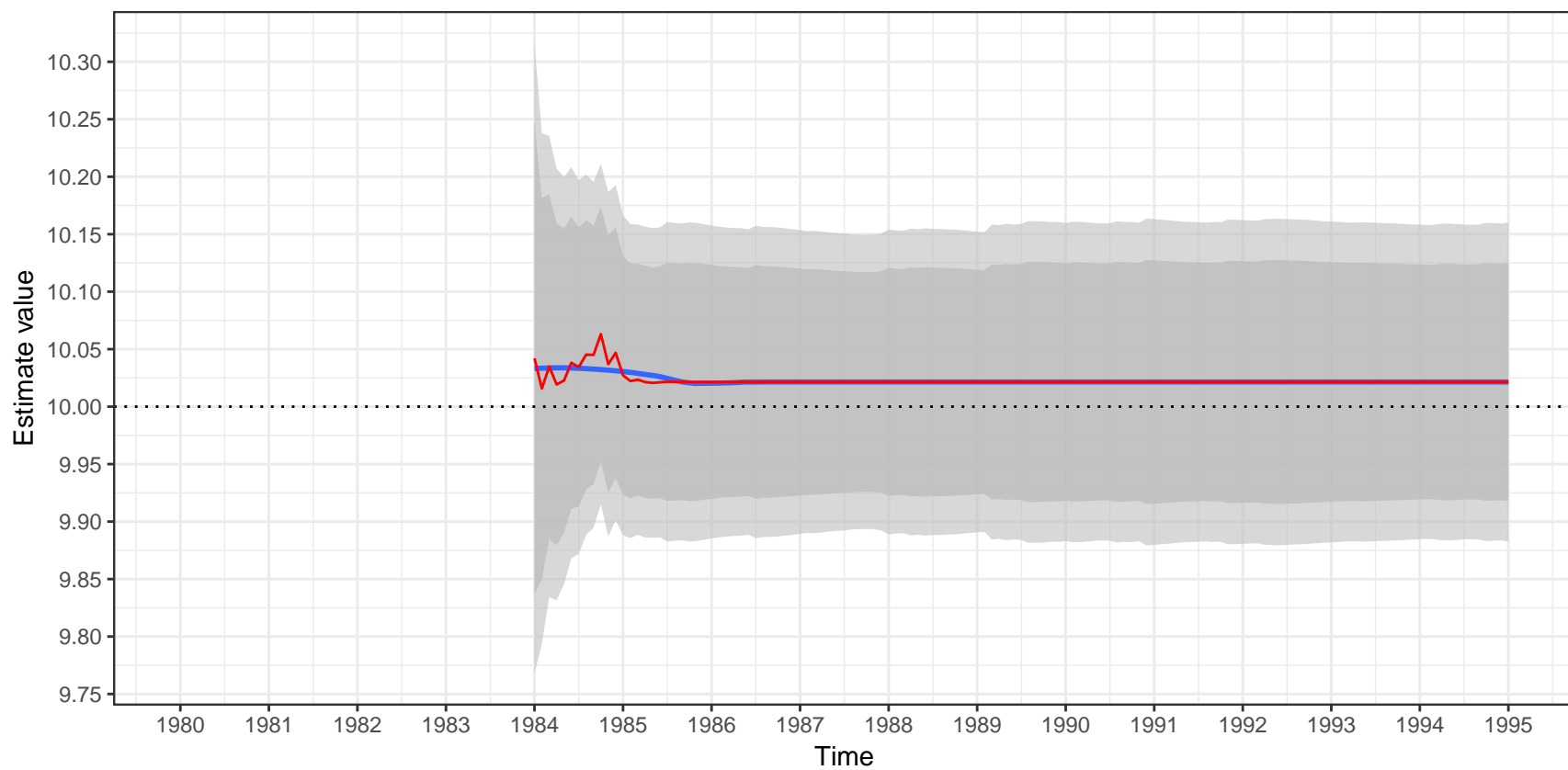


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
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Estimation of the outlier

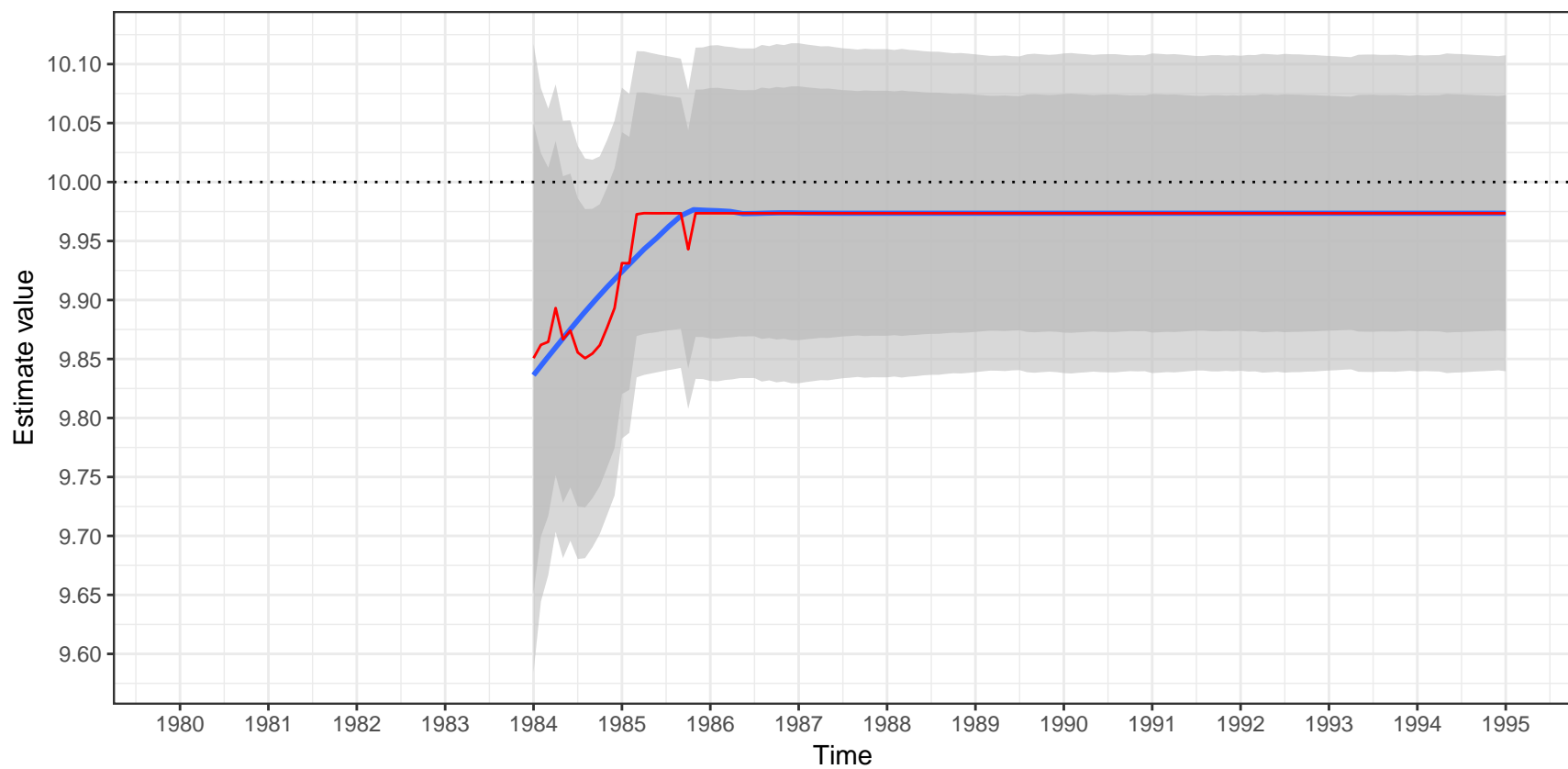


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

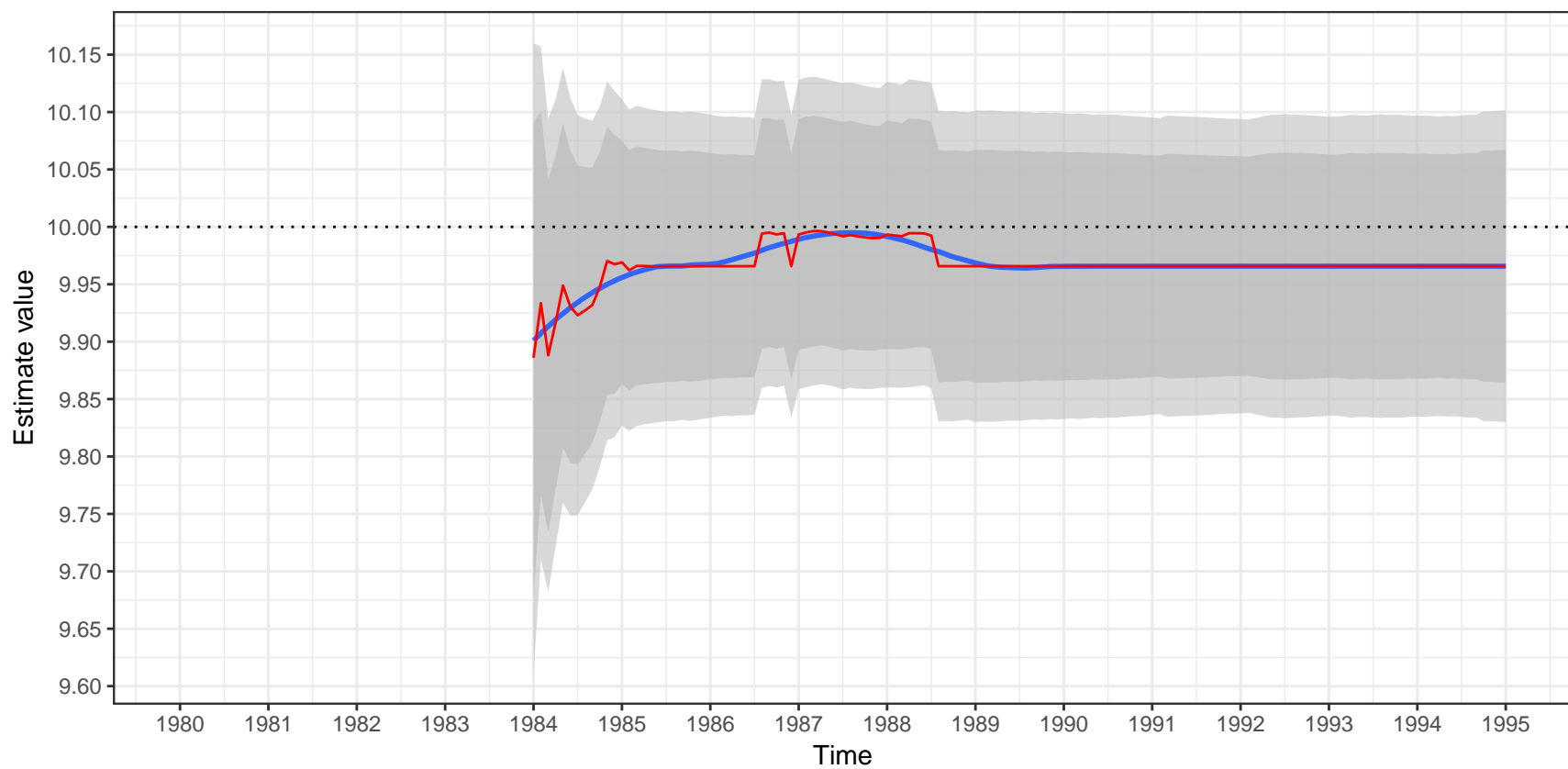


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,1)(0,0,0) – additive decomposition
 $(1-0.8B)X_t=(1-0.5B)a_t$

Estimation of the outlier

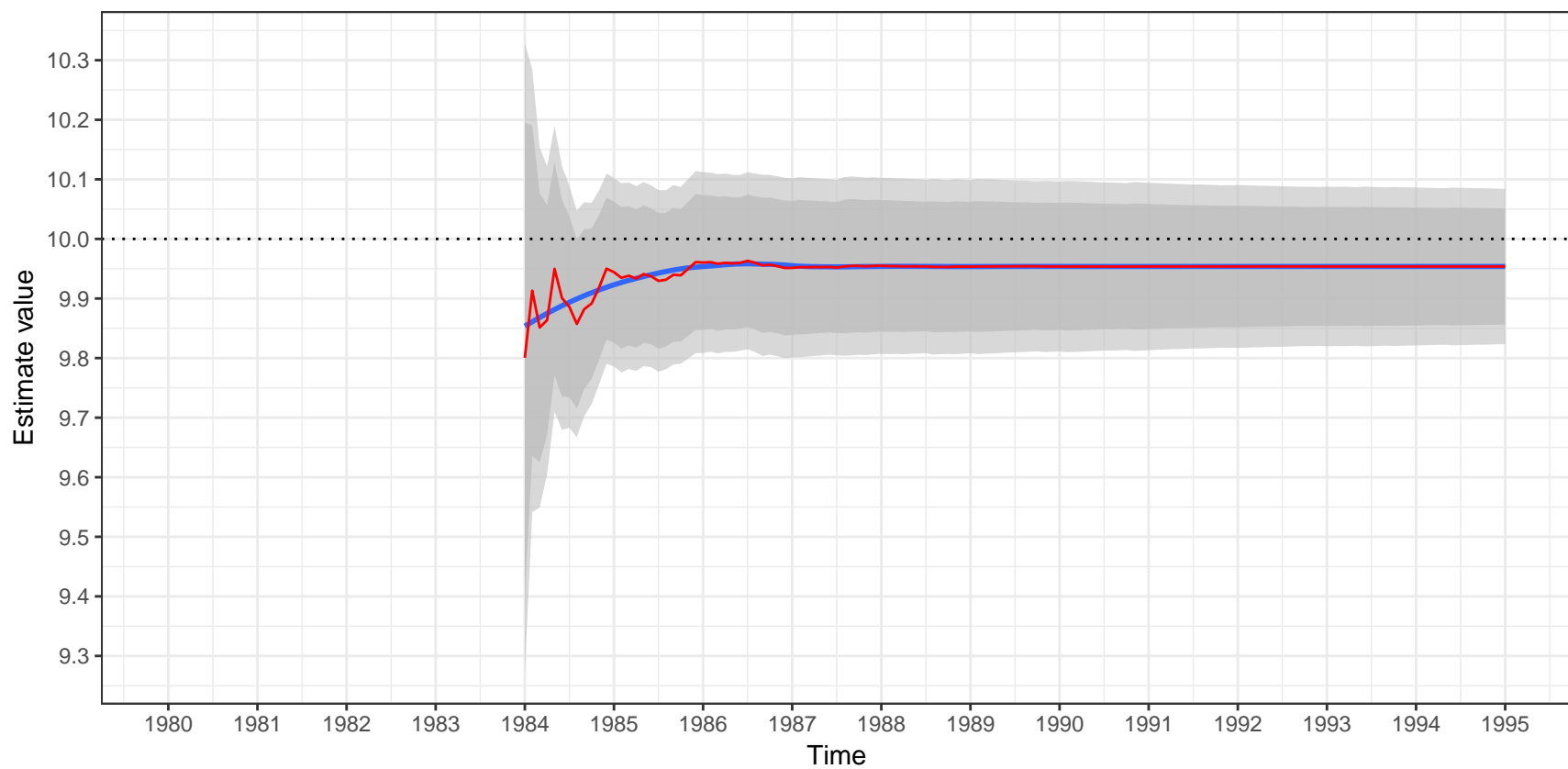


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

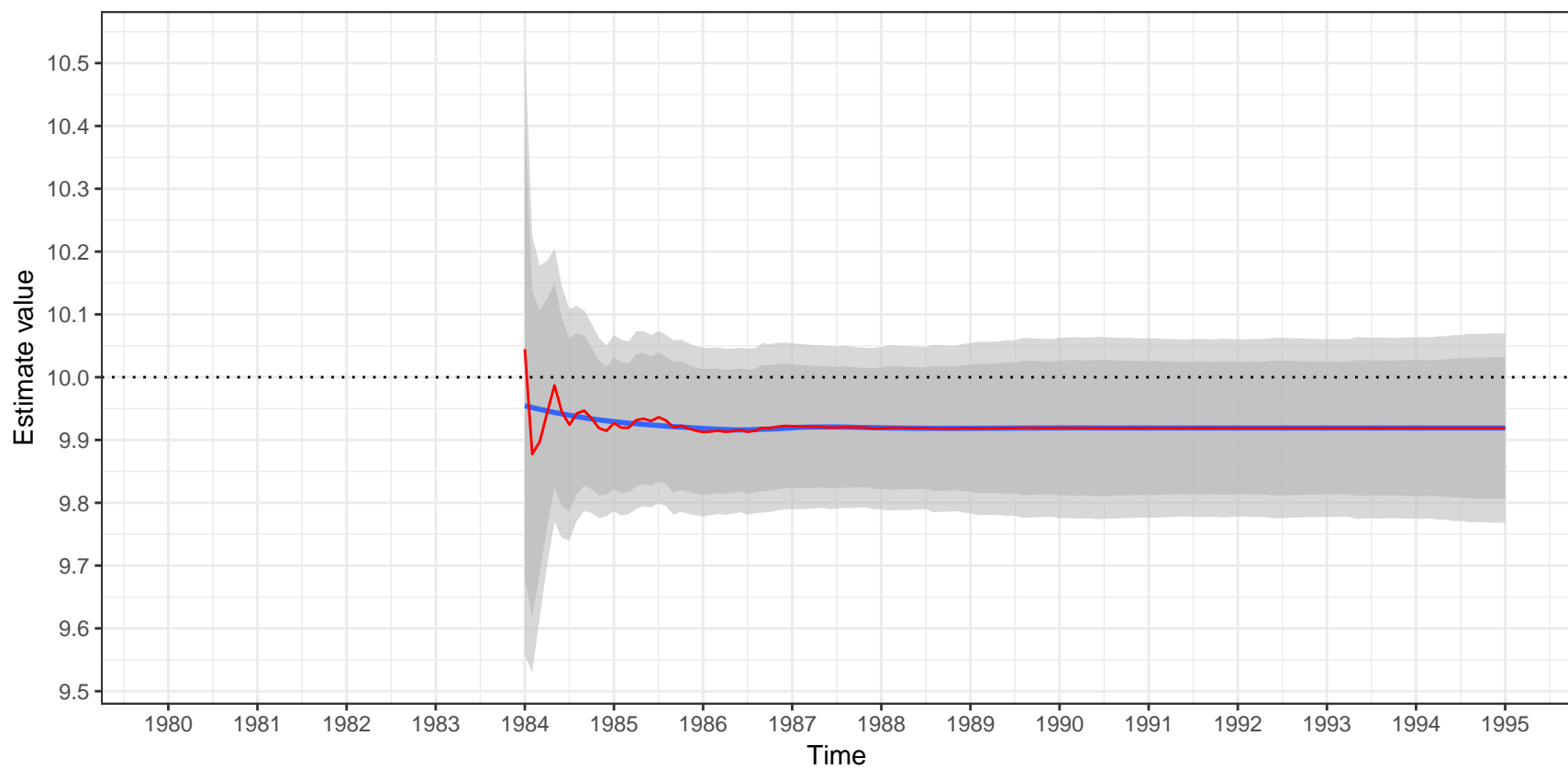


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

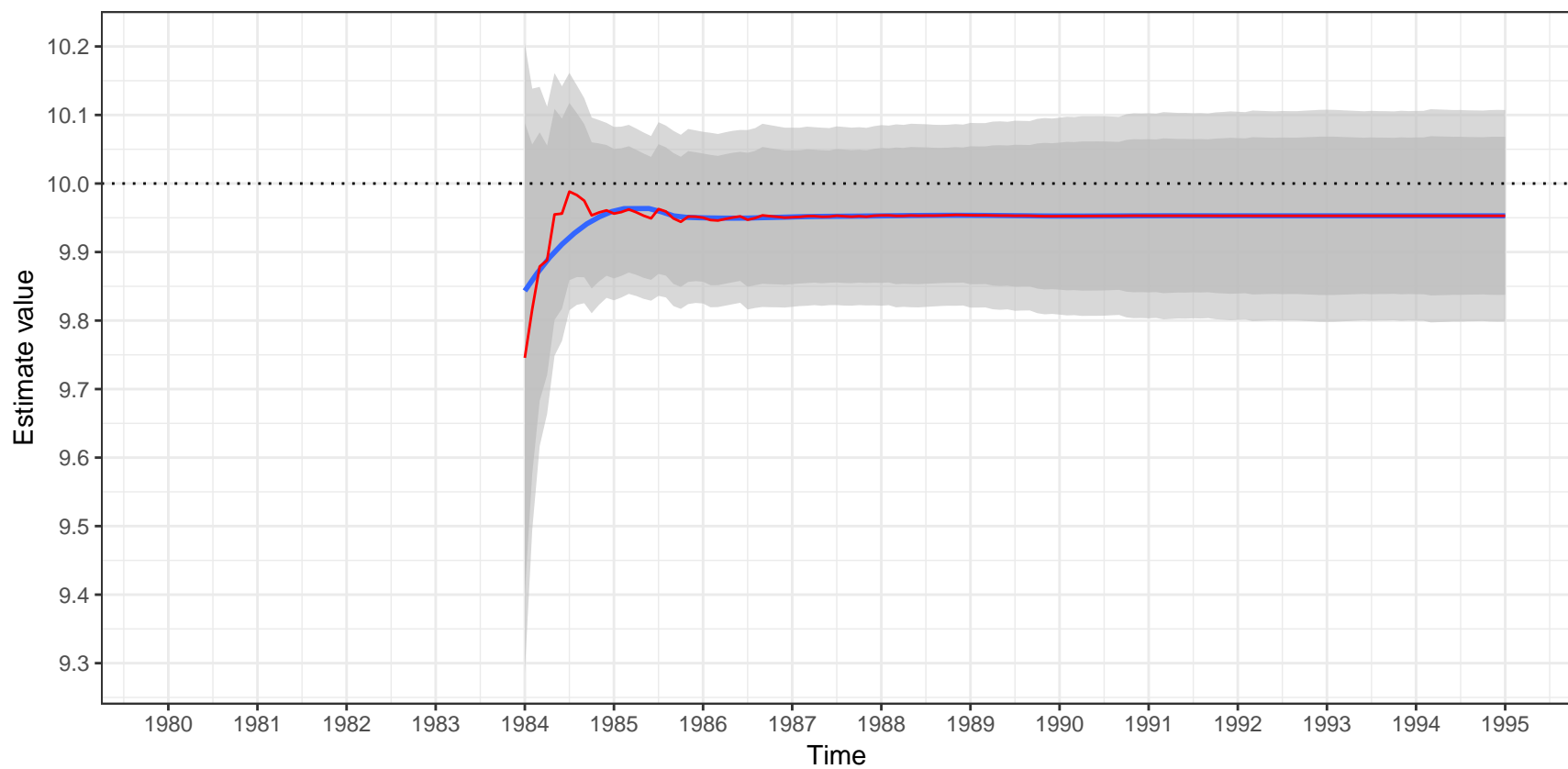


Raw data

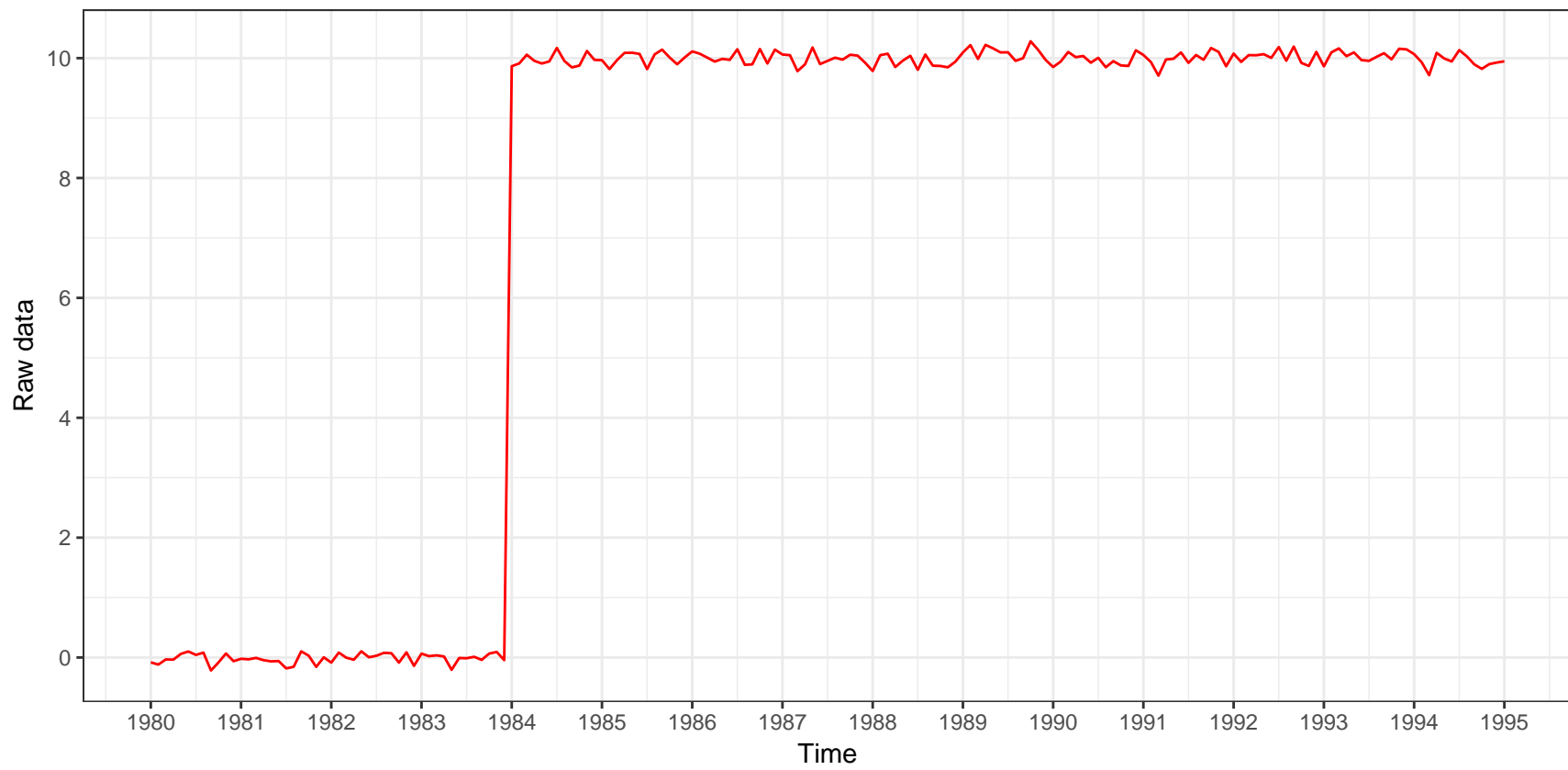


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

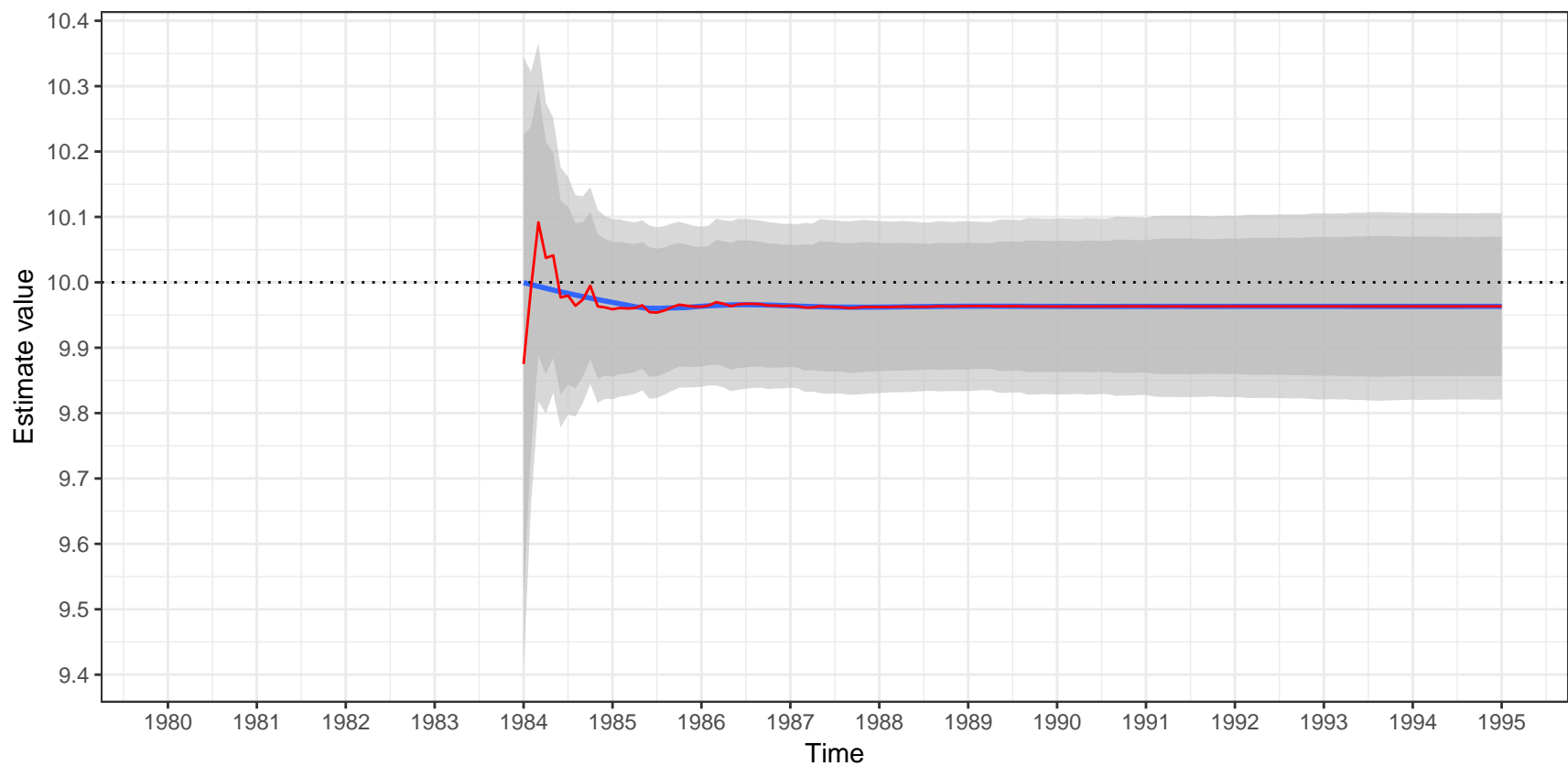


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

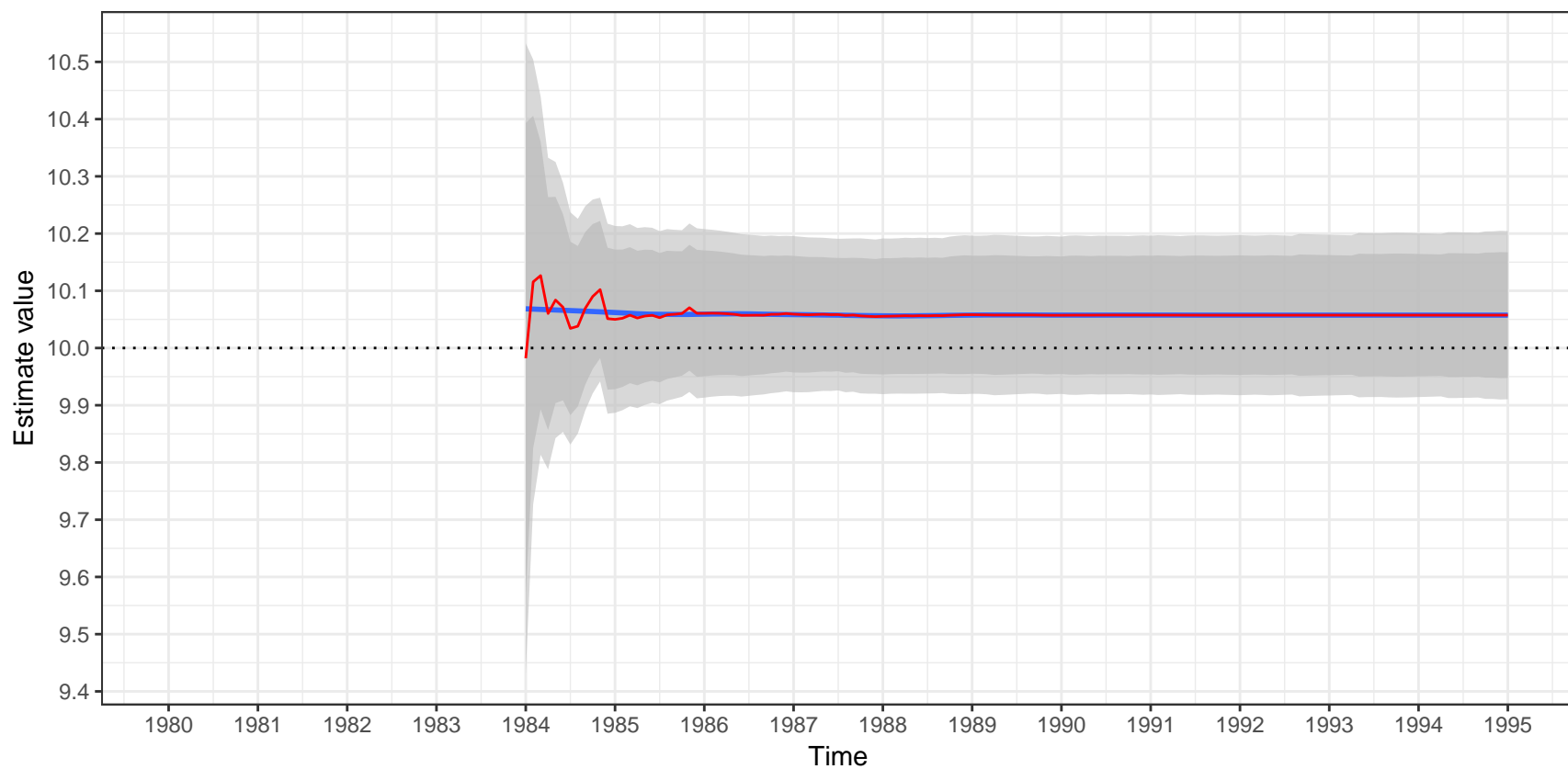


Raw data



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ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

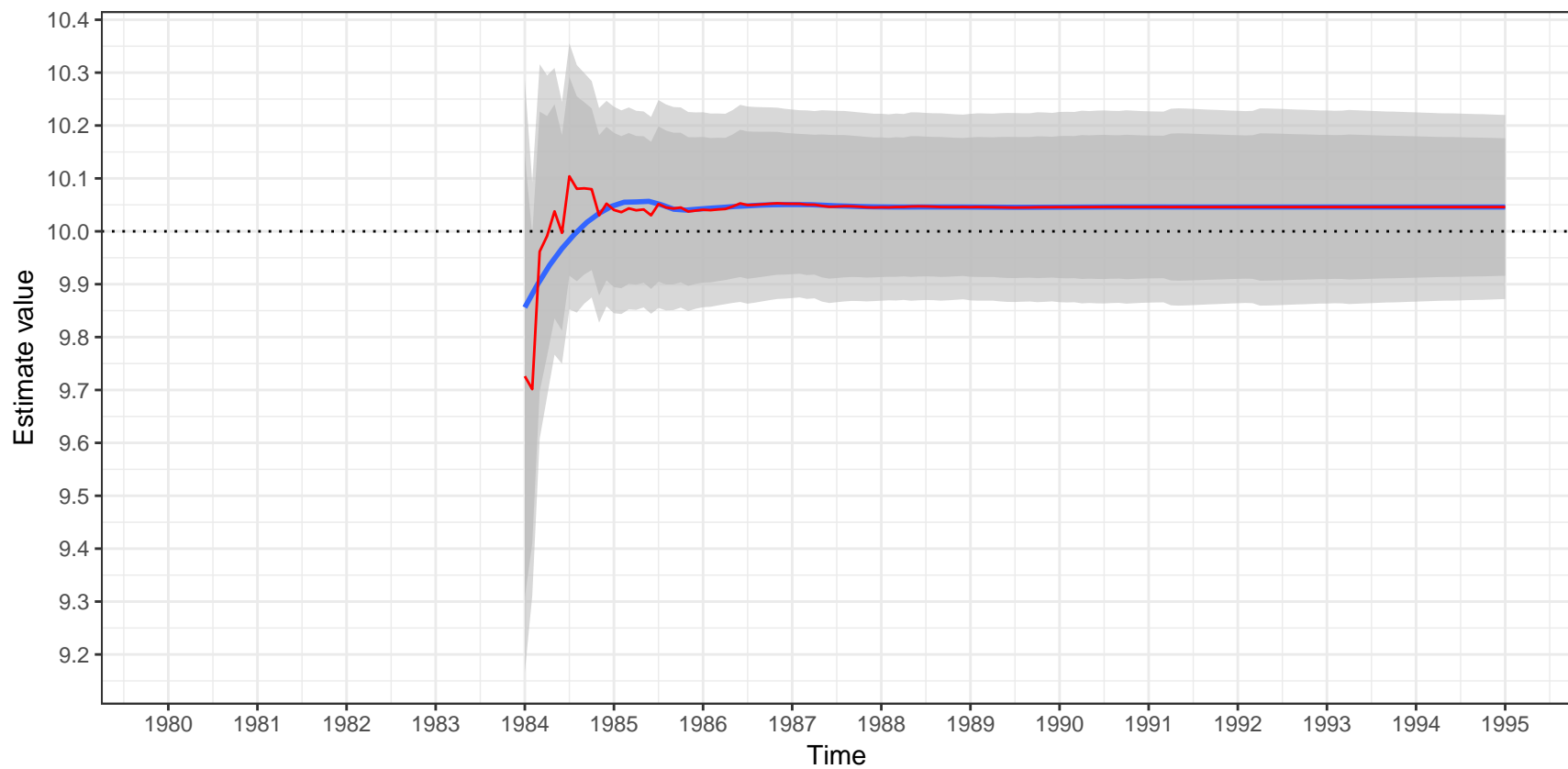


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
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Estimation of the outlier

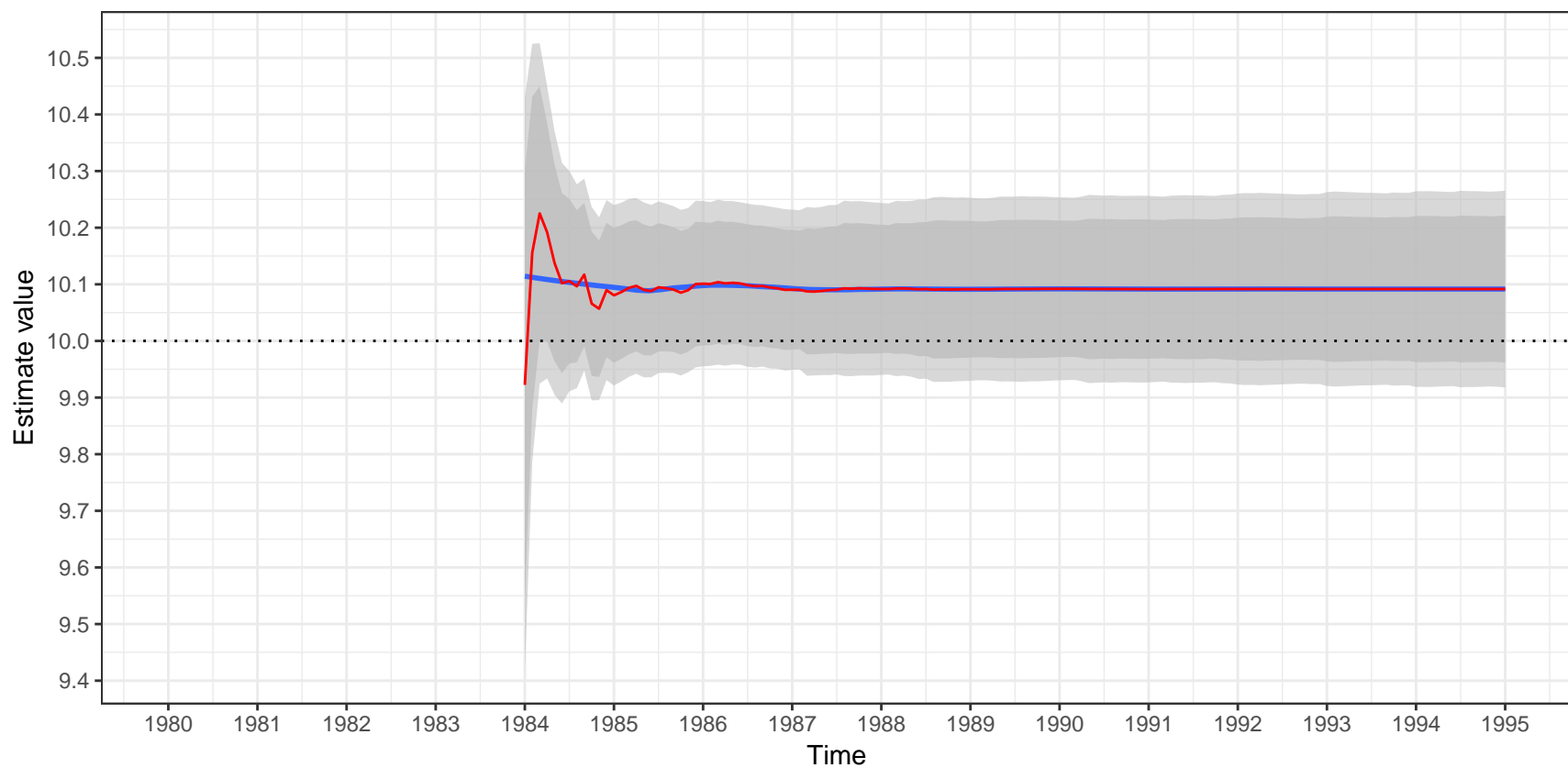


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

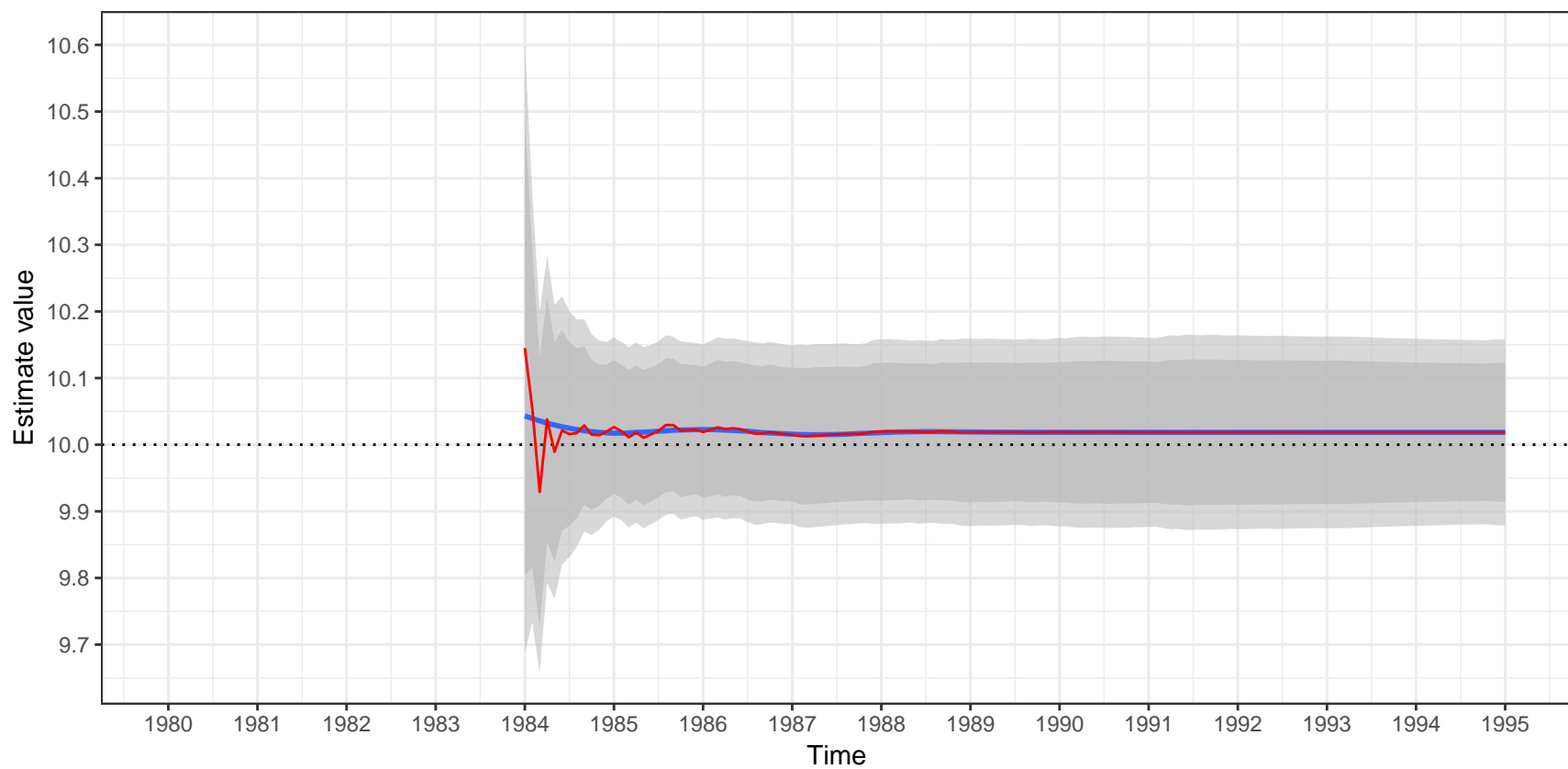


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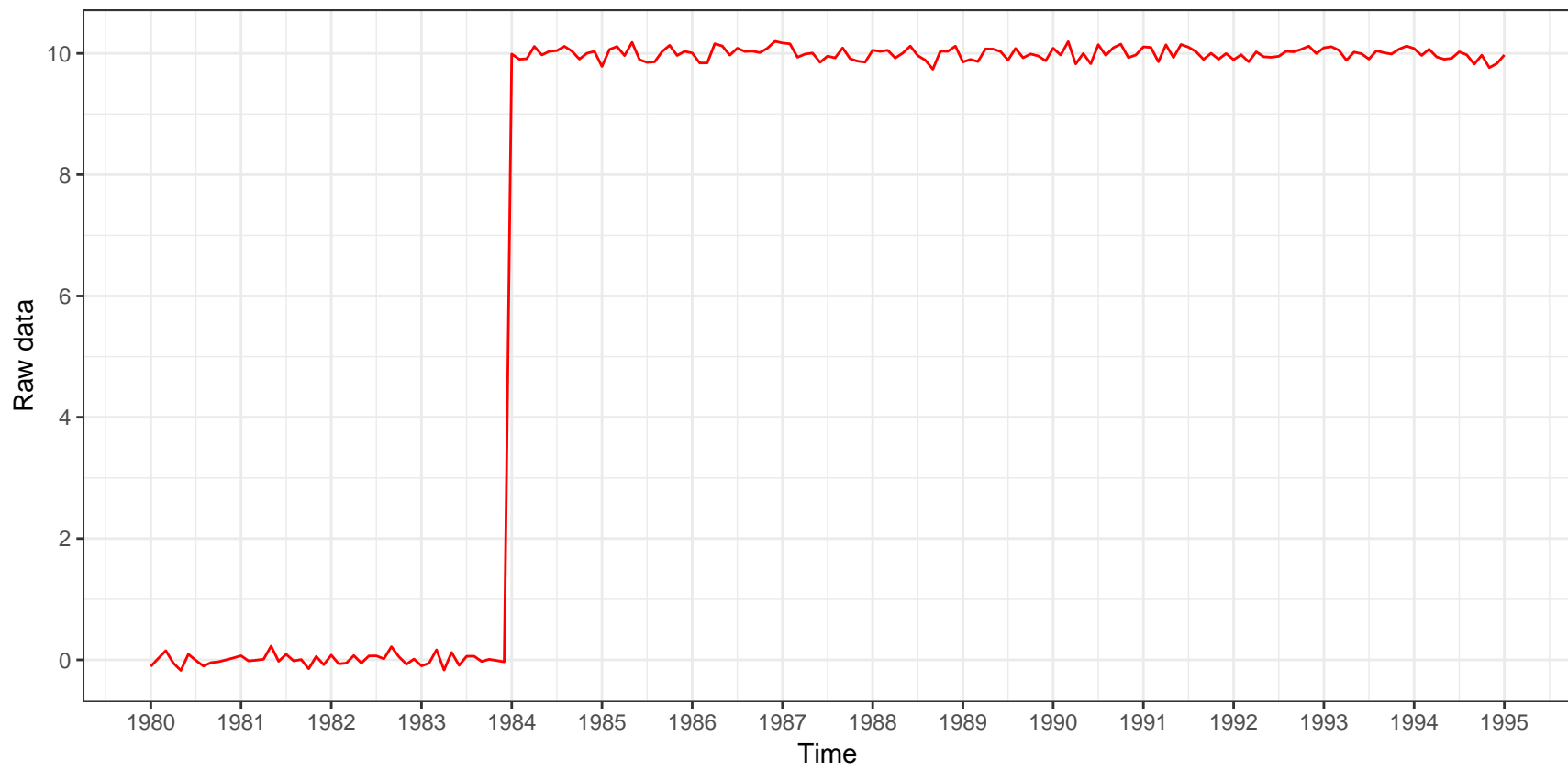


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

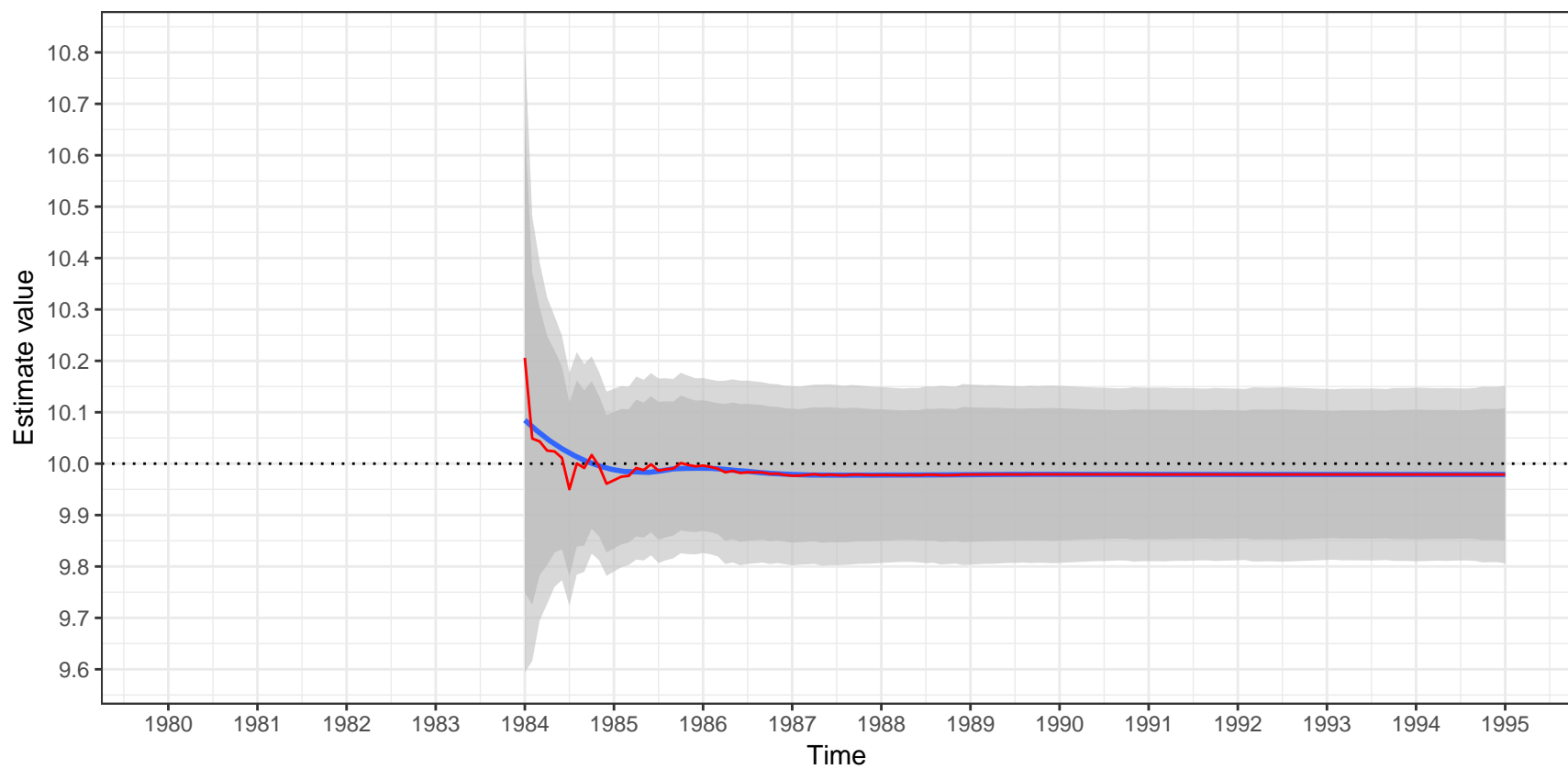


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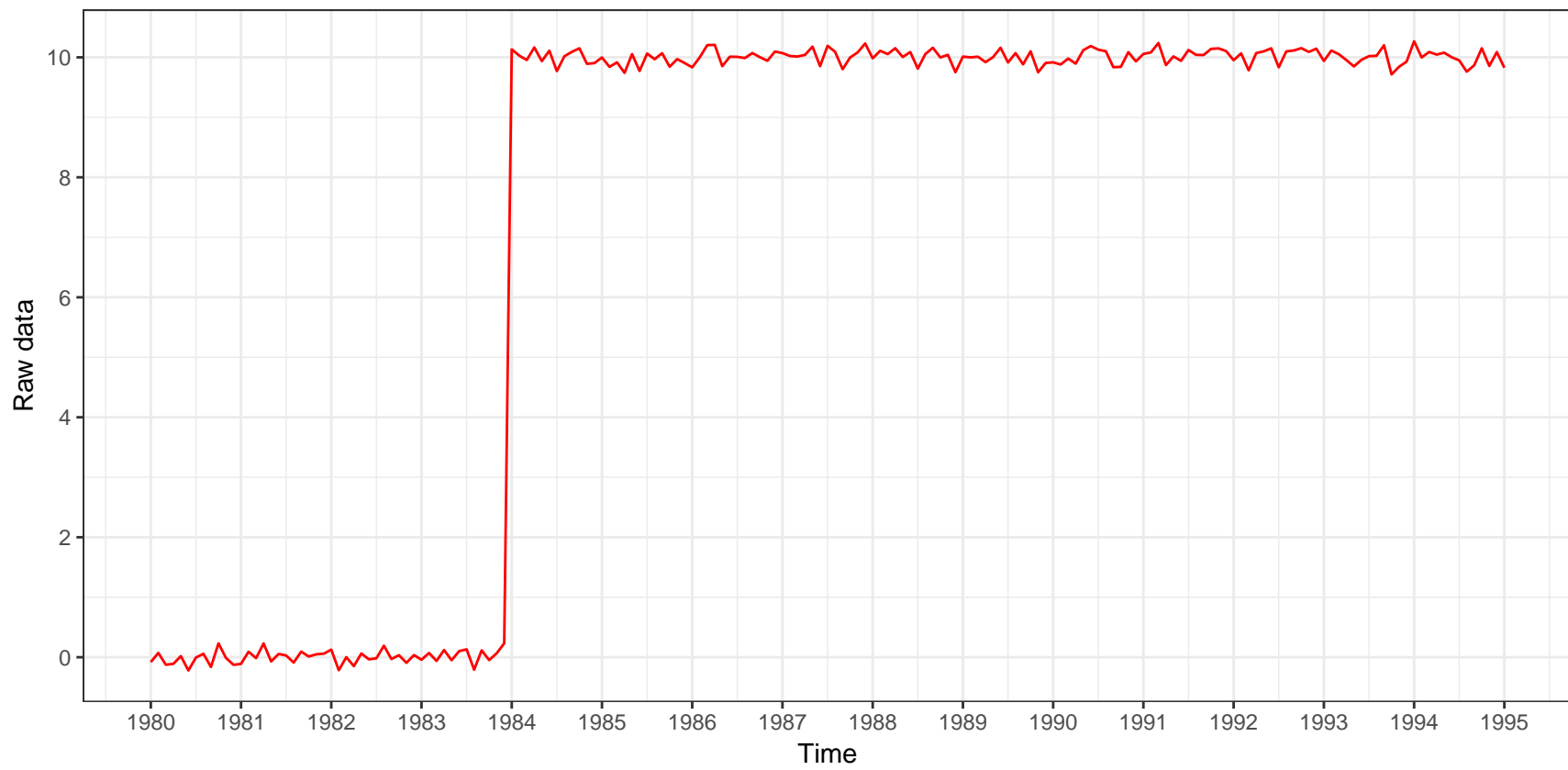


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

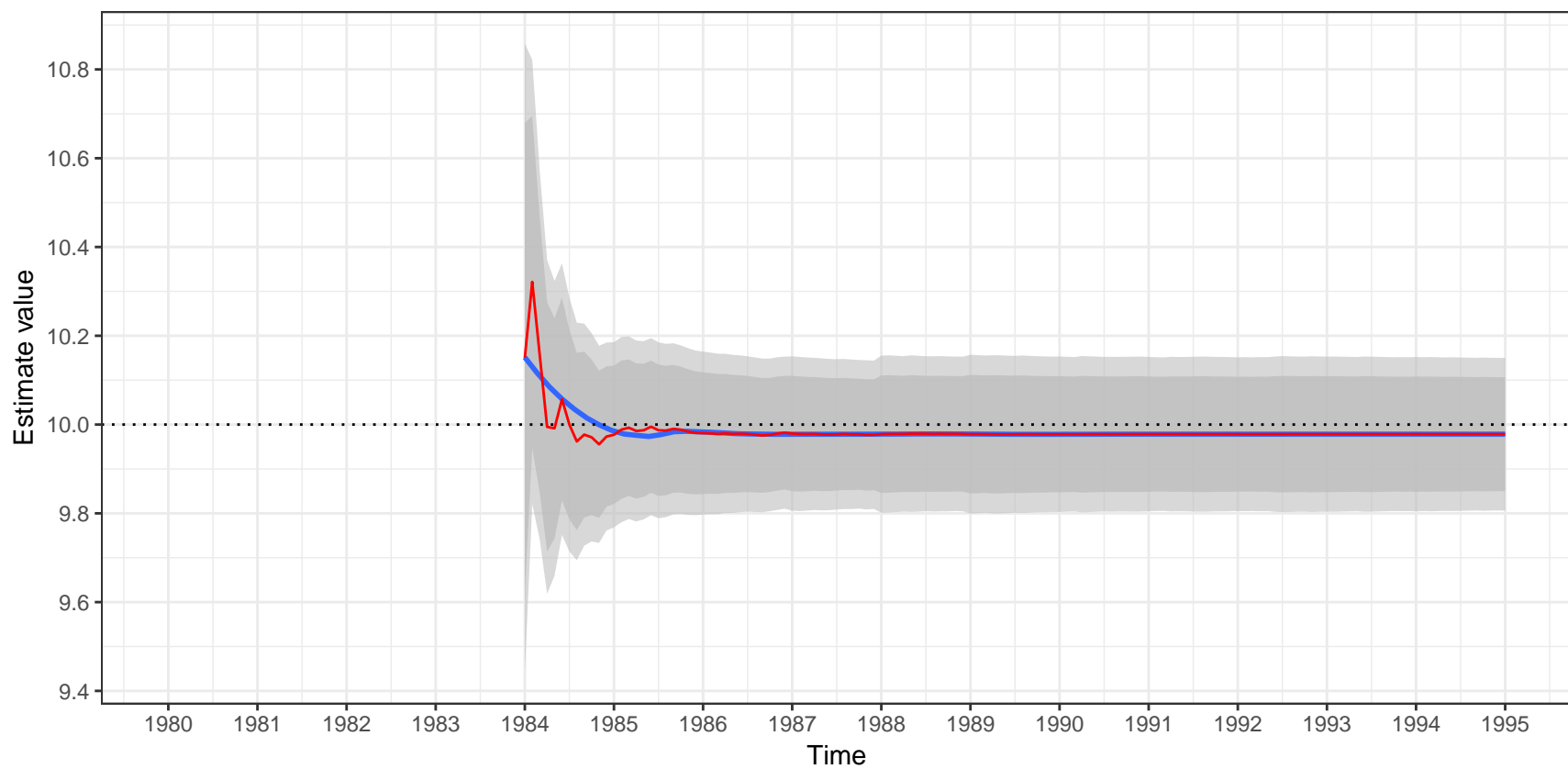


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,0,1) – additive decomposition
 $(1-0.8B^{12})X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

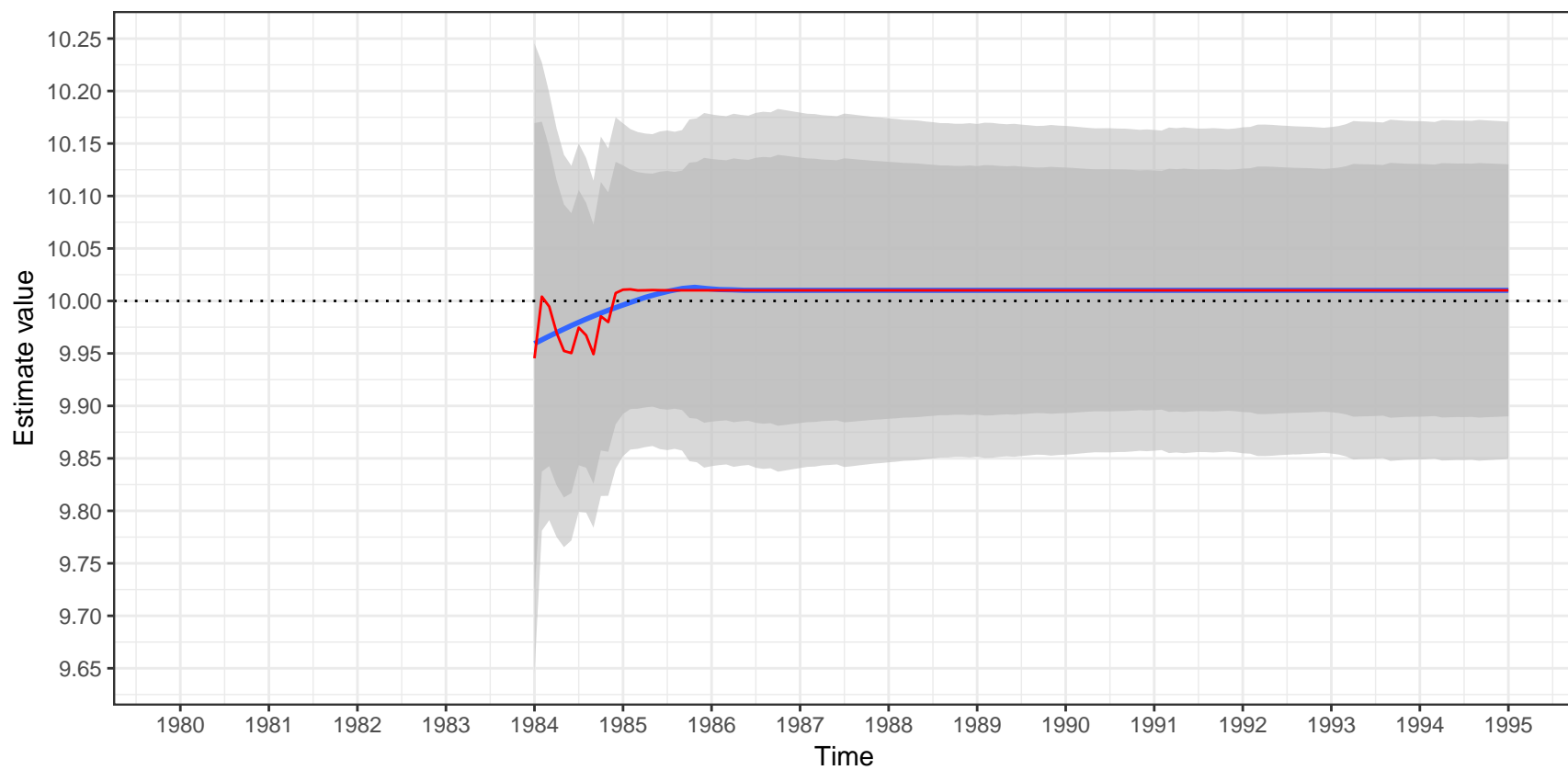


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

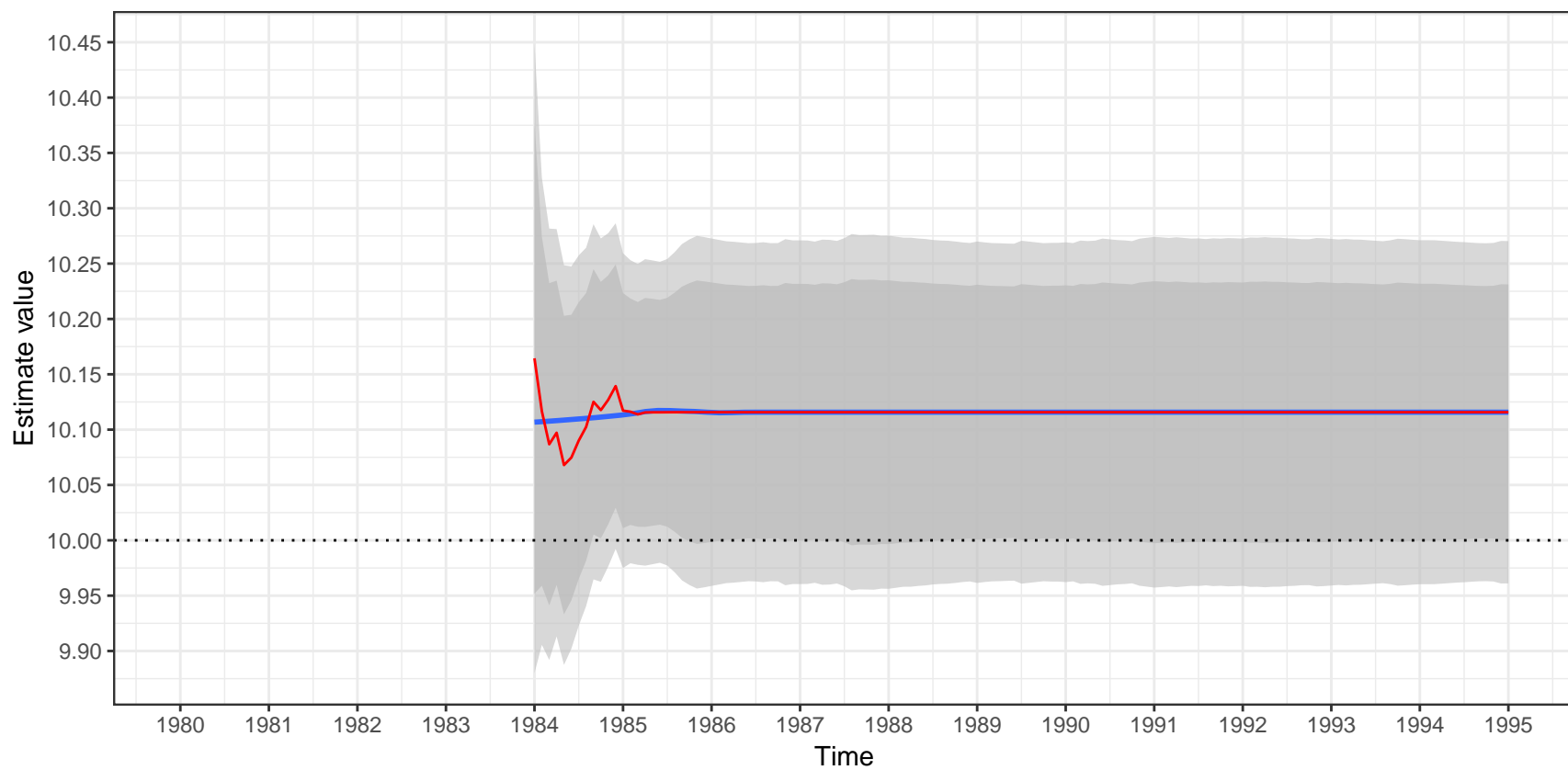


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

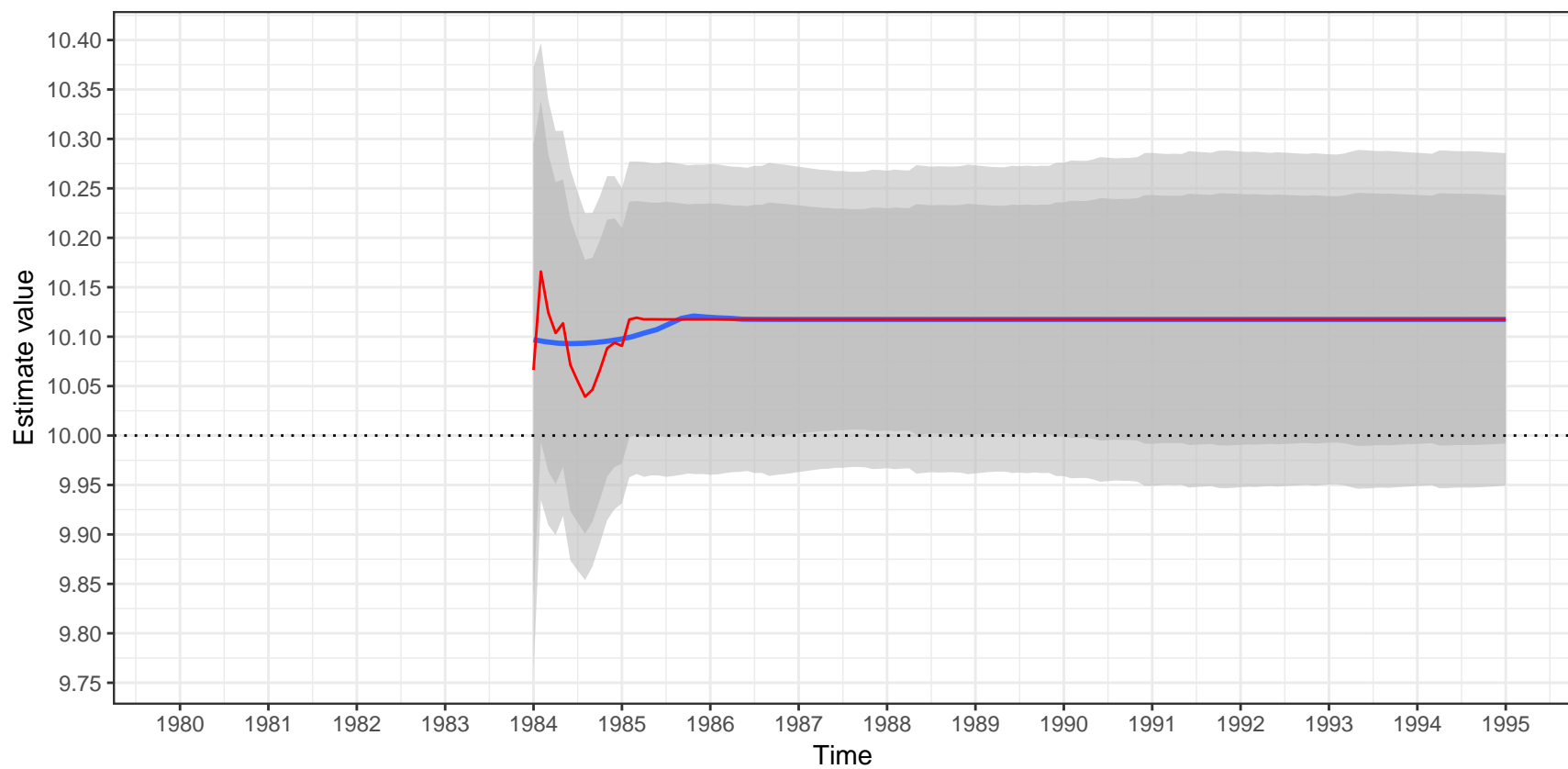


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

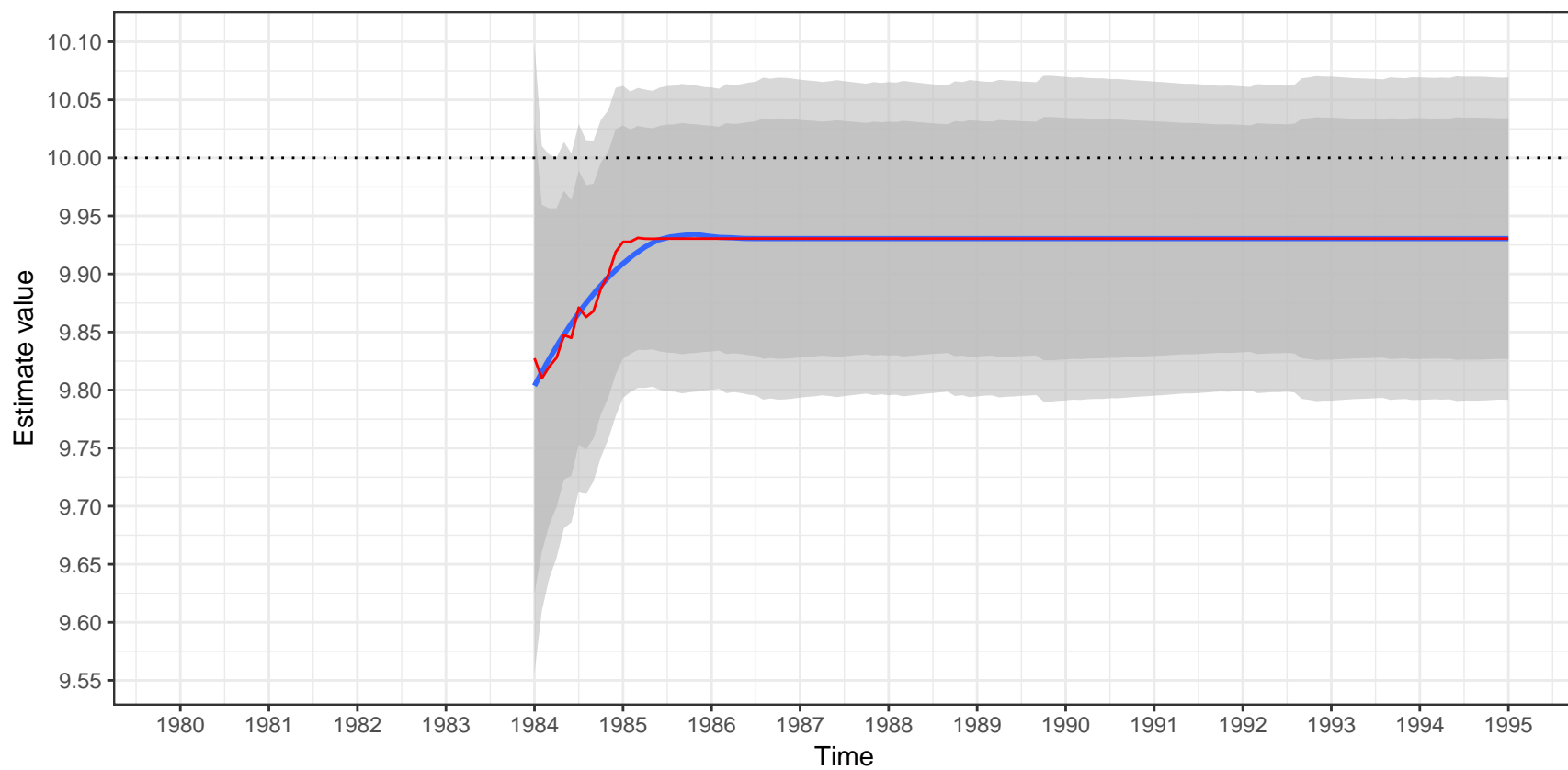


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

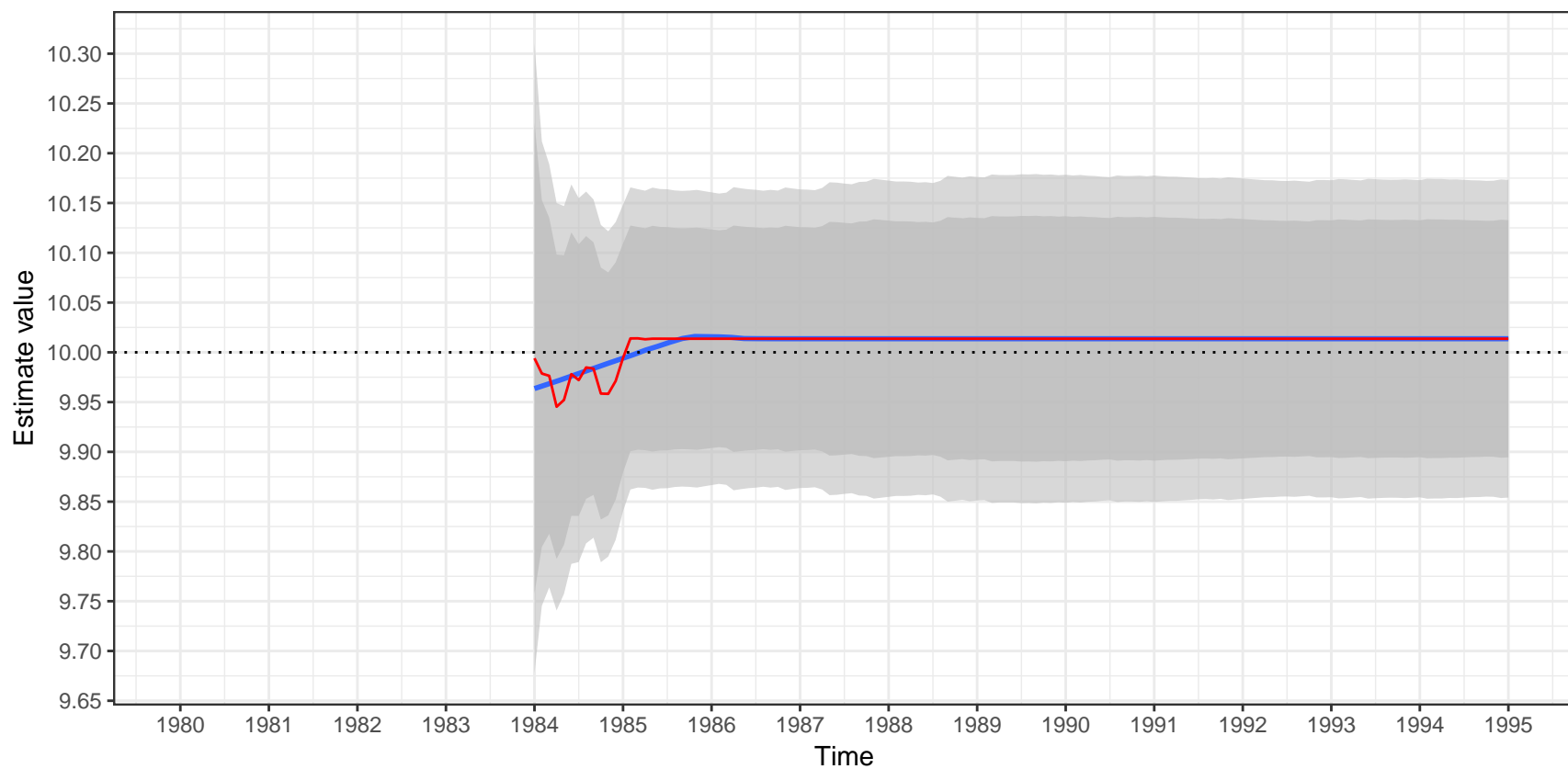


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

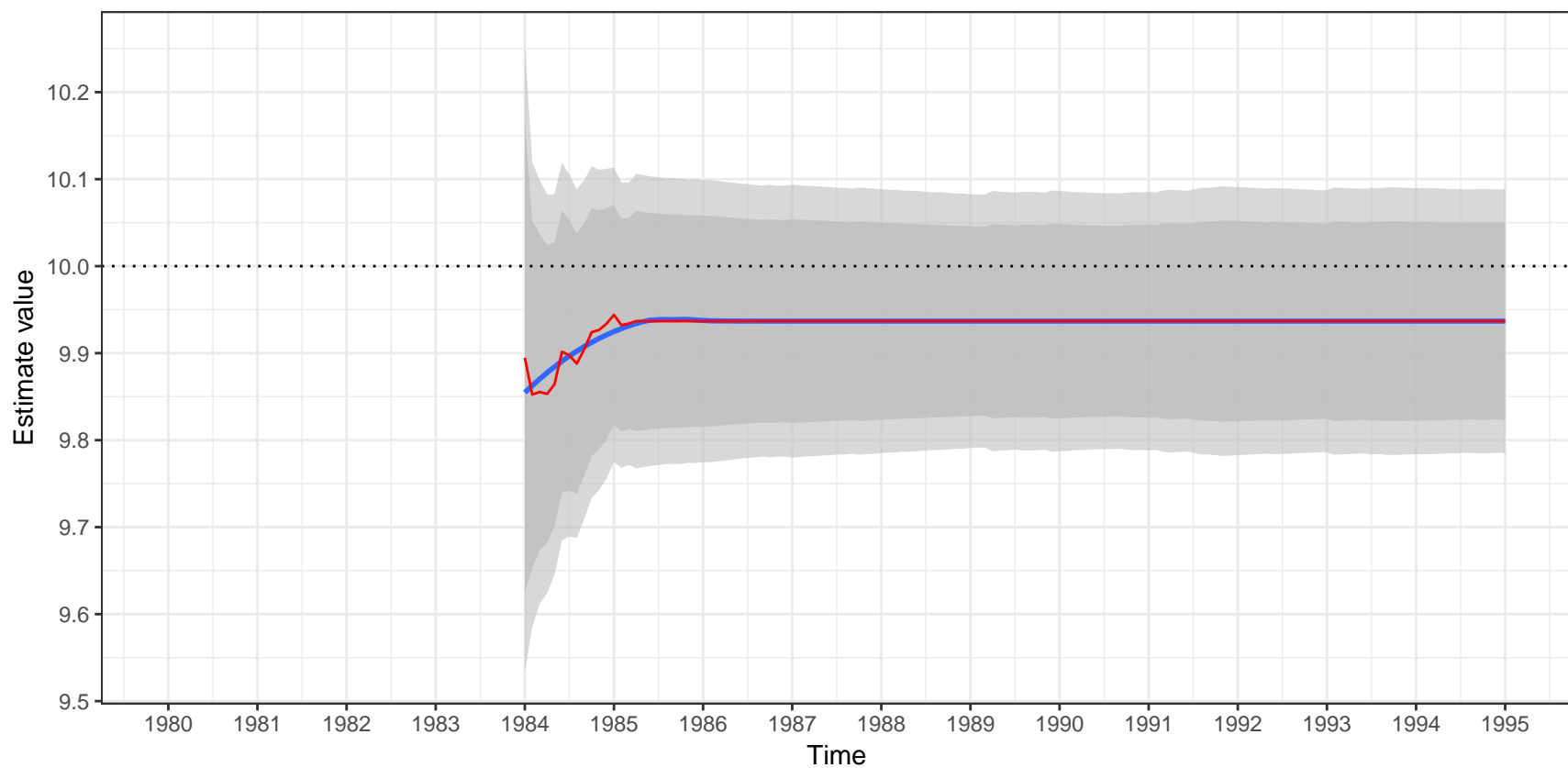


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

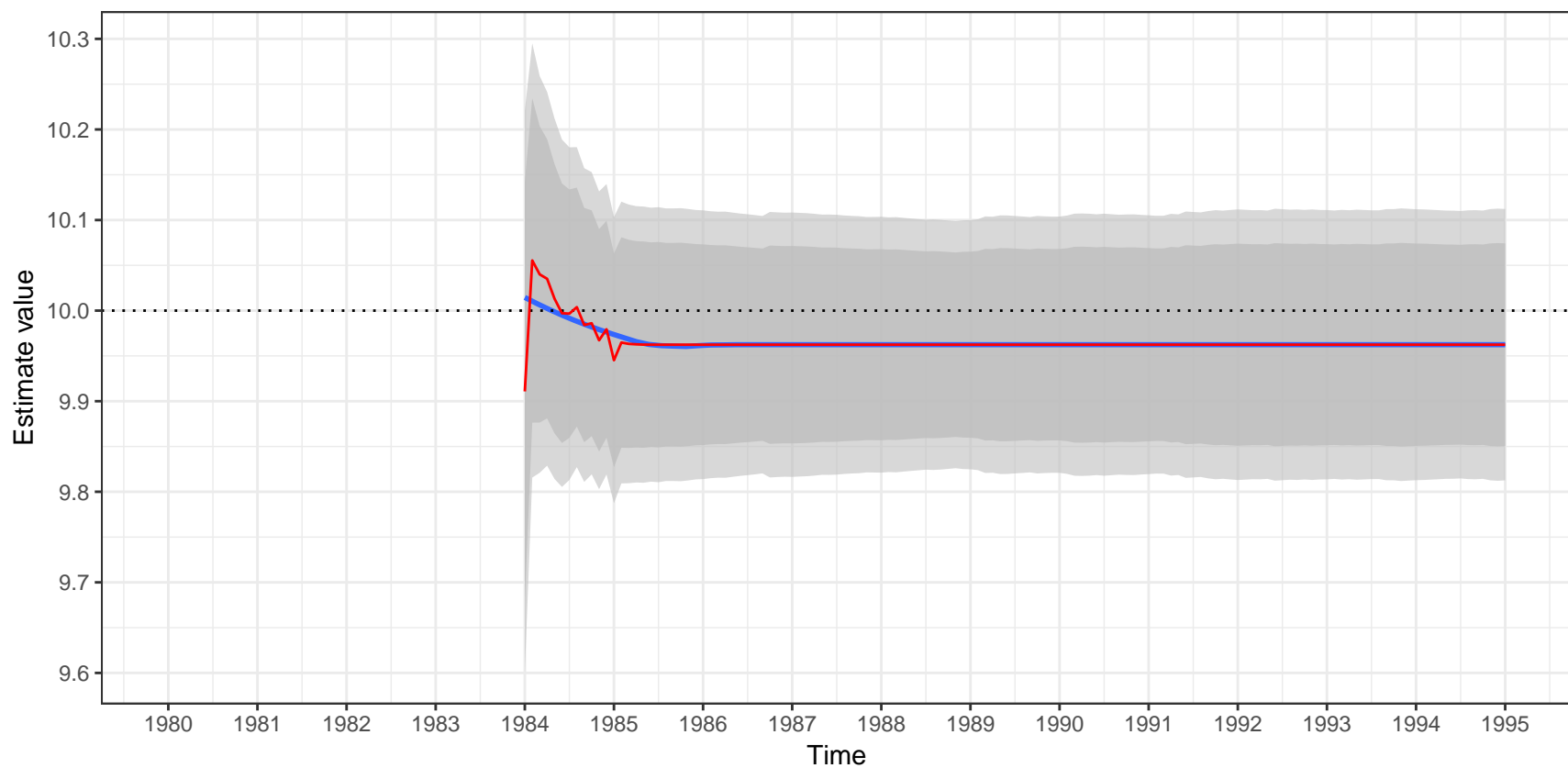


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

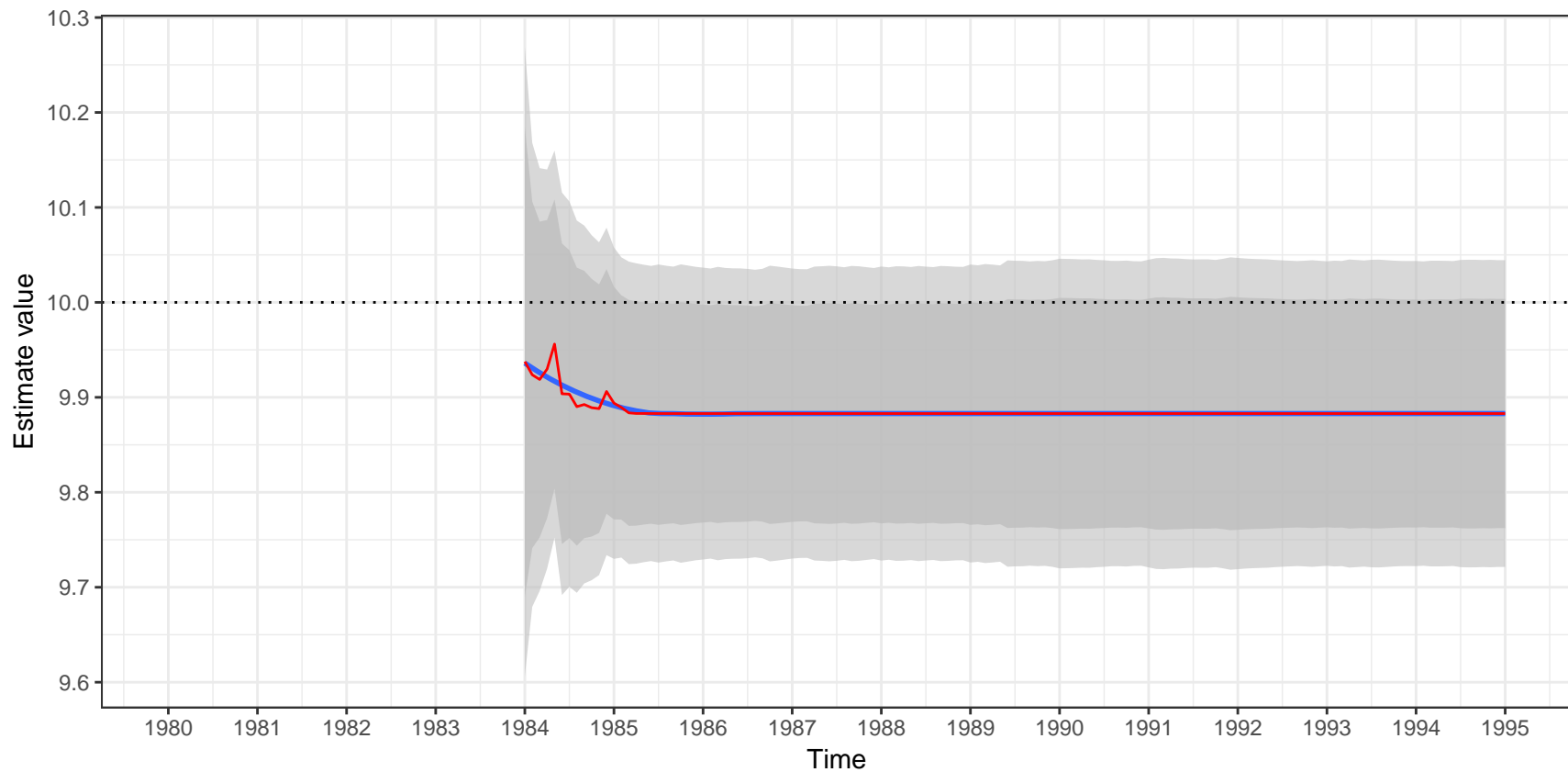


Raw data



Estimate value of a LS(1984-01)
ARIMA (2,0,1)(0,0,0) – additive decomposition
 $(1-0.41B-0.37B^2)X_t=(1-0.3B)a_t$

Estimation of the outlier

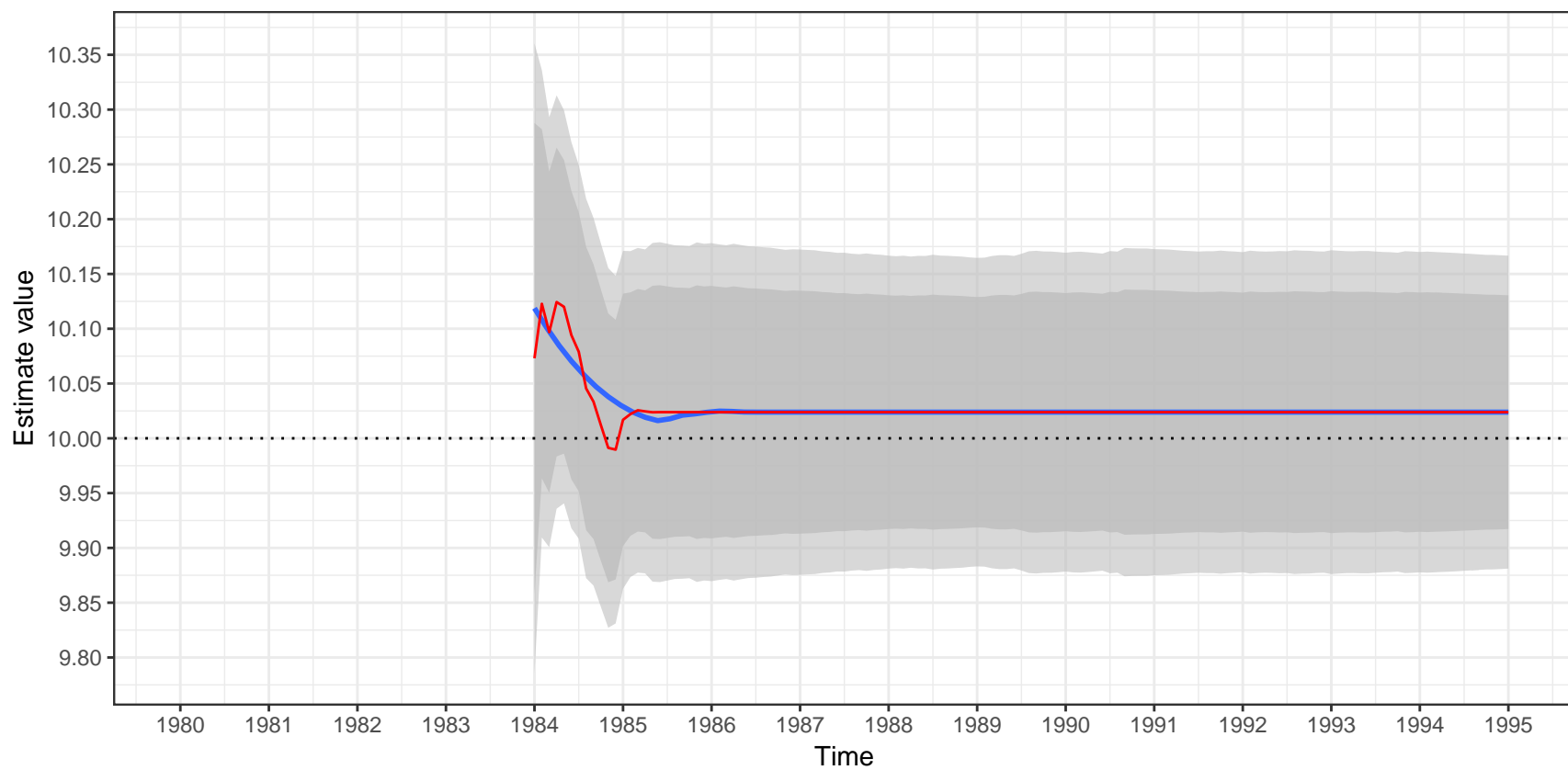


Raw data



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Estimation of the outlier

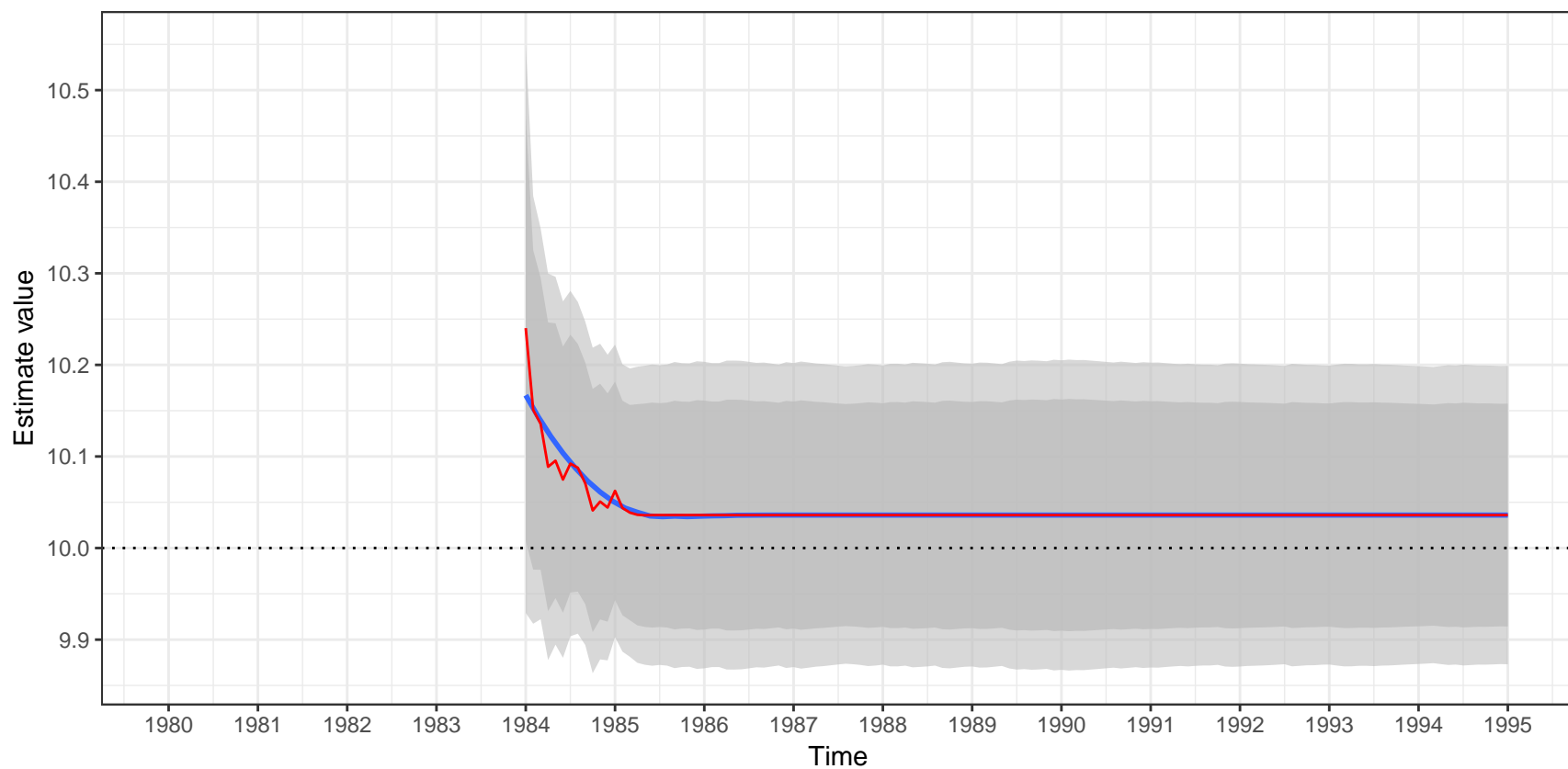


Raw data



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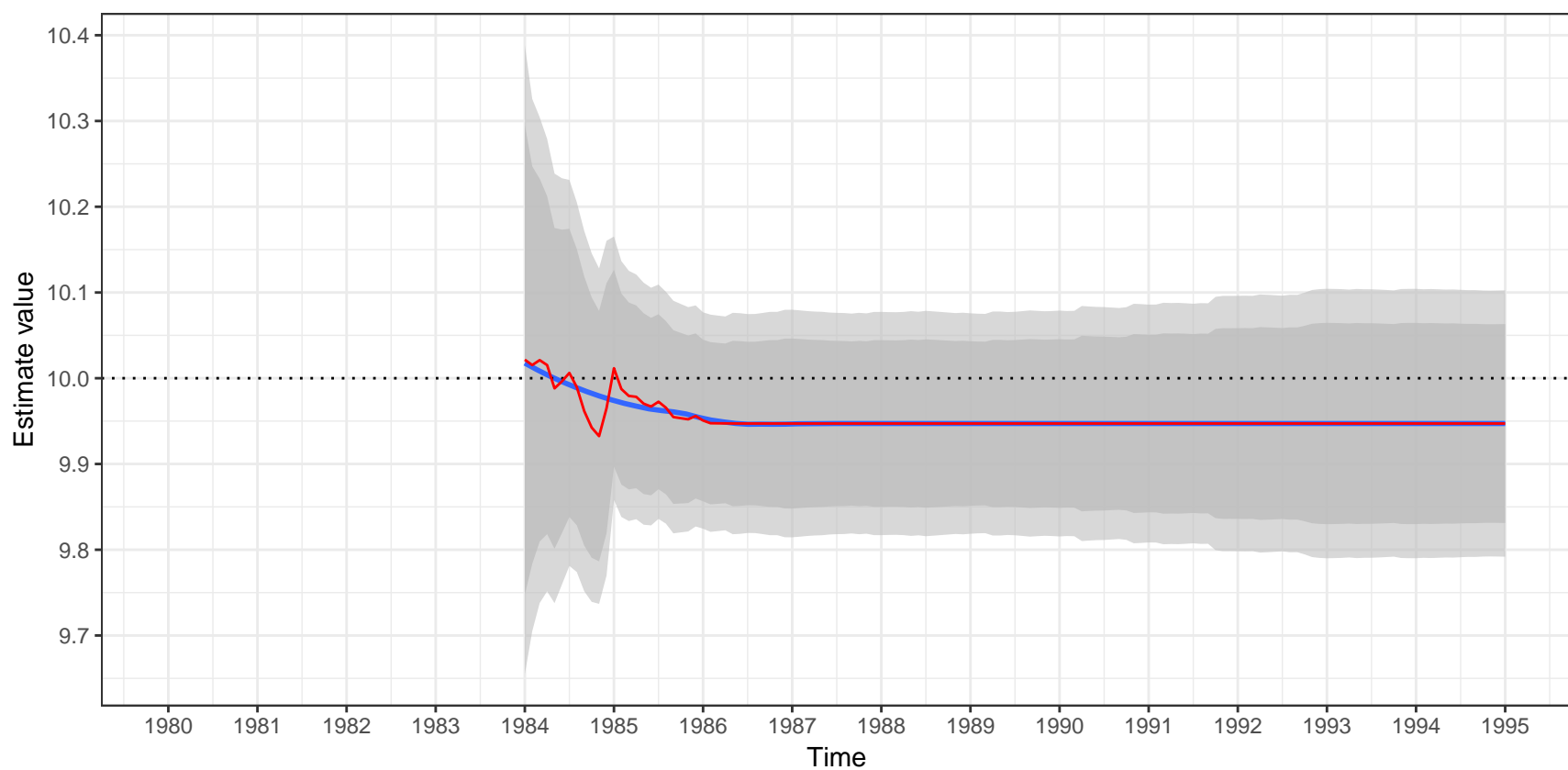


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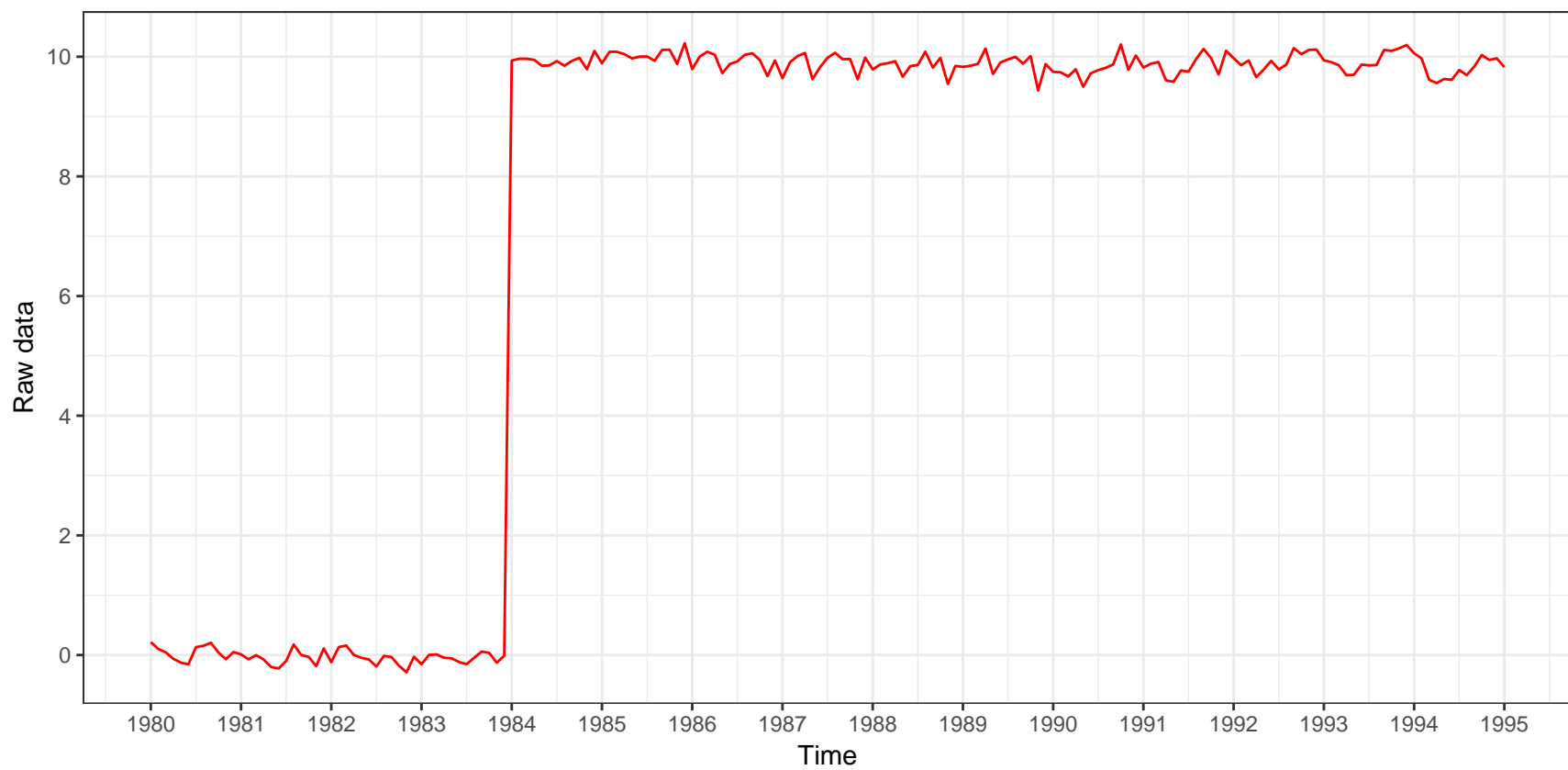


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(1,0,0) – additive decomposition
 $(1-0.7B)(1-0.85B^{12})X_t=(1-0.3B)a_t$

Estimation of the outlier

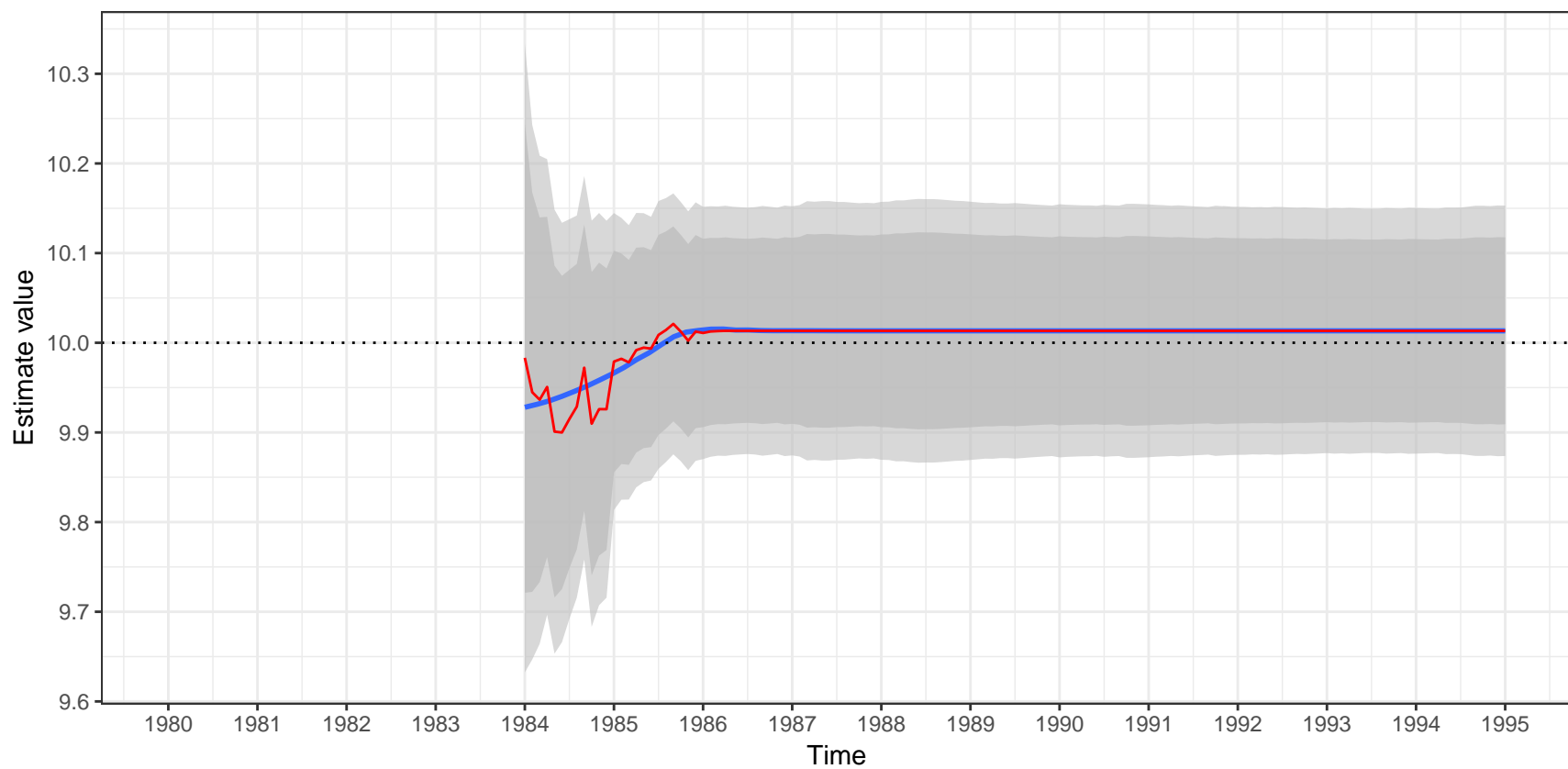


Raw data



Estimate value of a LS(1984-01)
ARIMA (1,0,1)(1,0,0) – additive decomposition
 $(1-0.7B)(1-0.85B^{12})X_t=(1-0.3B)a_t$

Estimation of the outlier

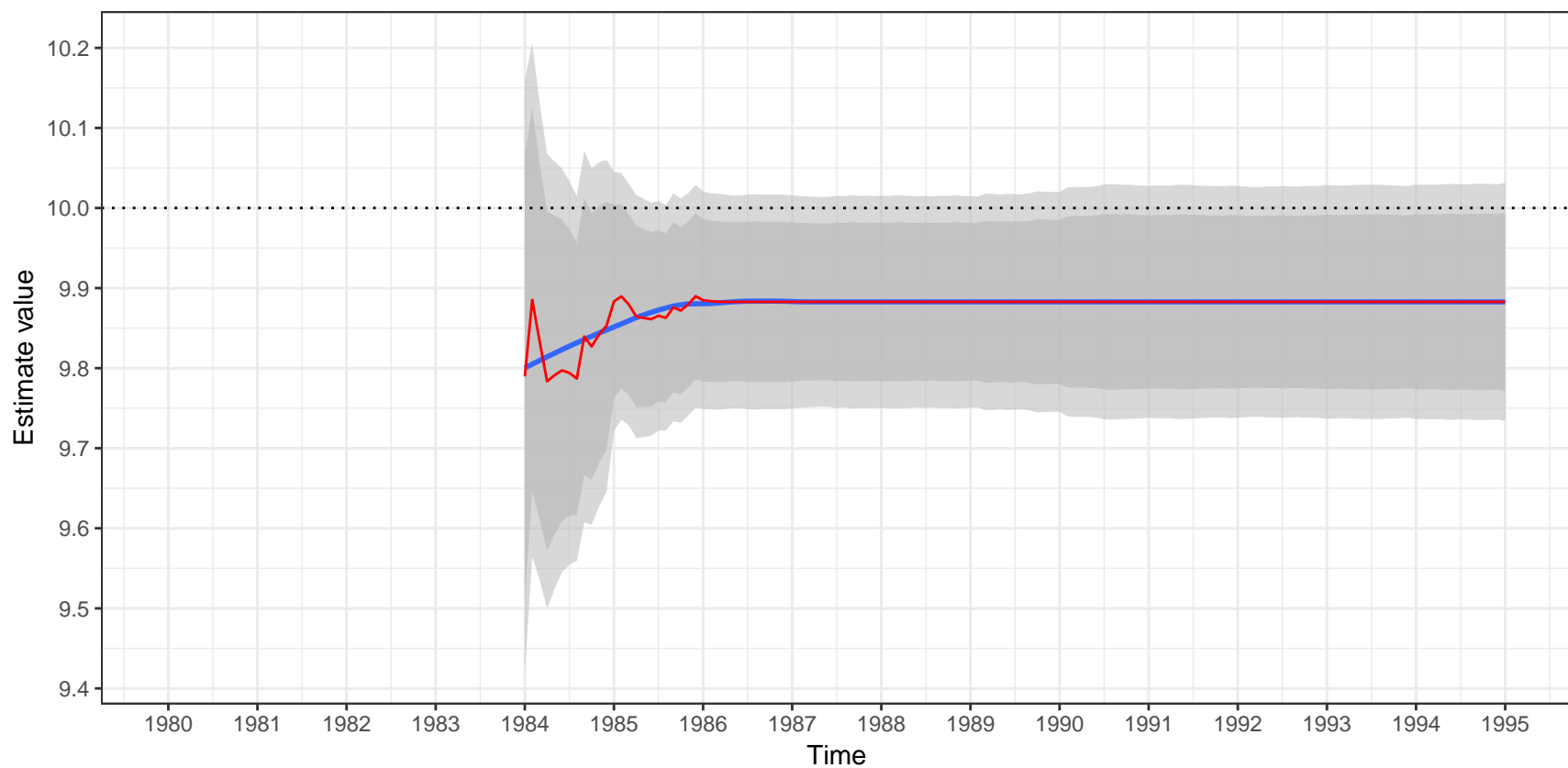


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Estimate value of a LS(1984-01)
ARIMA (1,0,1)(1,0,0) – additive decomposition
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Estimation of the outlier

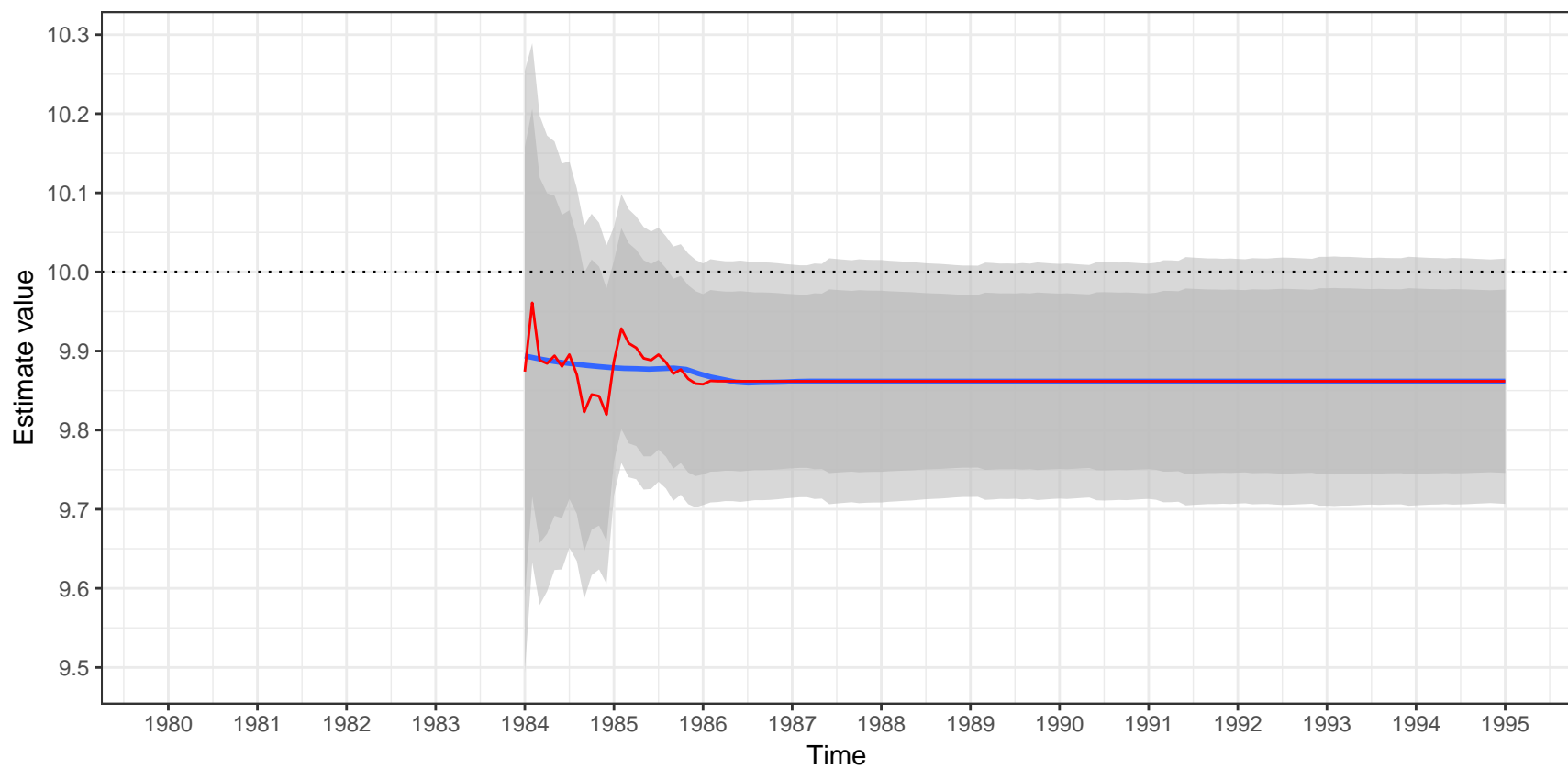


Raw data



Estimate value of a LS(1984-01)
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Estimation of the outlier

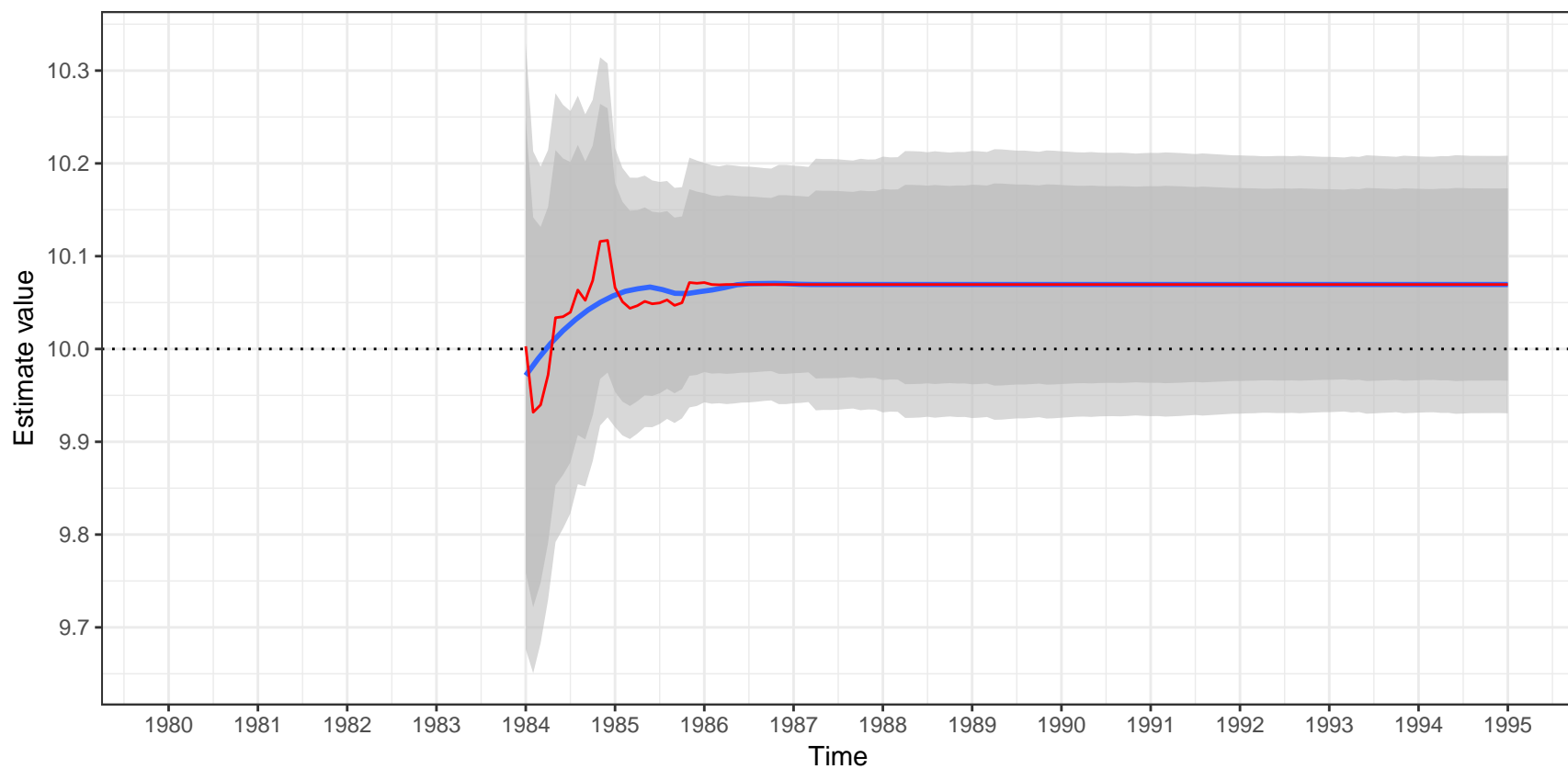


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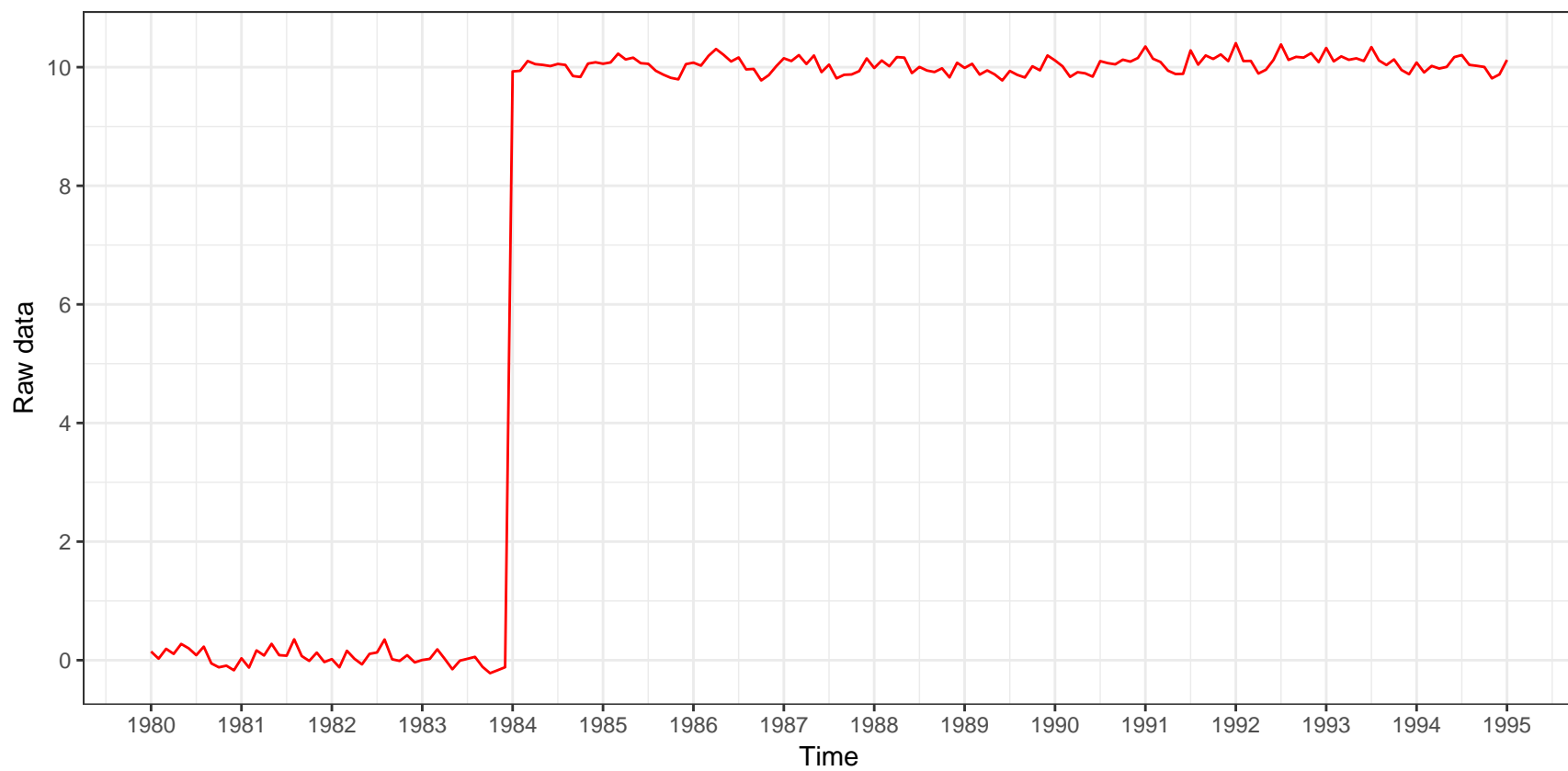


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(1,0,0) – additive decomposition
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Estimation of the outlier

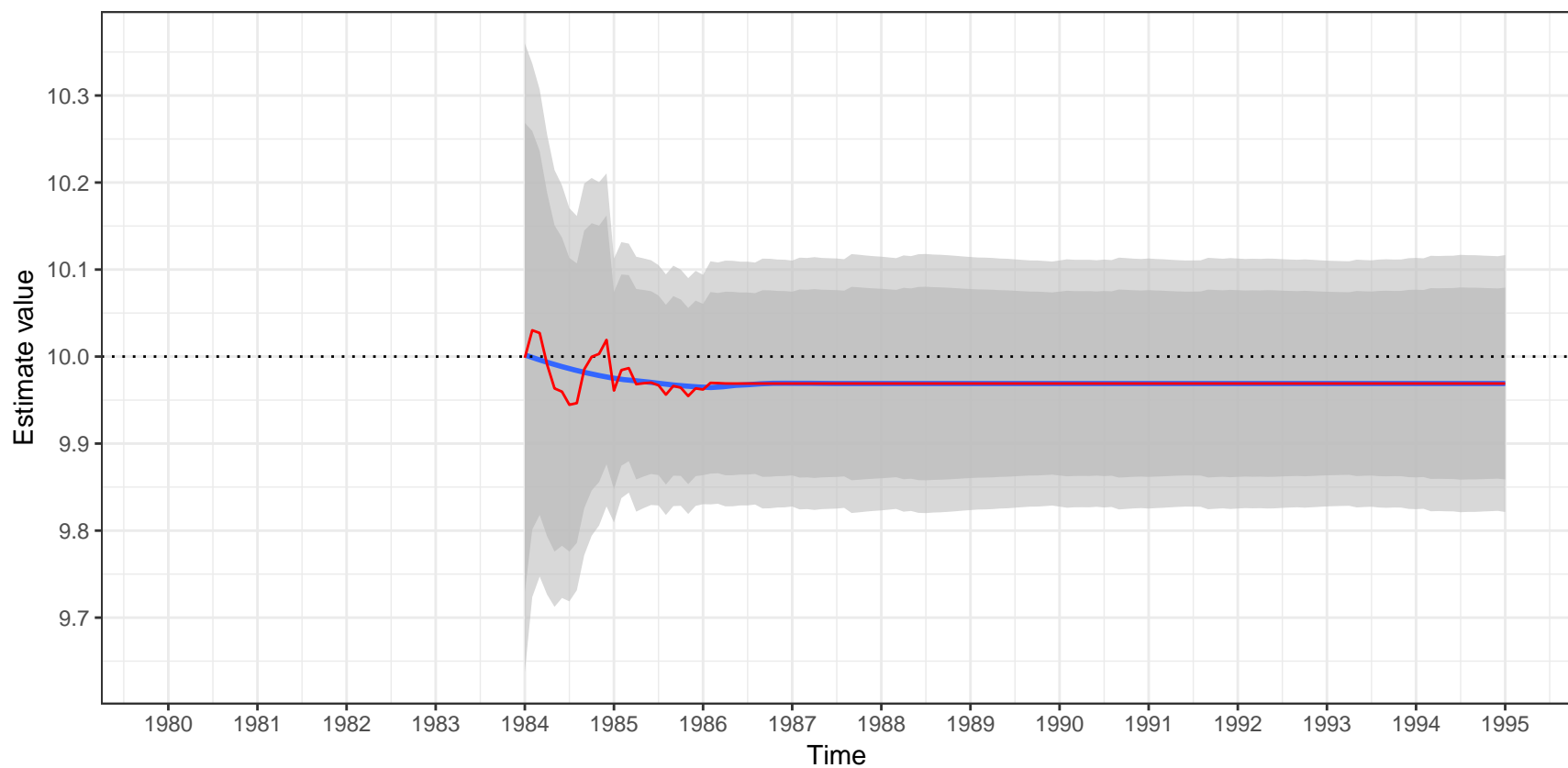


Raw data



Estimate value of a LS(1984-01)
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Estimation of the outlier

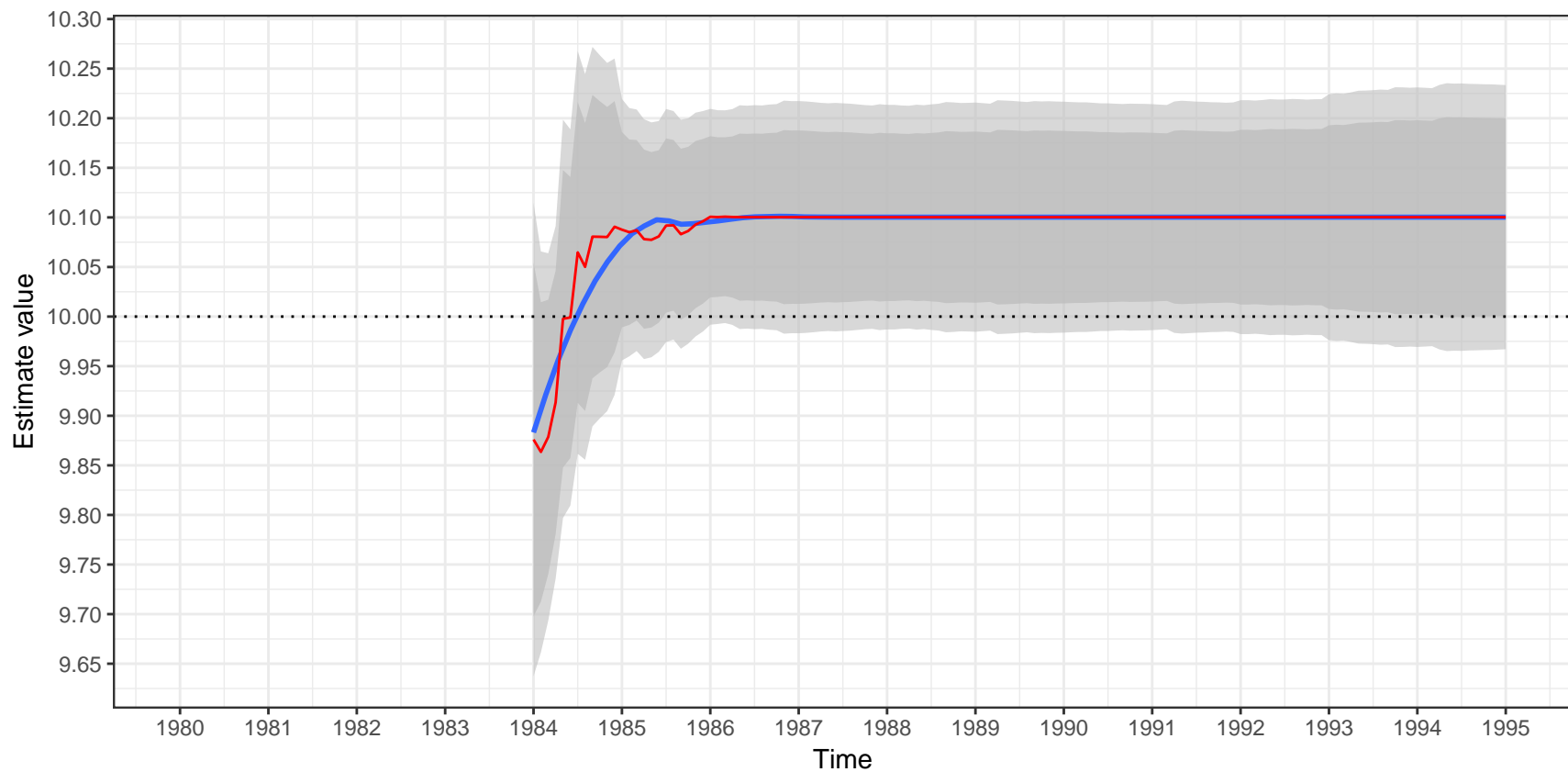


Raw data



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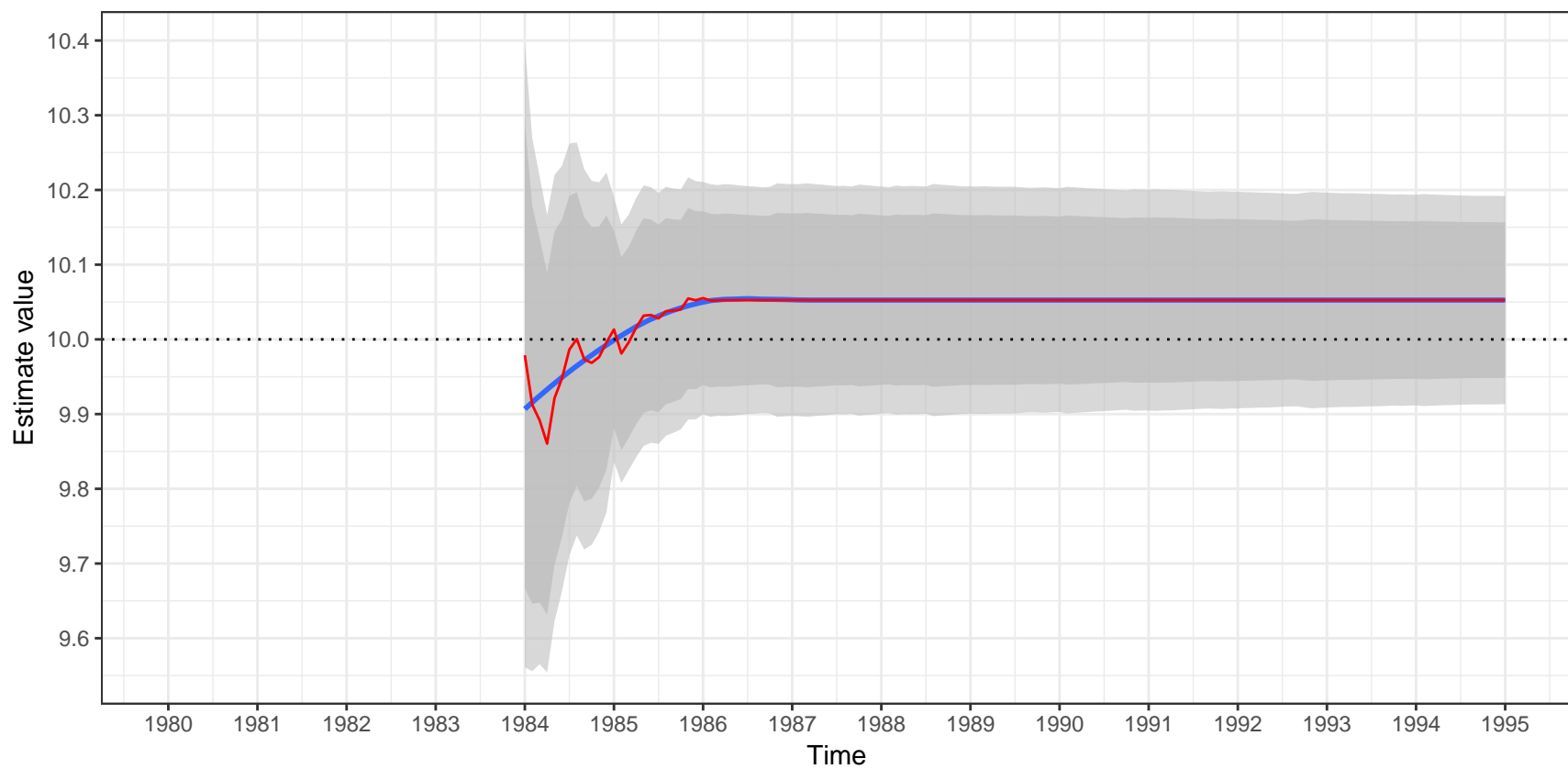


Raw data



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Estimation of the outlier

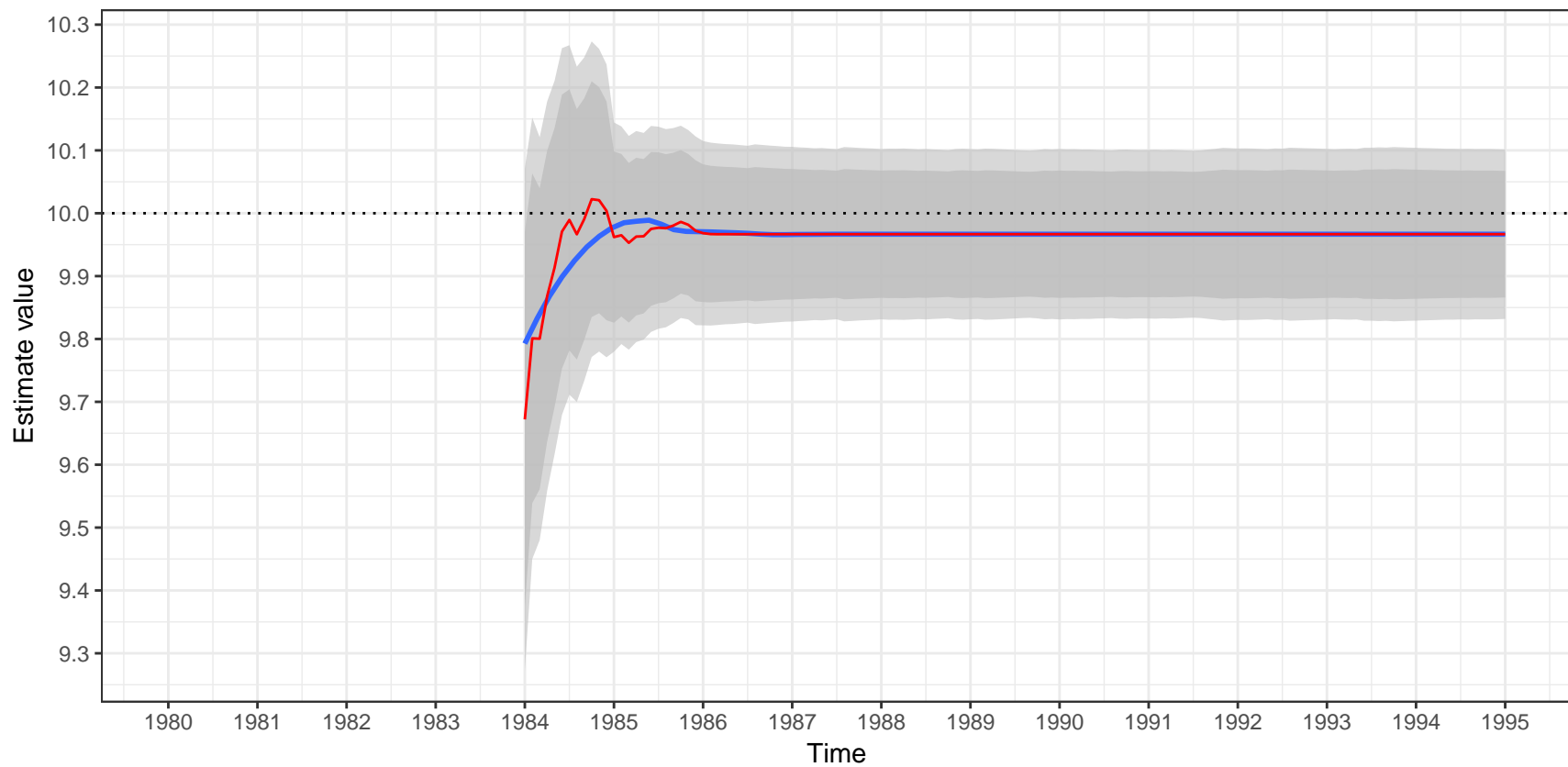


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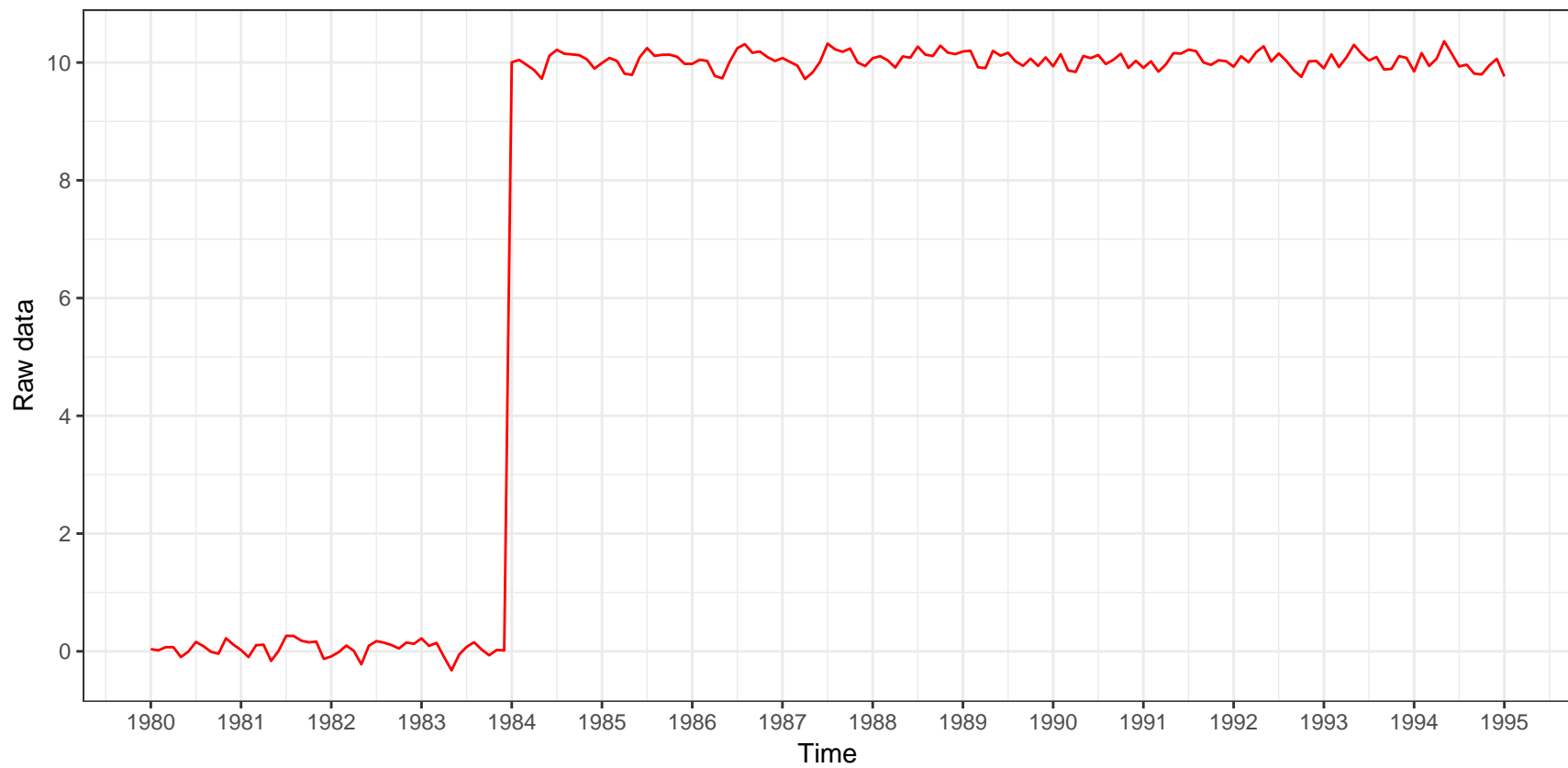


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(1,0,0) – additive decomposition
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Estimation of the outlier

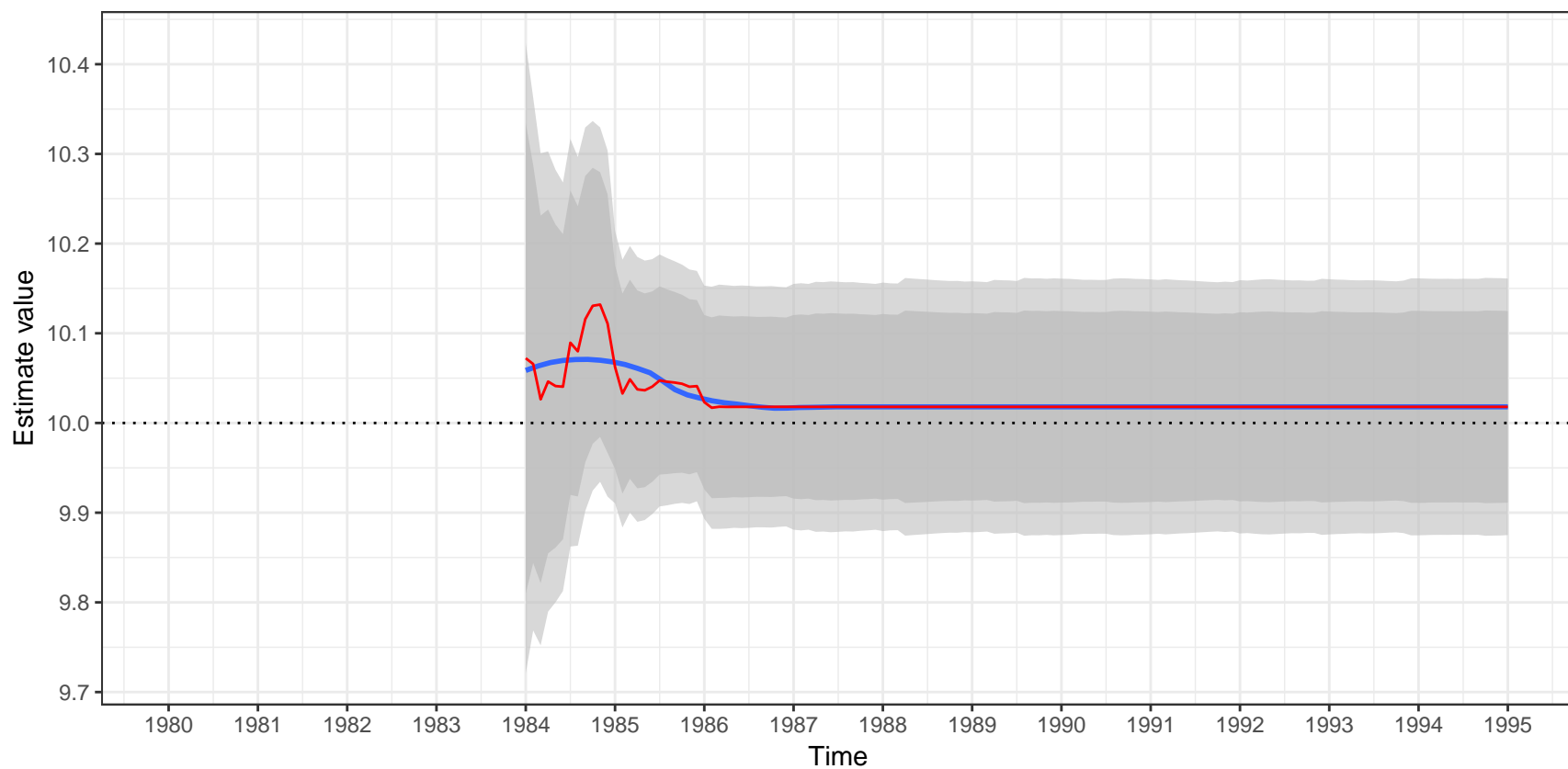


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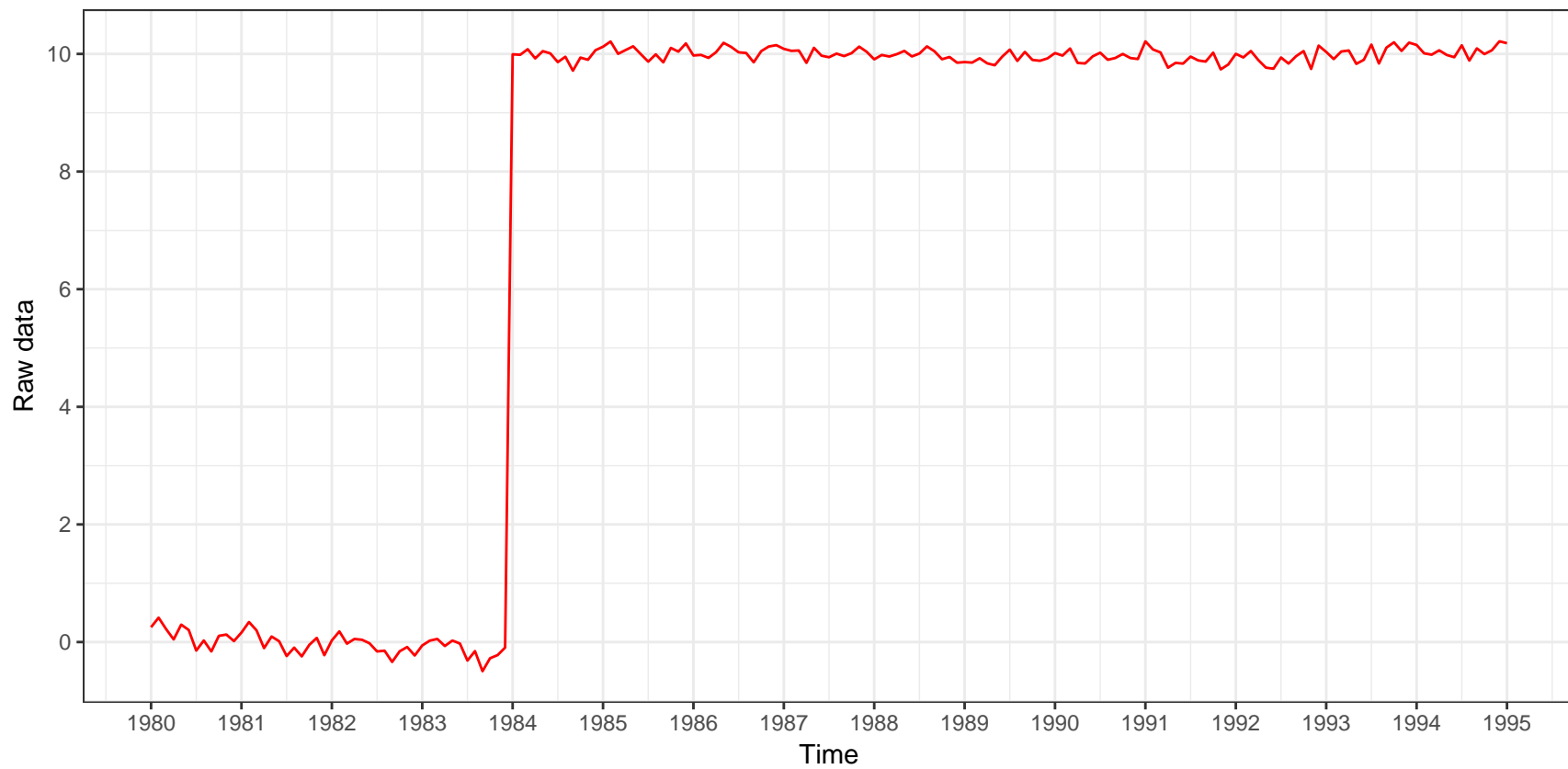


Estimate value of a LS(1984-01)
ARIMA (1,0,1)(1,0,0) – additive decomposition
 $(1-0.7B)(1-0.85B^{12})X_t=(1-0.3B)a_t$

Estimation of the outlier

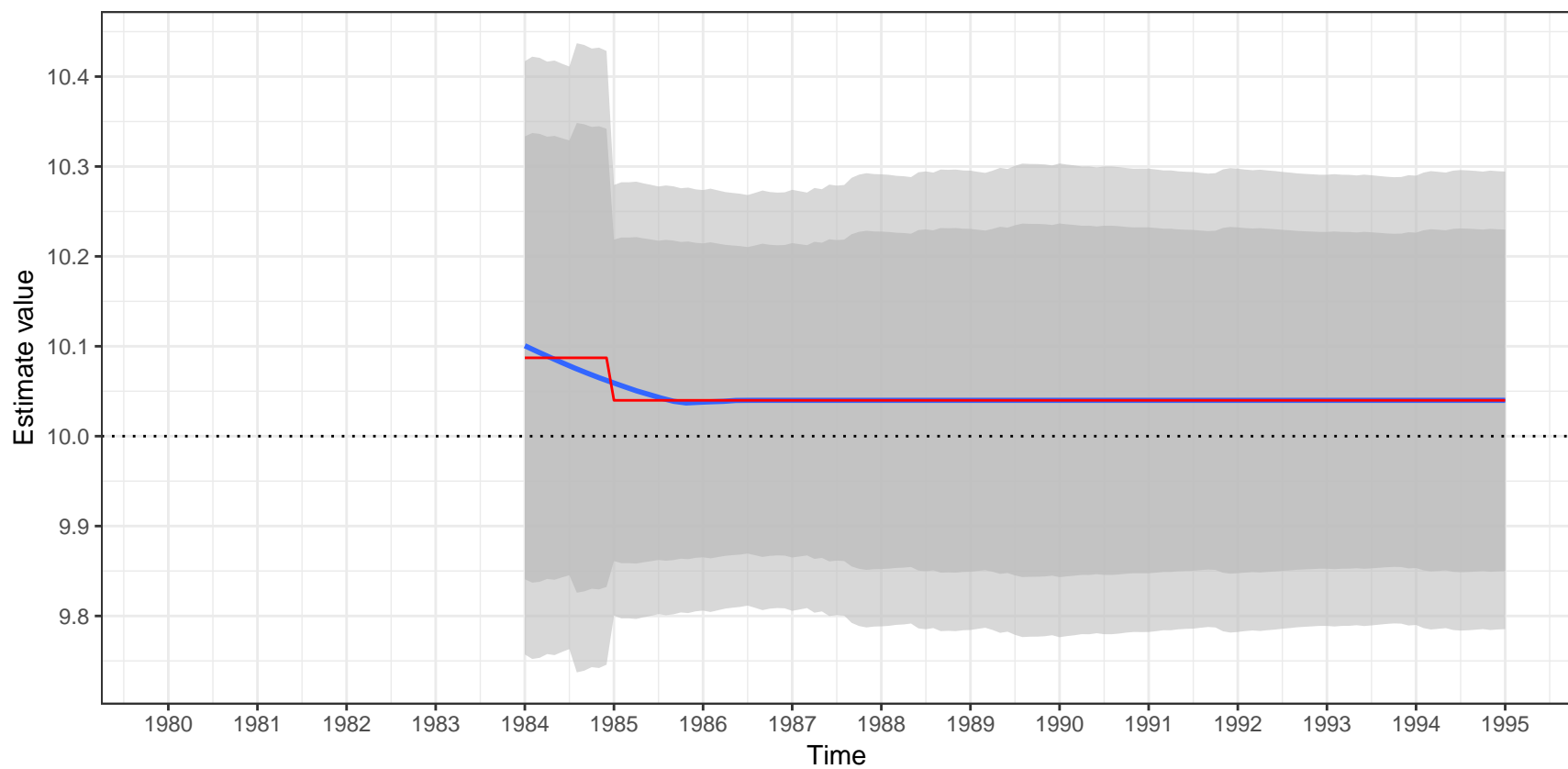


Raw data

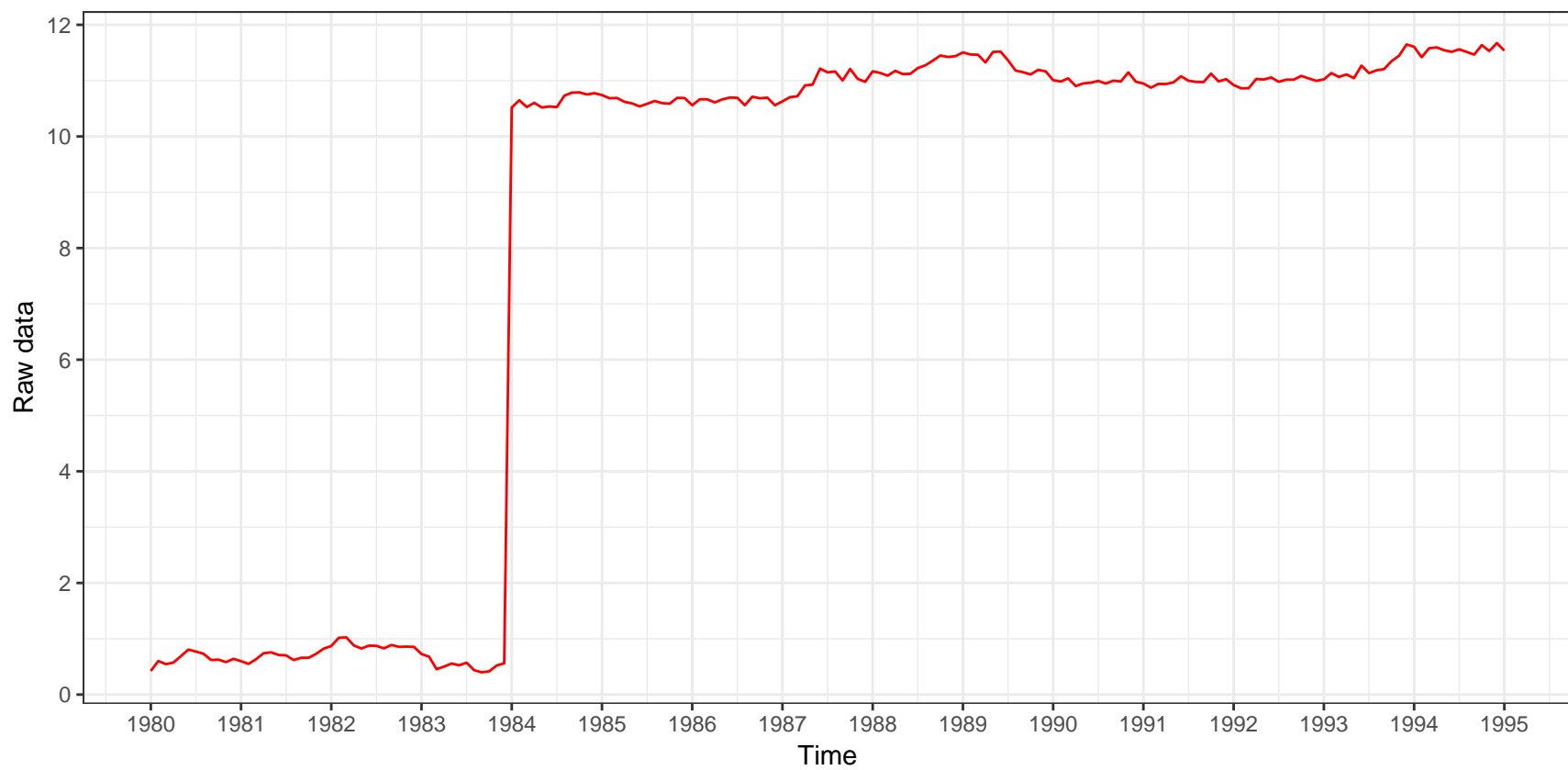


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,0,0) – additive decomposition
 $(1-B)X_t=at$

Estimation of the outlier

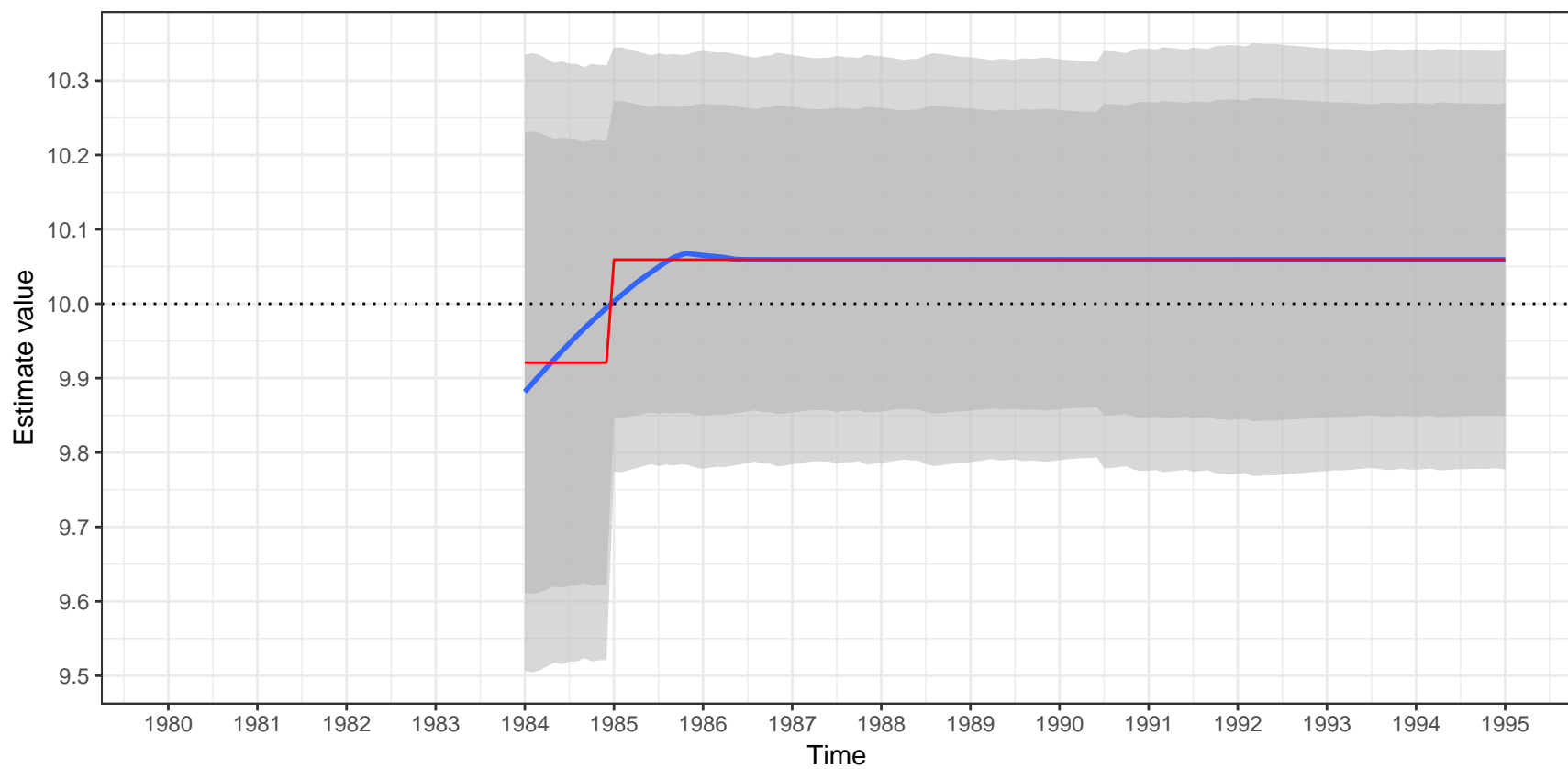


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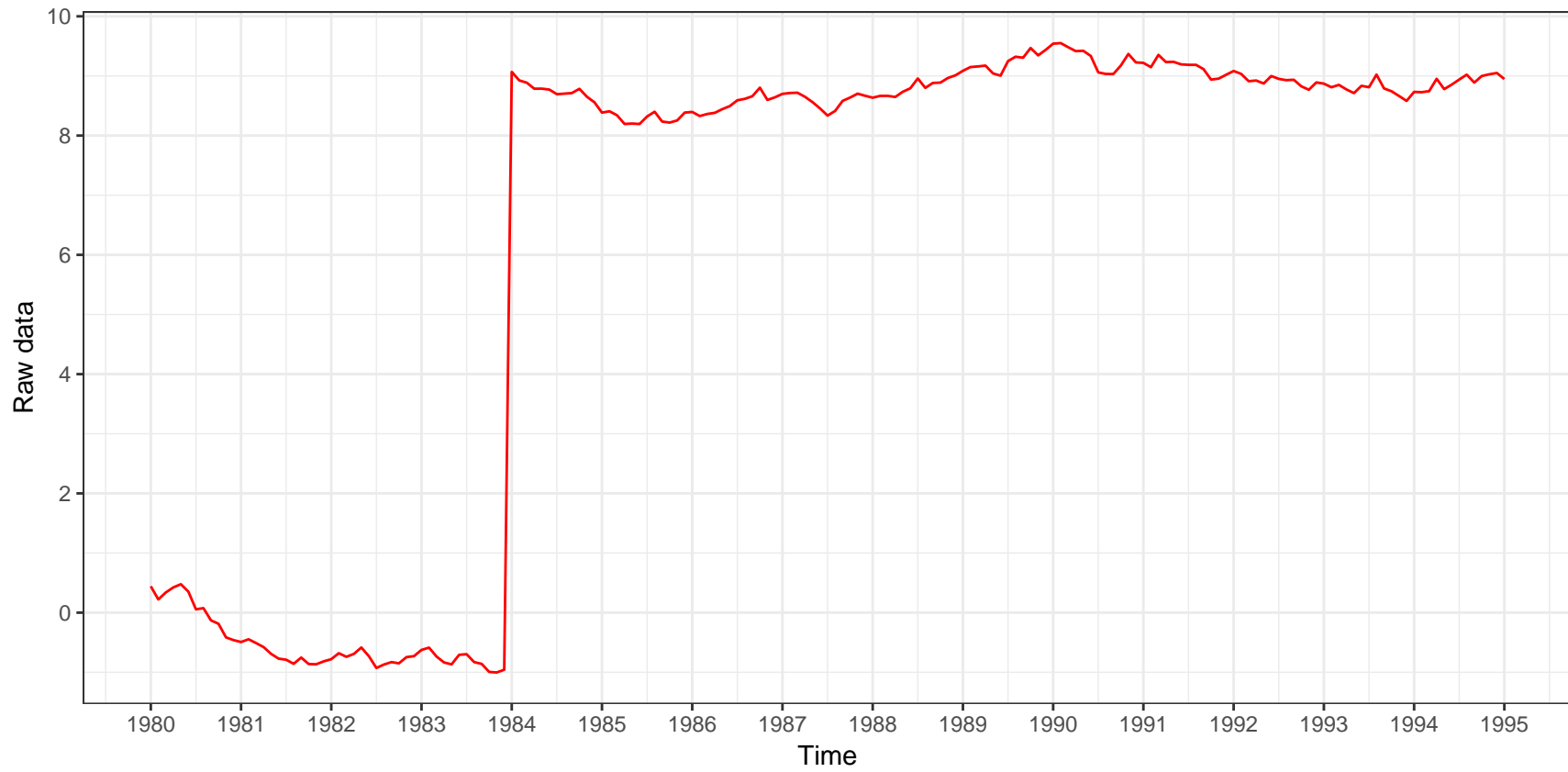


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,0,0) – additive decomposition
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Estimation of the outlier

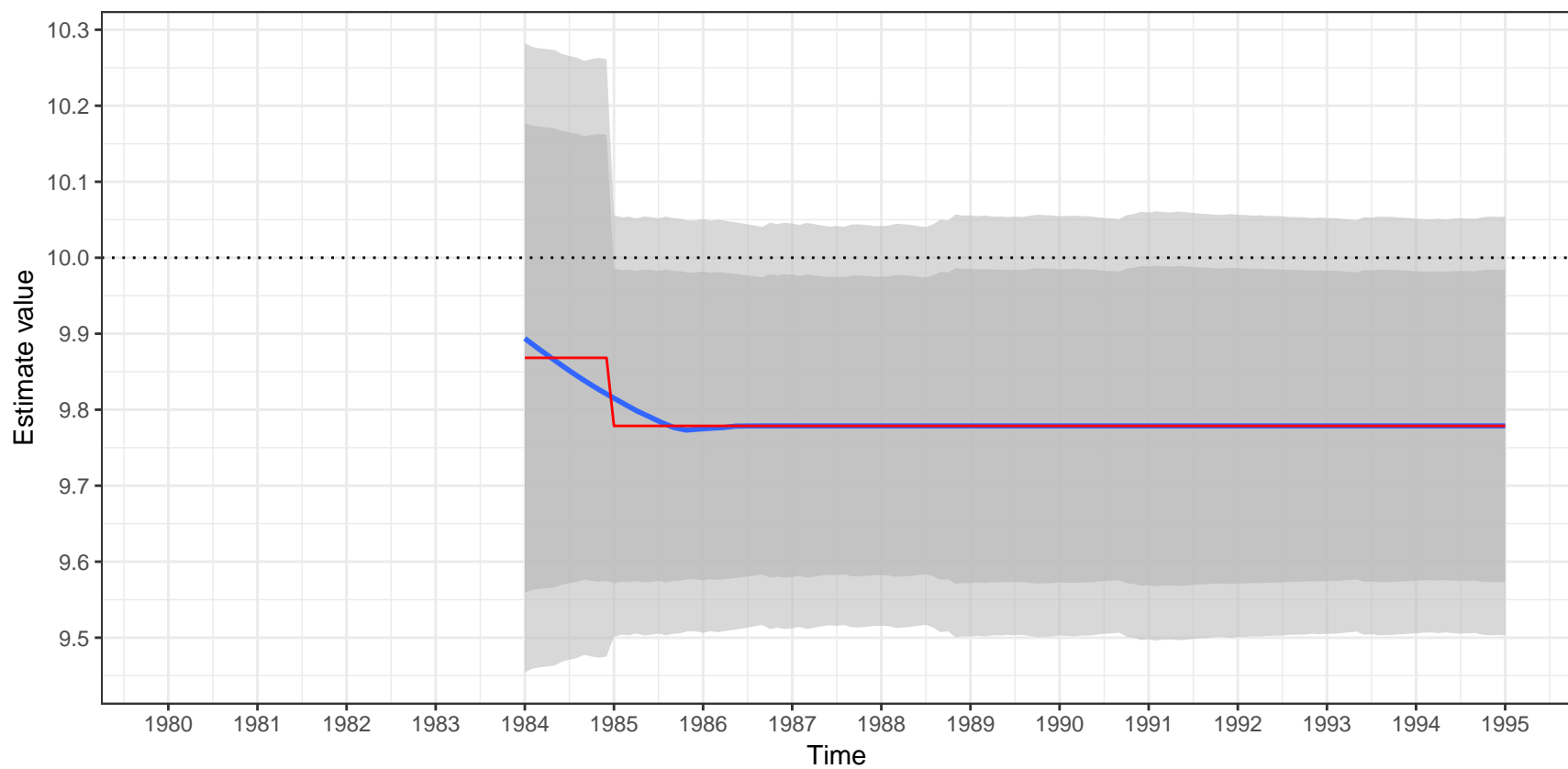


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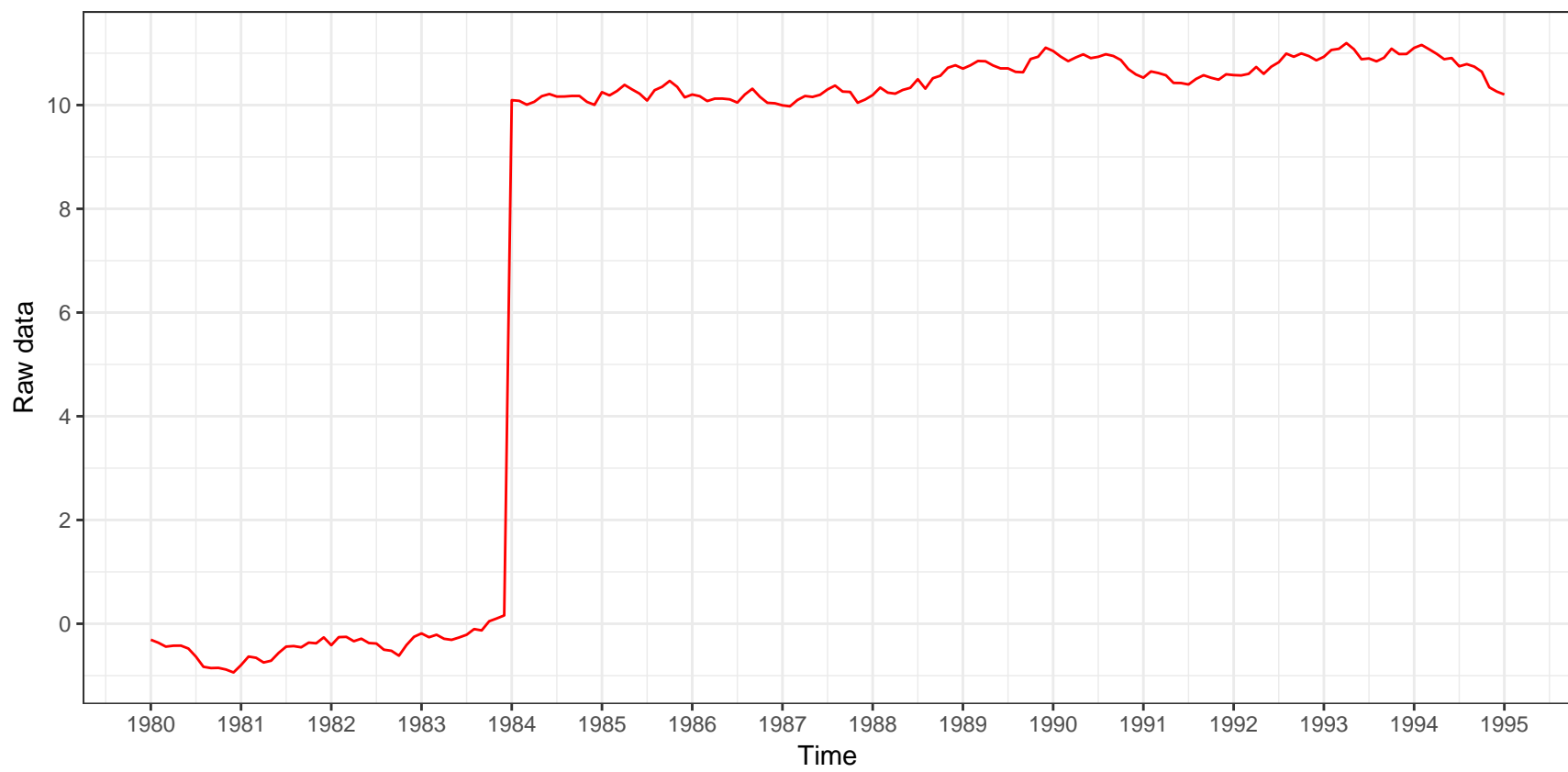


Estimate value of a LS(1984-01)
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Estimation of the outlier

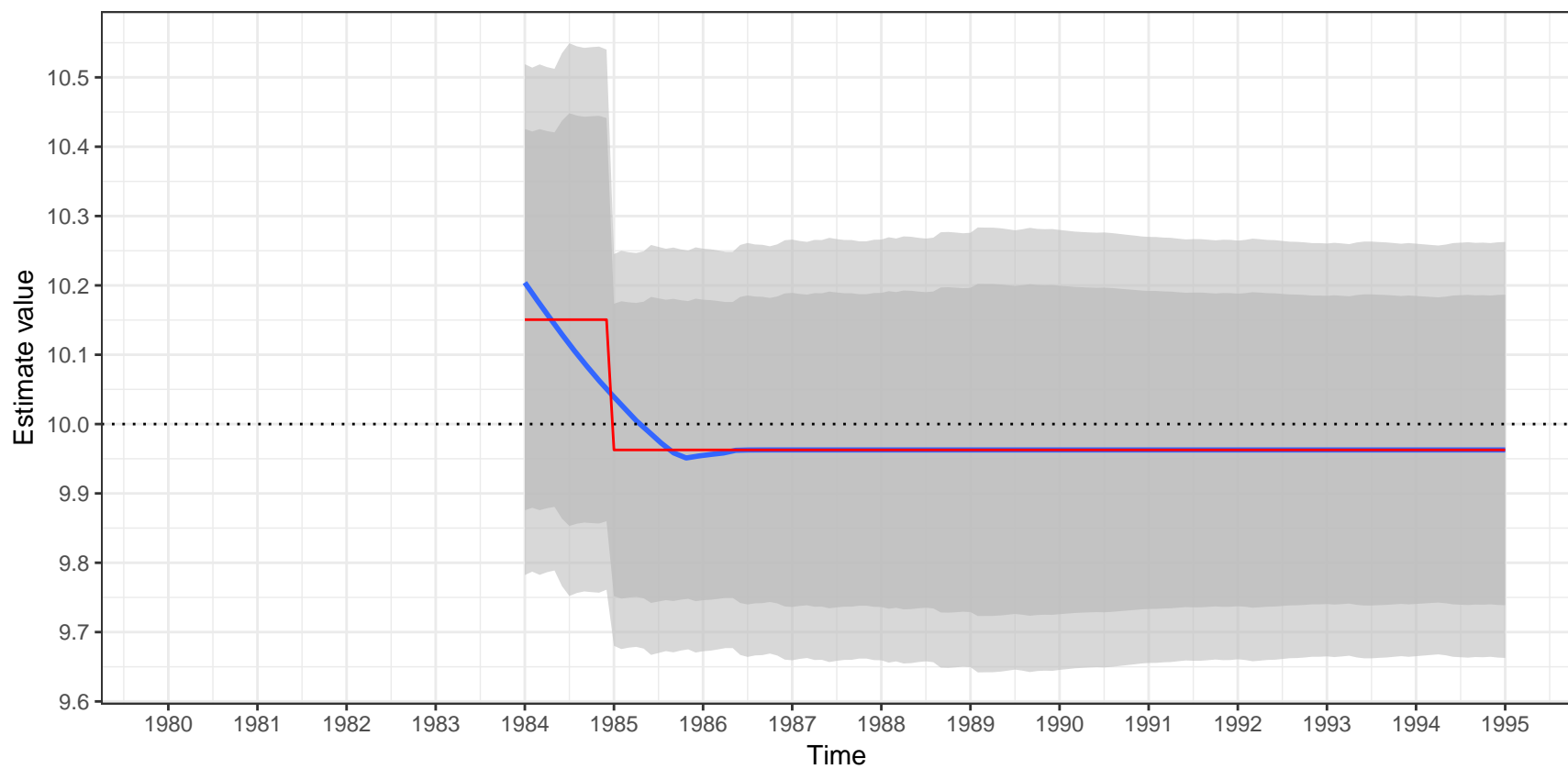


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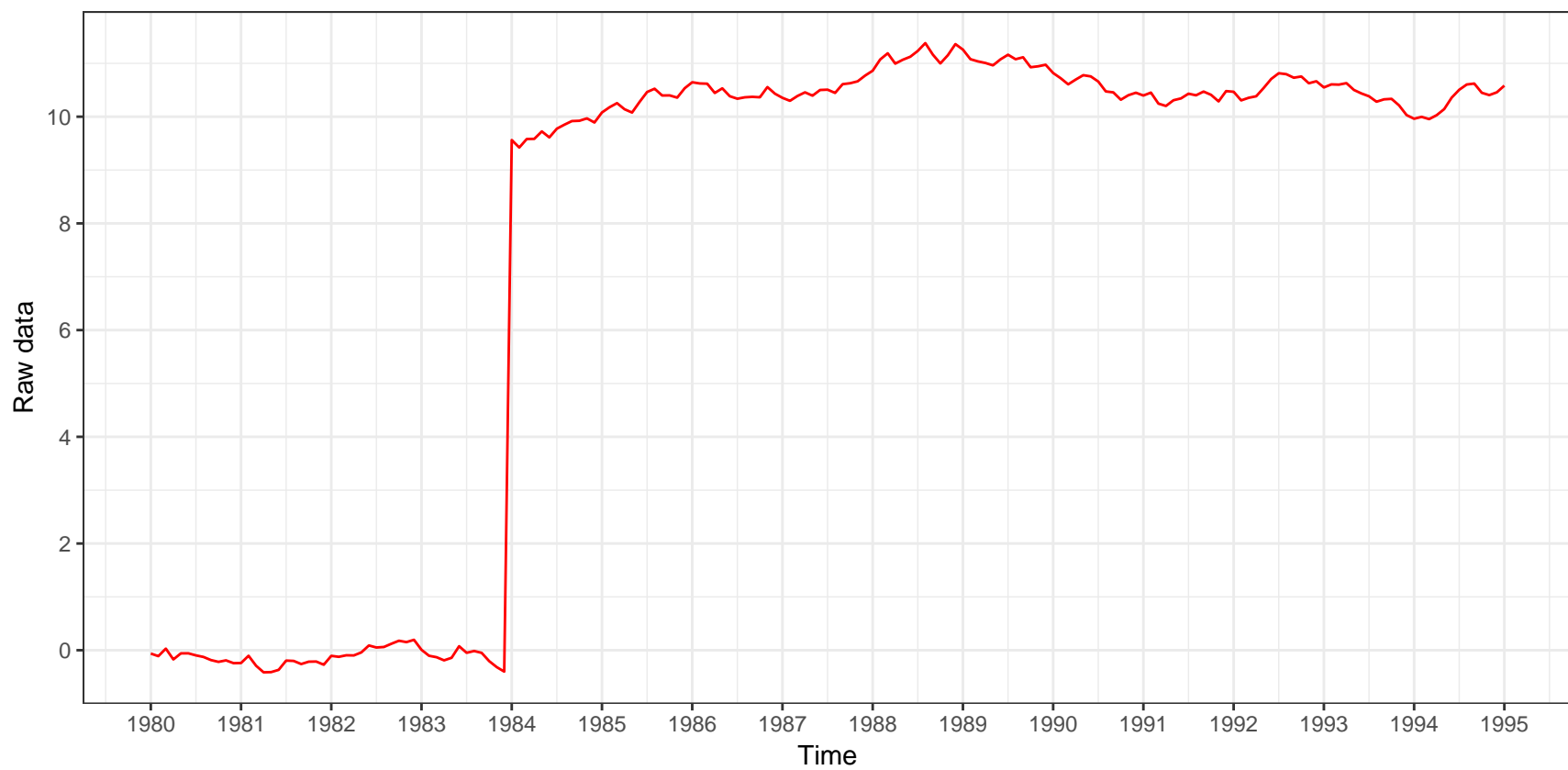


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,0,0) – additive decomposition
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Estimation of the outlier

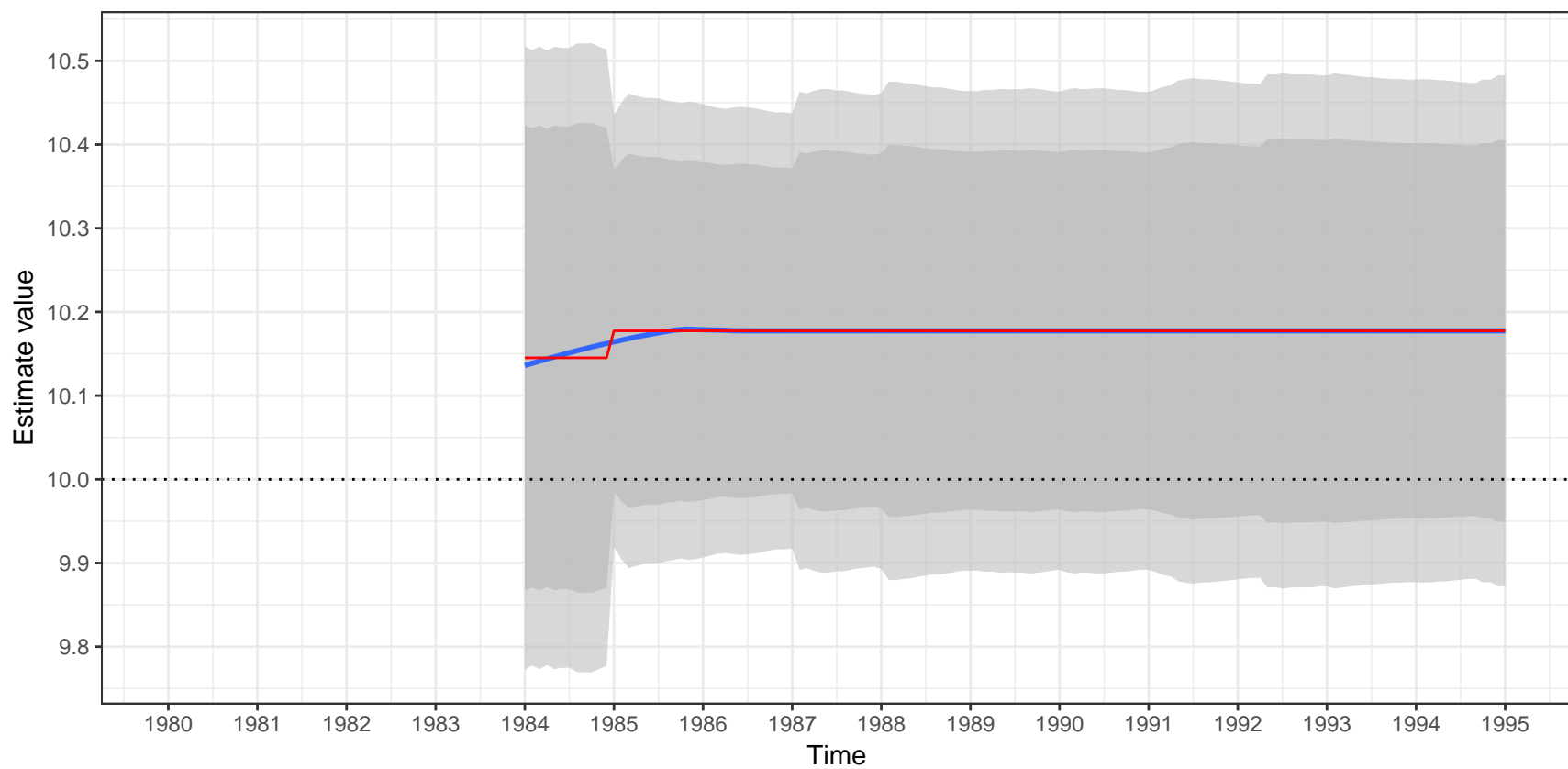


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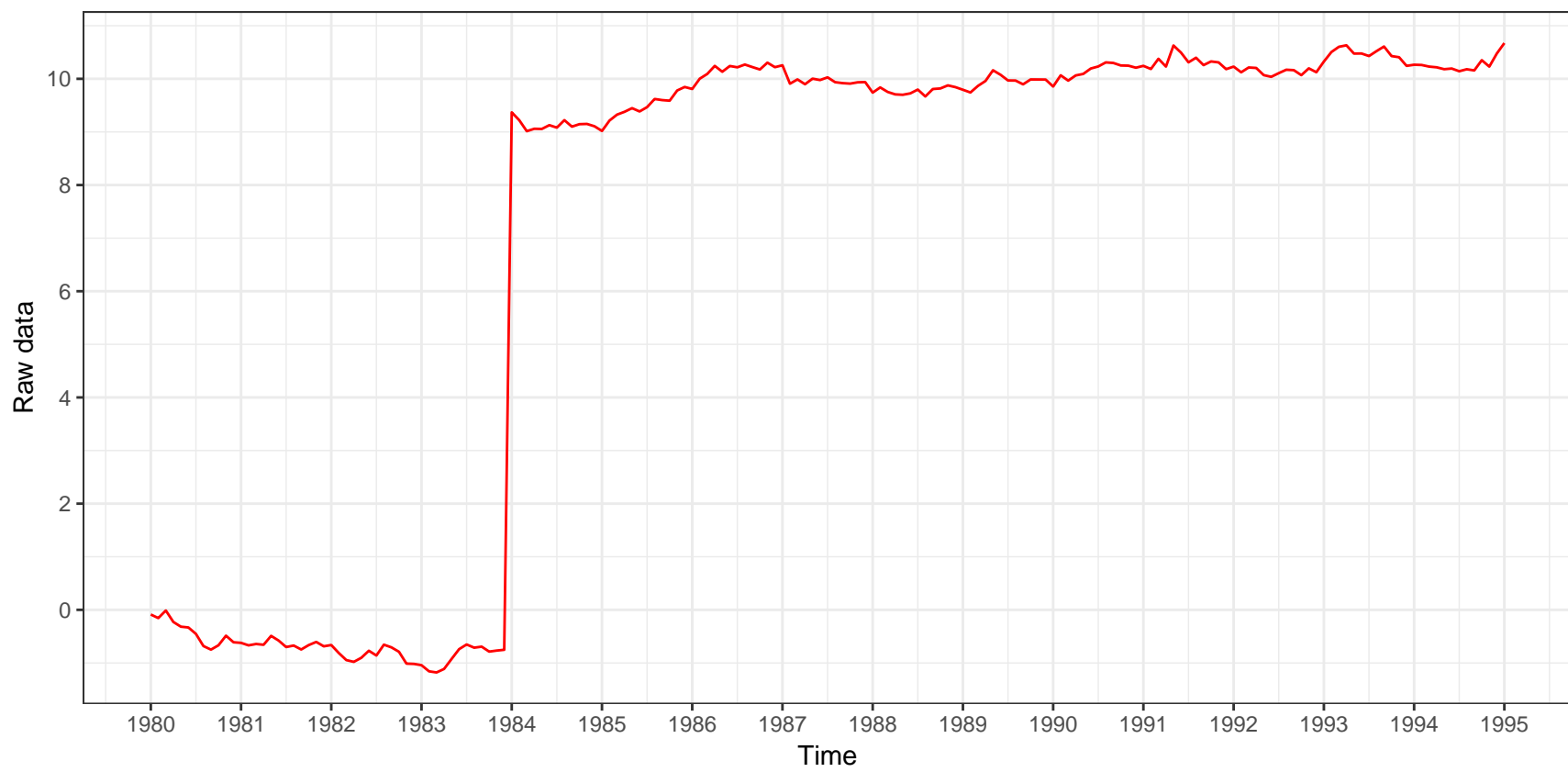


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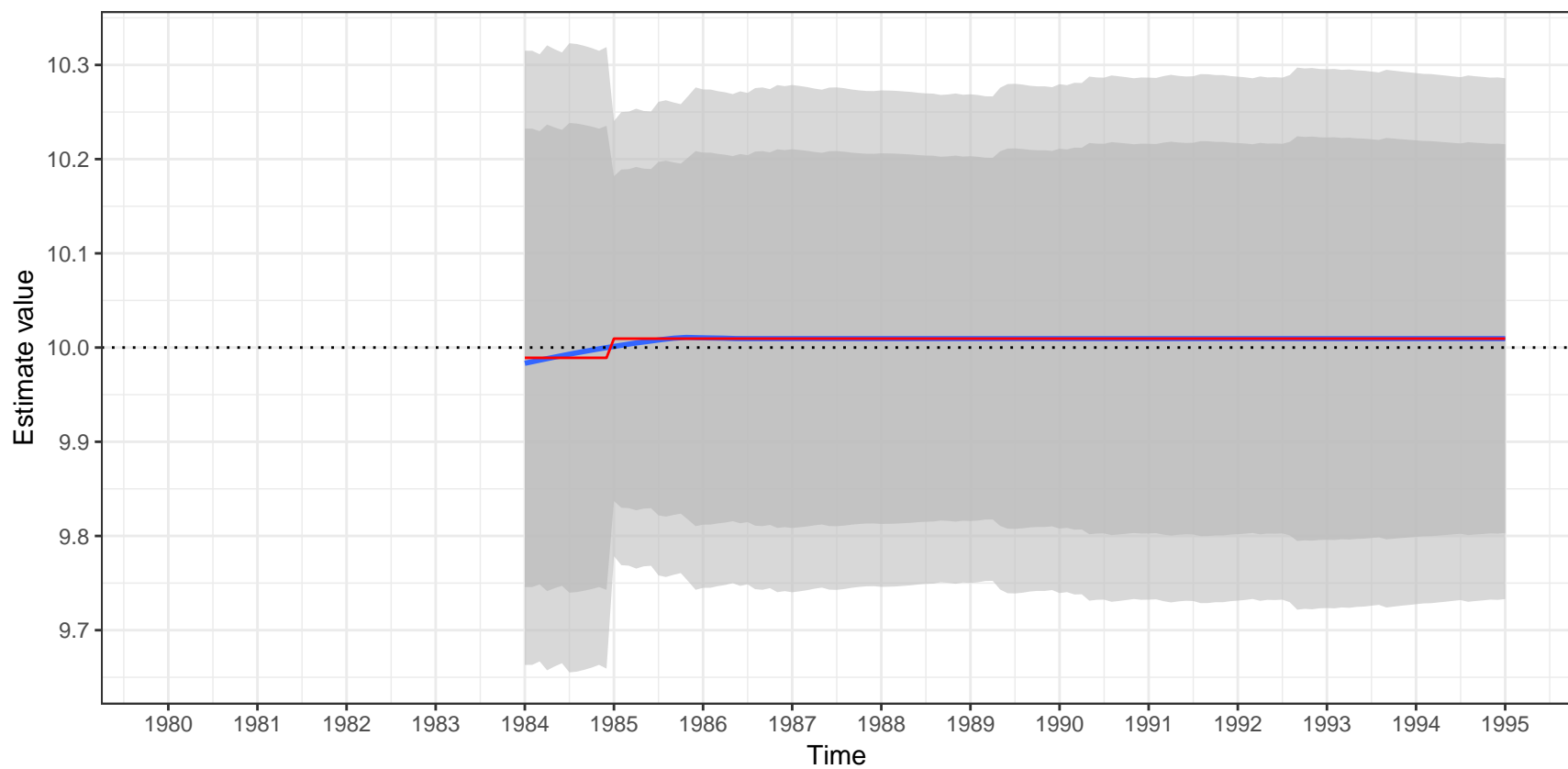


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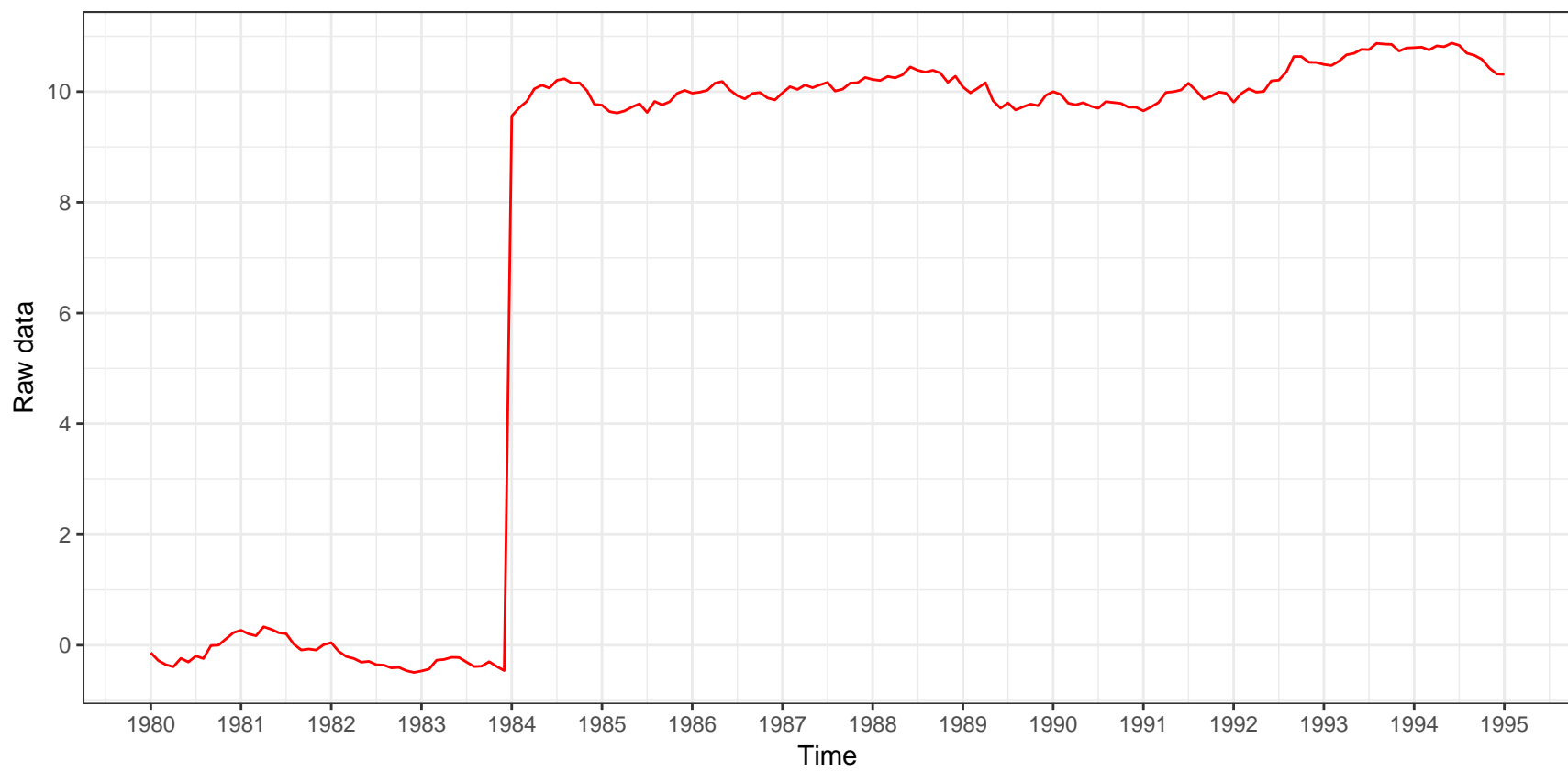


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,0,0) – additive decomposition
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Estimation of the outlier

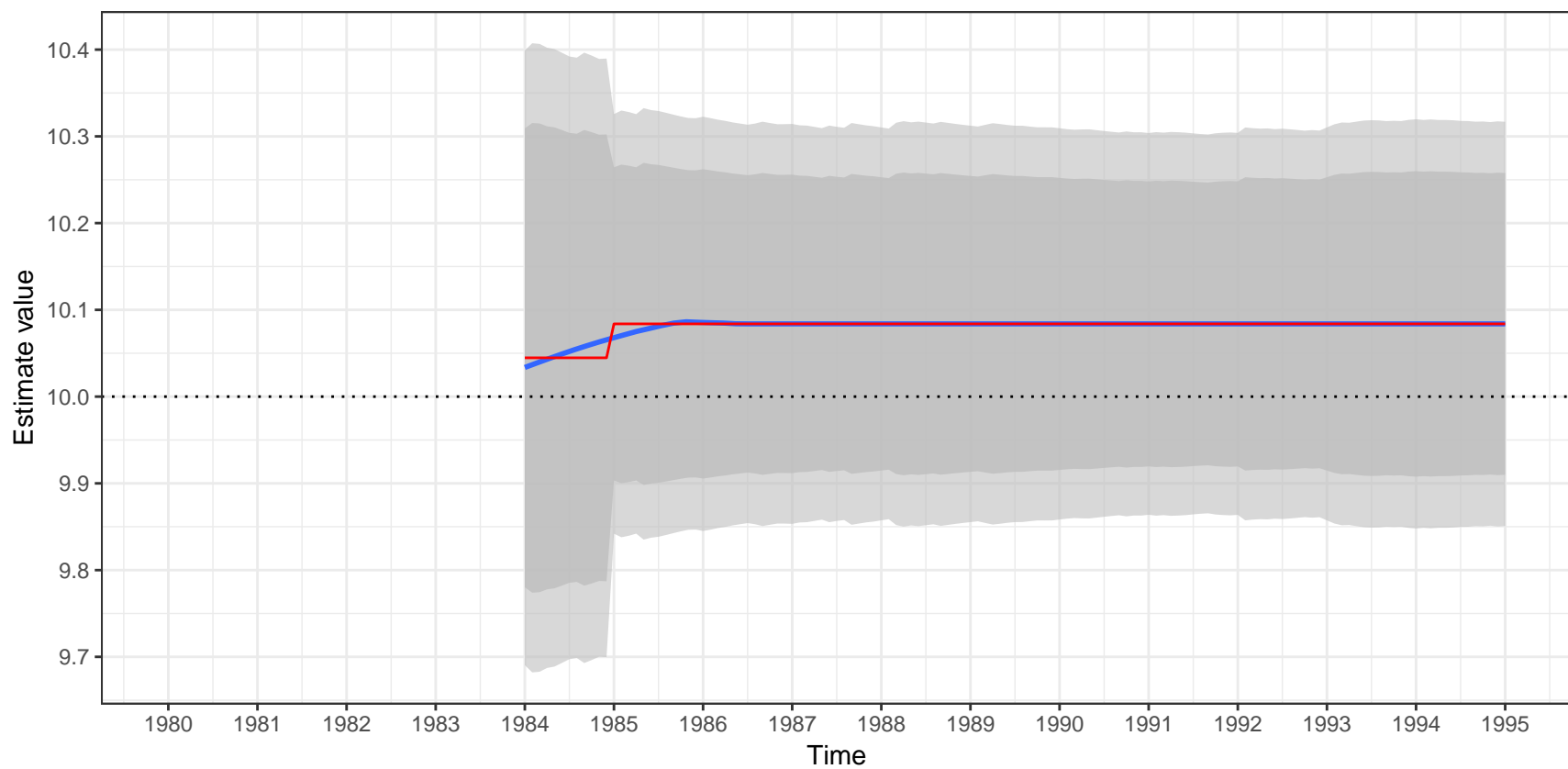


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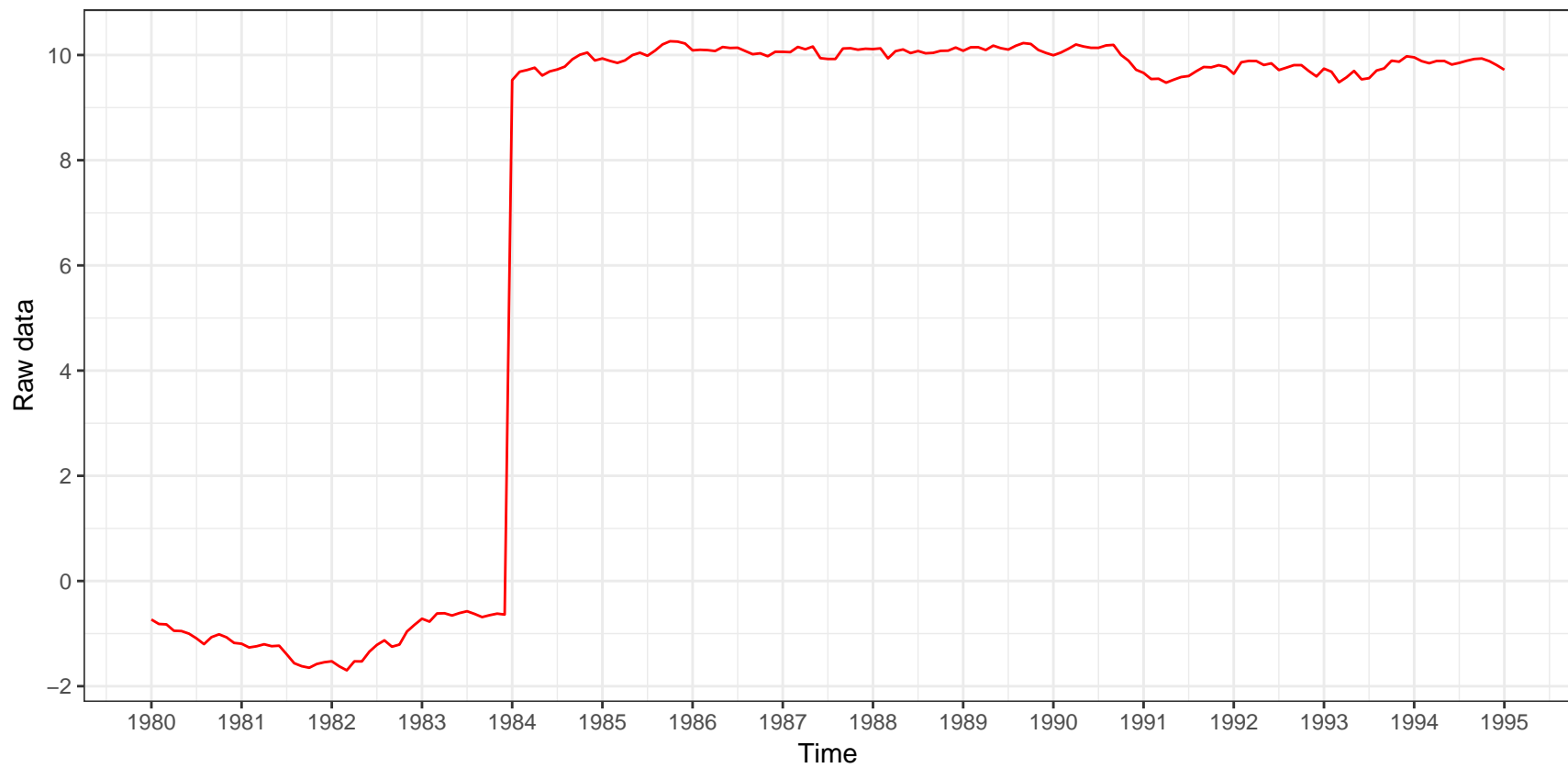


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Estimation of the outlier

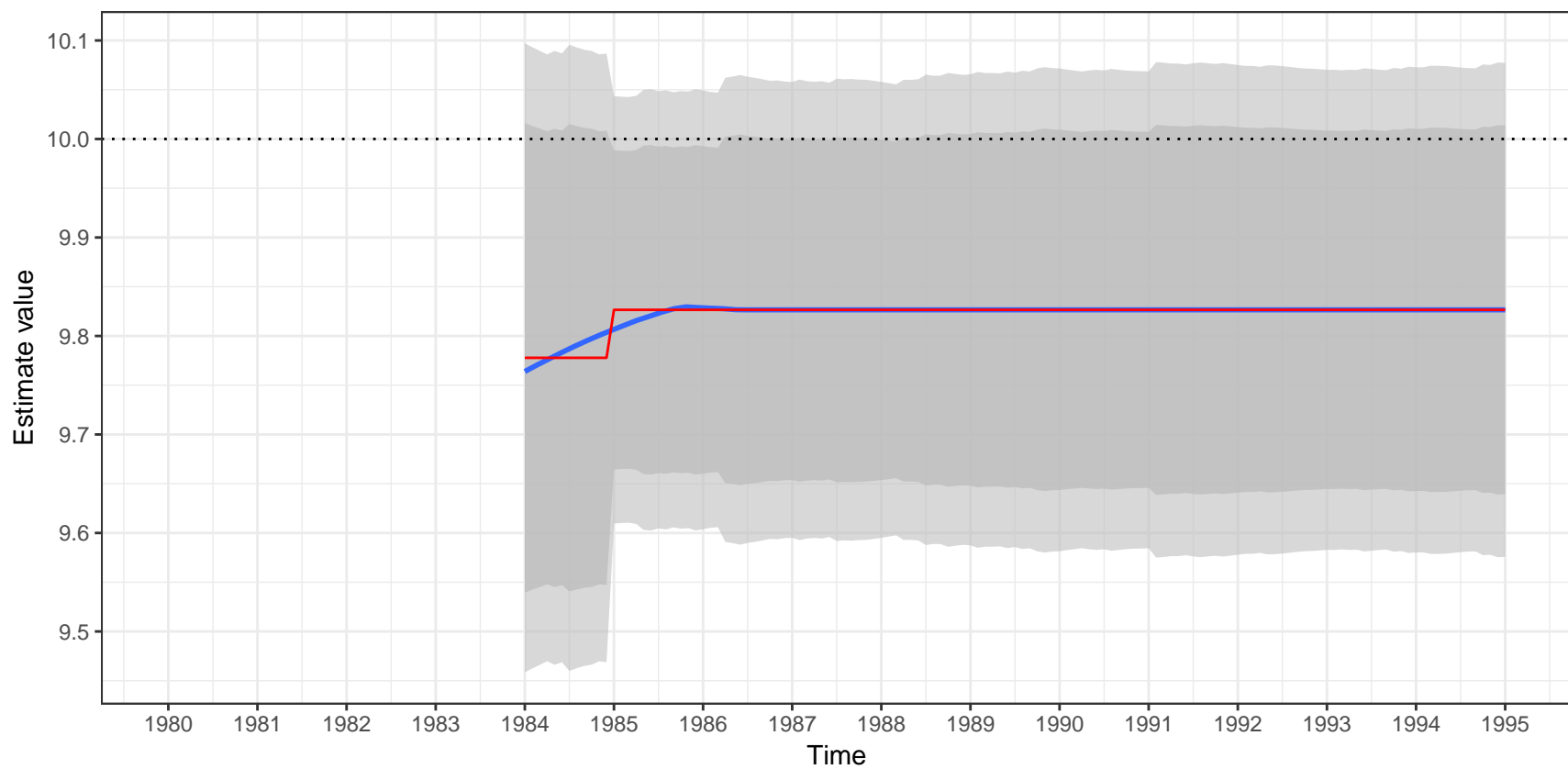


Raw data

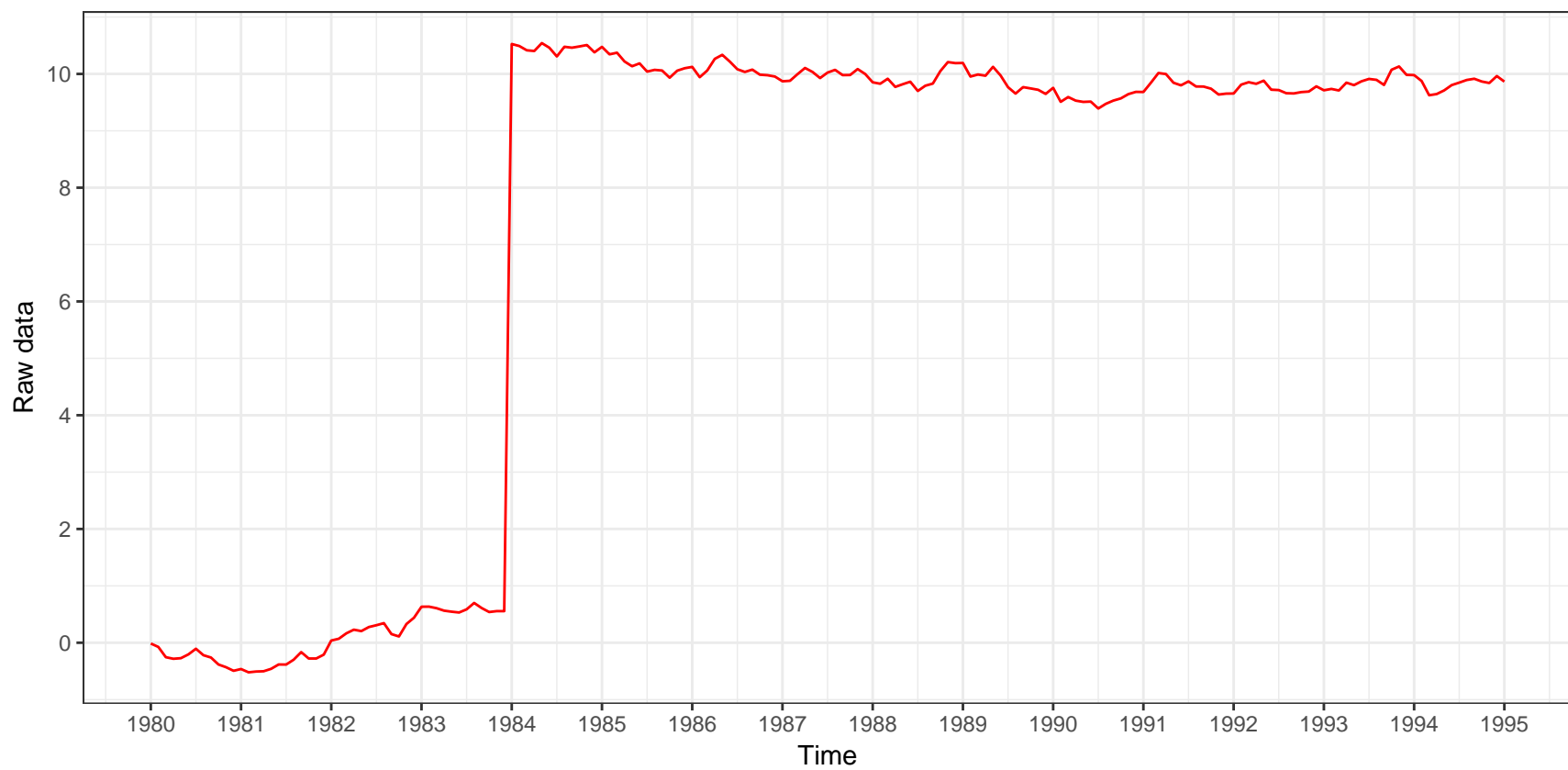


Estimate value of a LS(1984-01)
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Estimation of the outlier

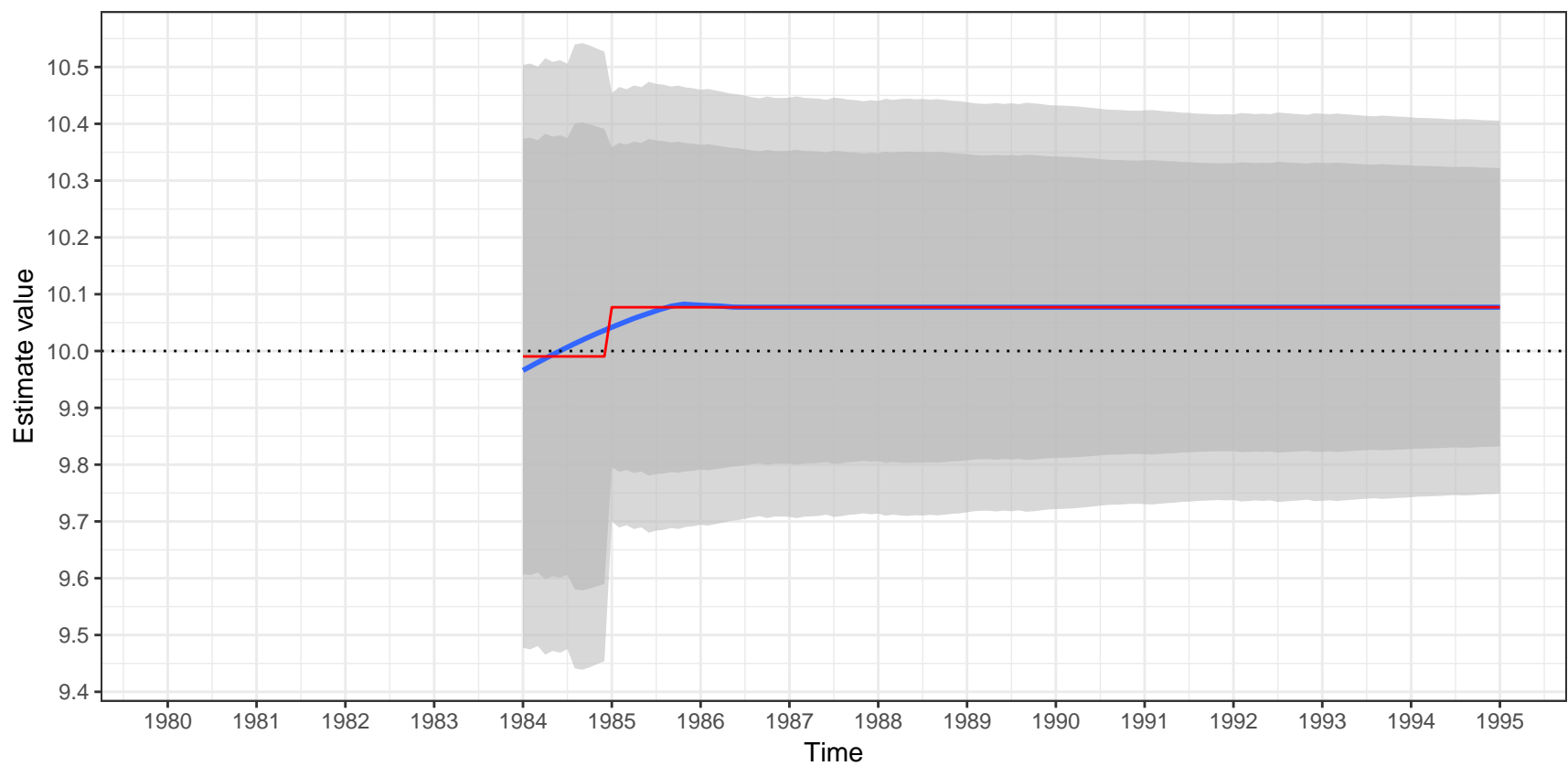


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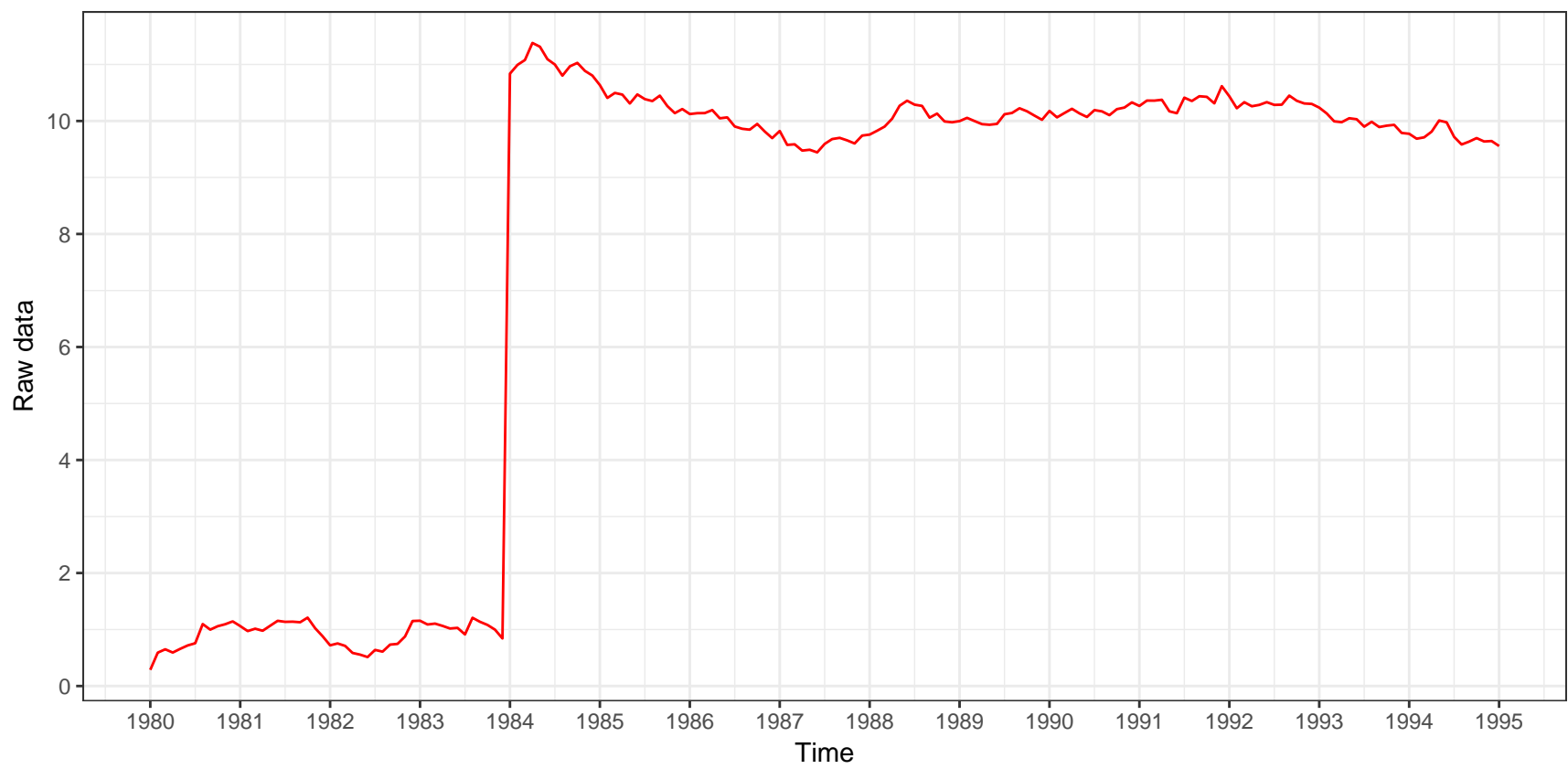


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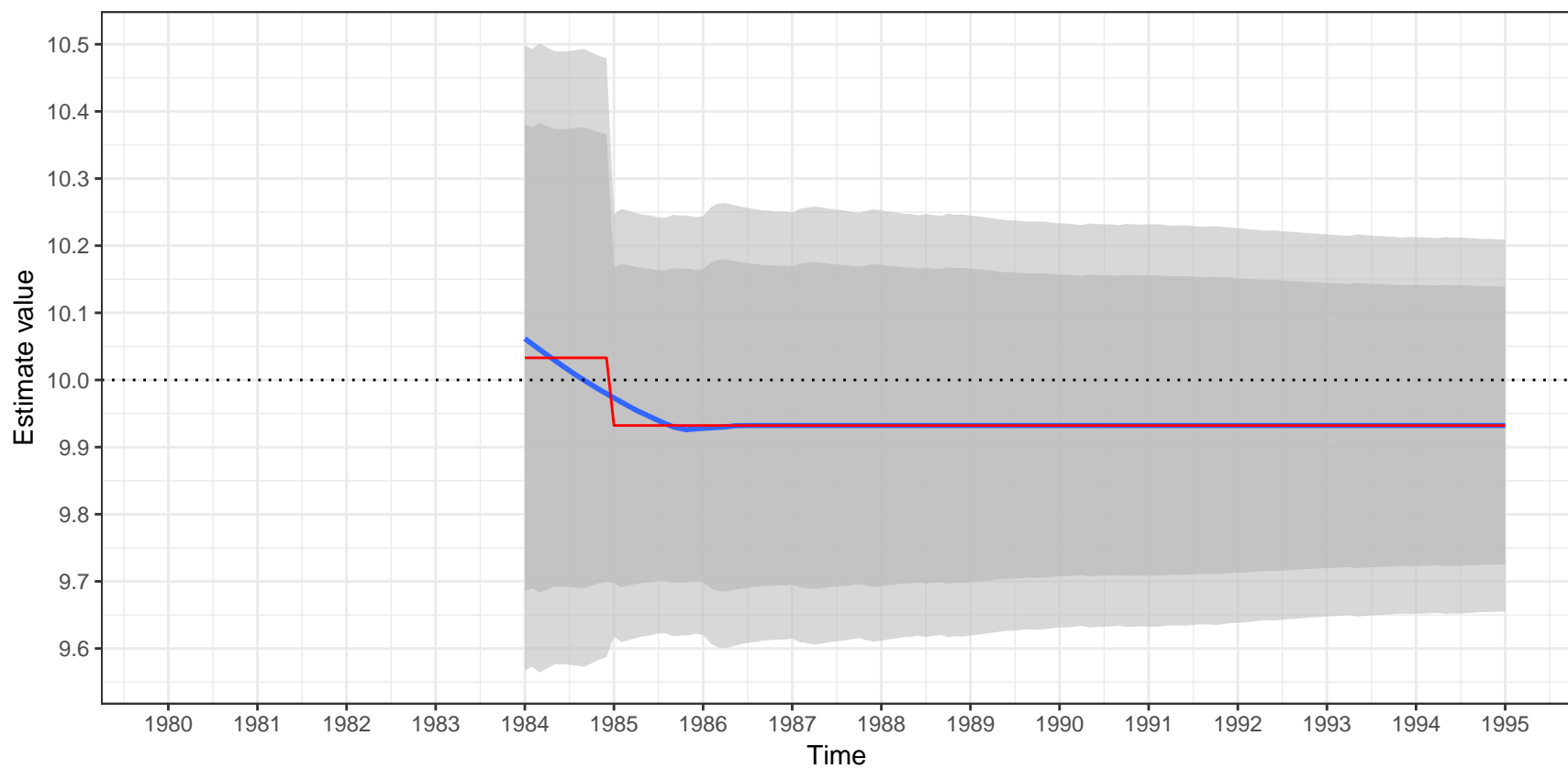


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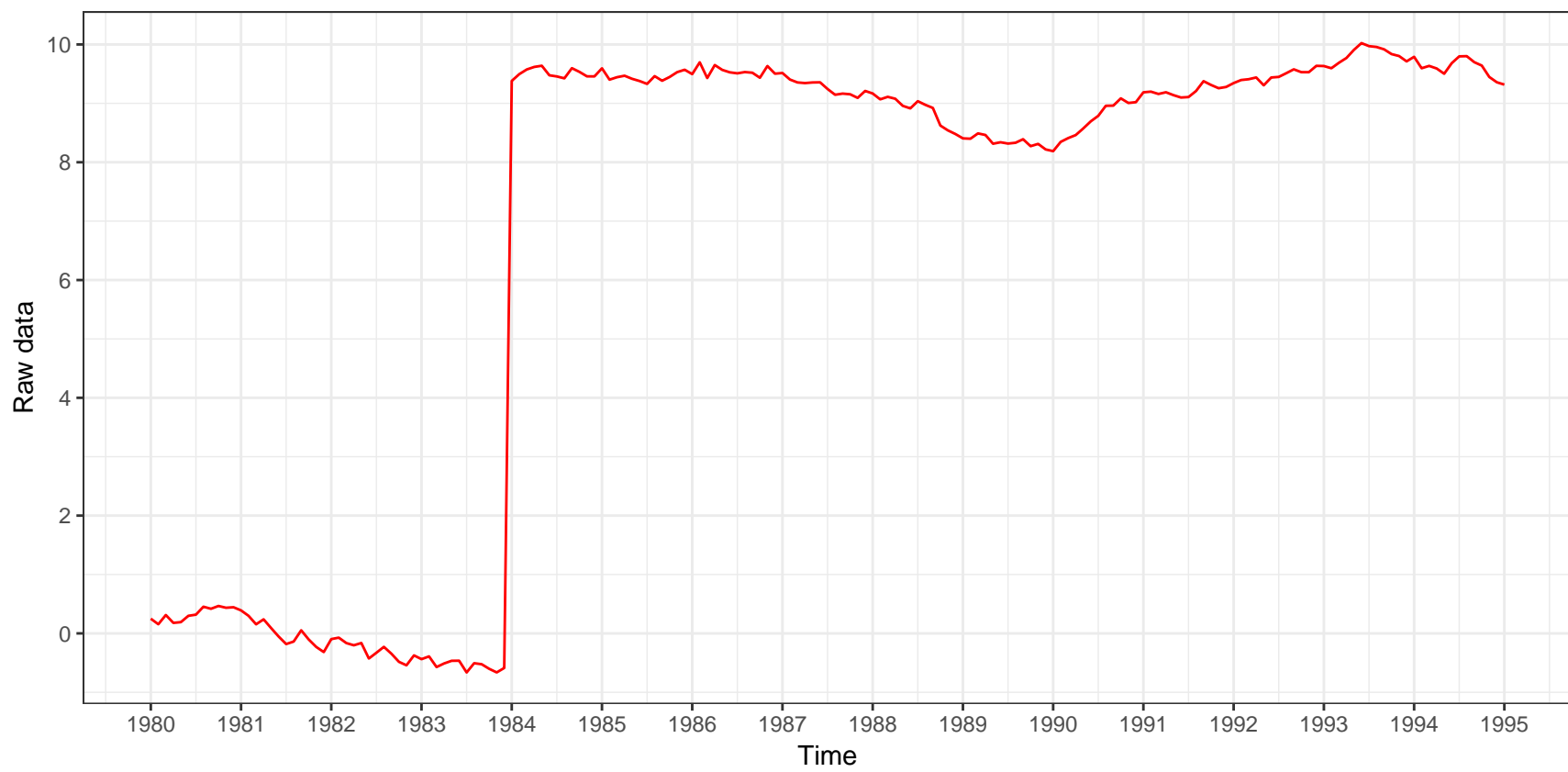


Estimate value of a LS(1984-01)
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Estimation of the outlier

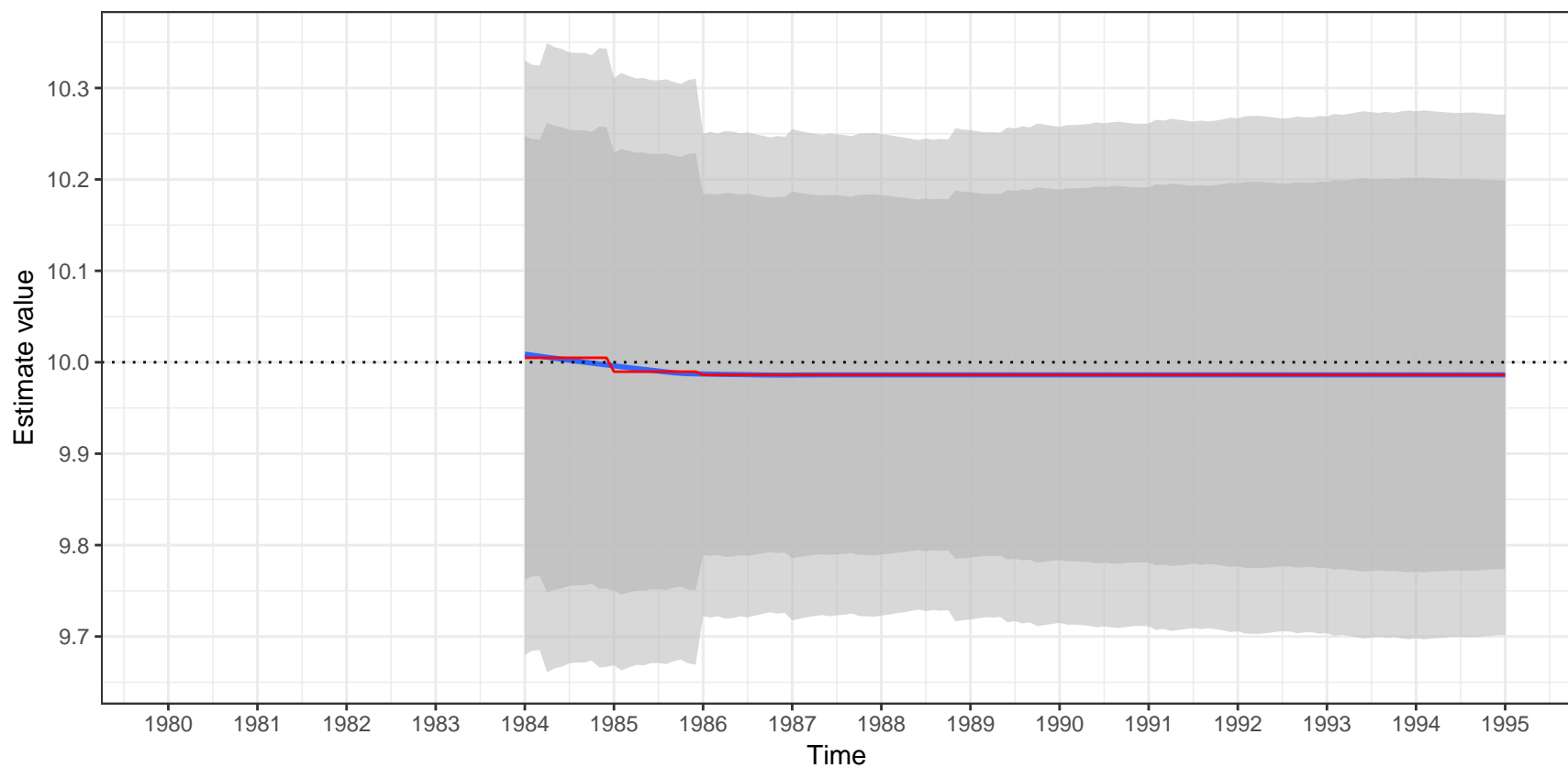


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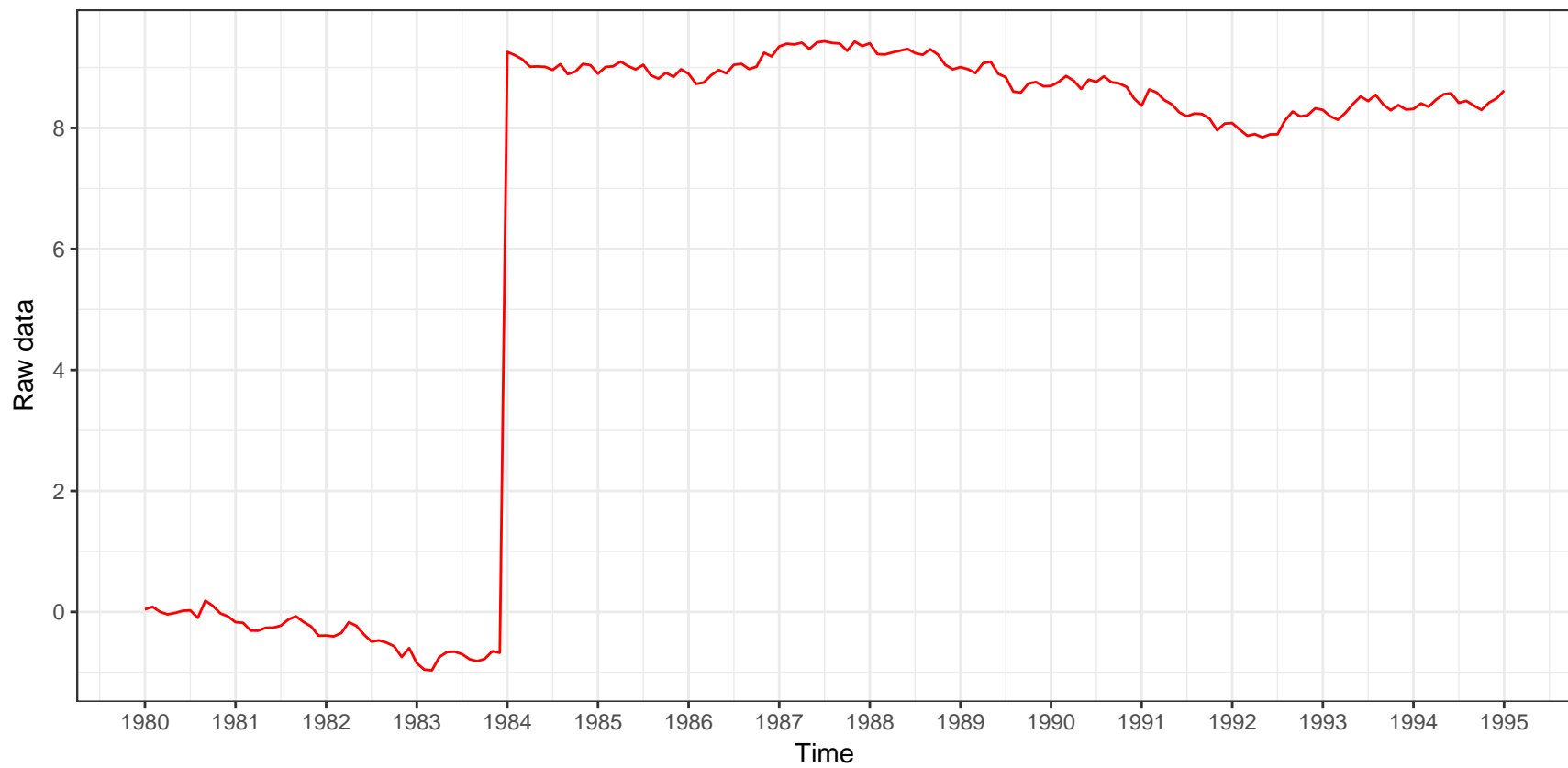


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(1,0,0) – additive decomposition
 $(1-B)(1+0.7B^{12})X_t=at$

Estimation of the outlier

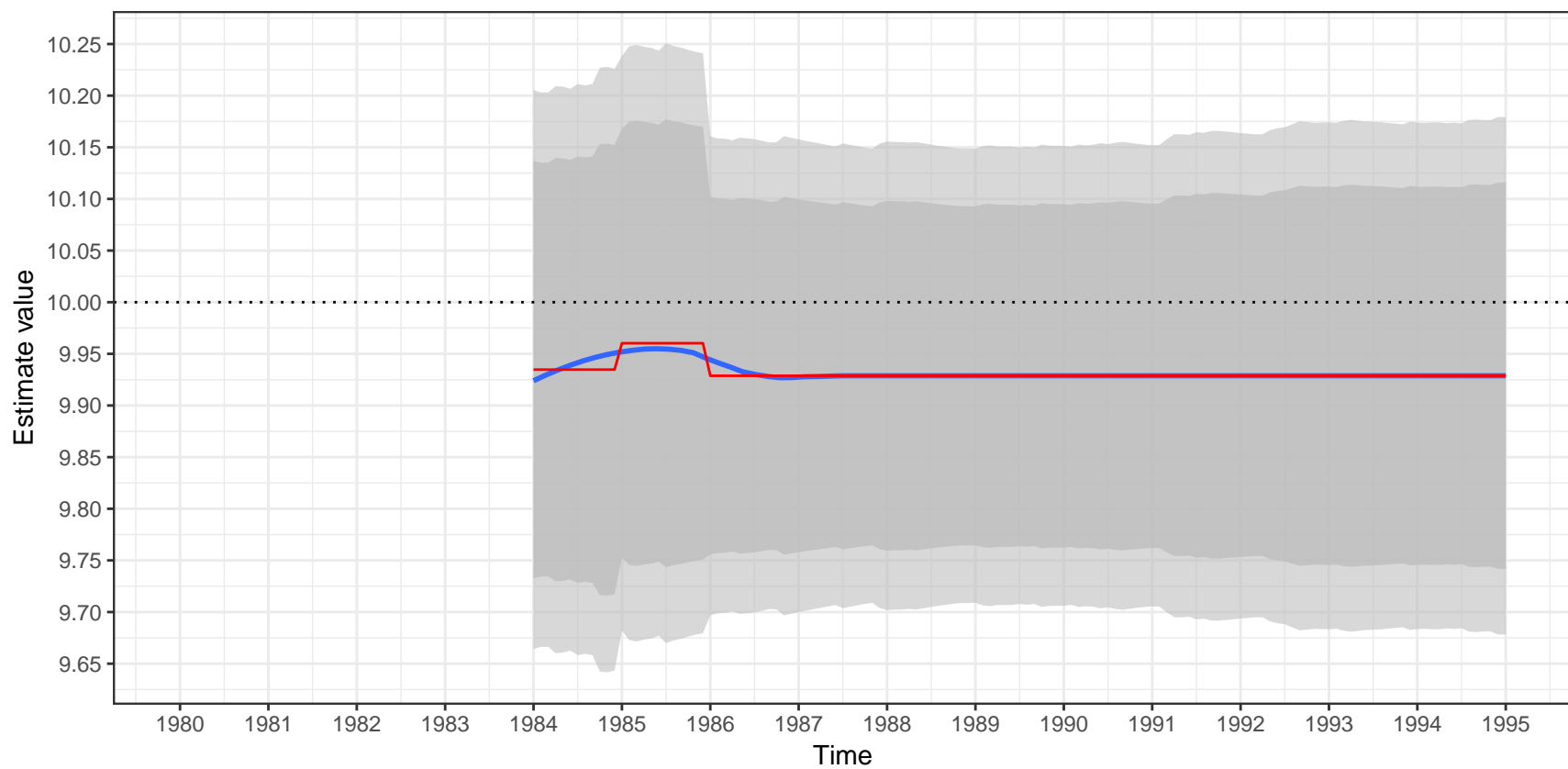


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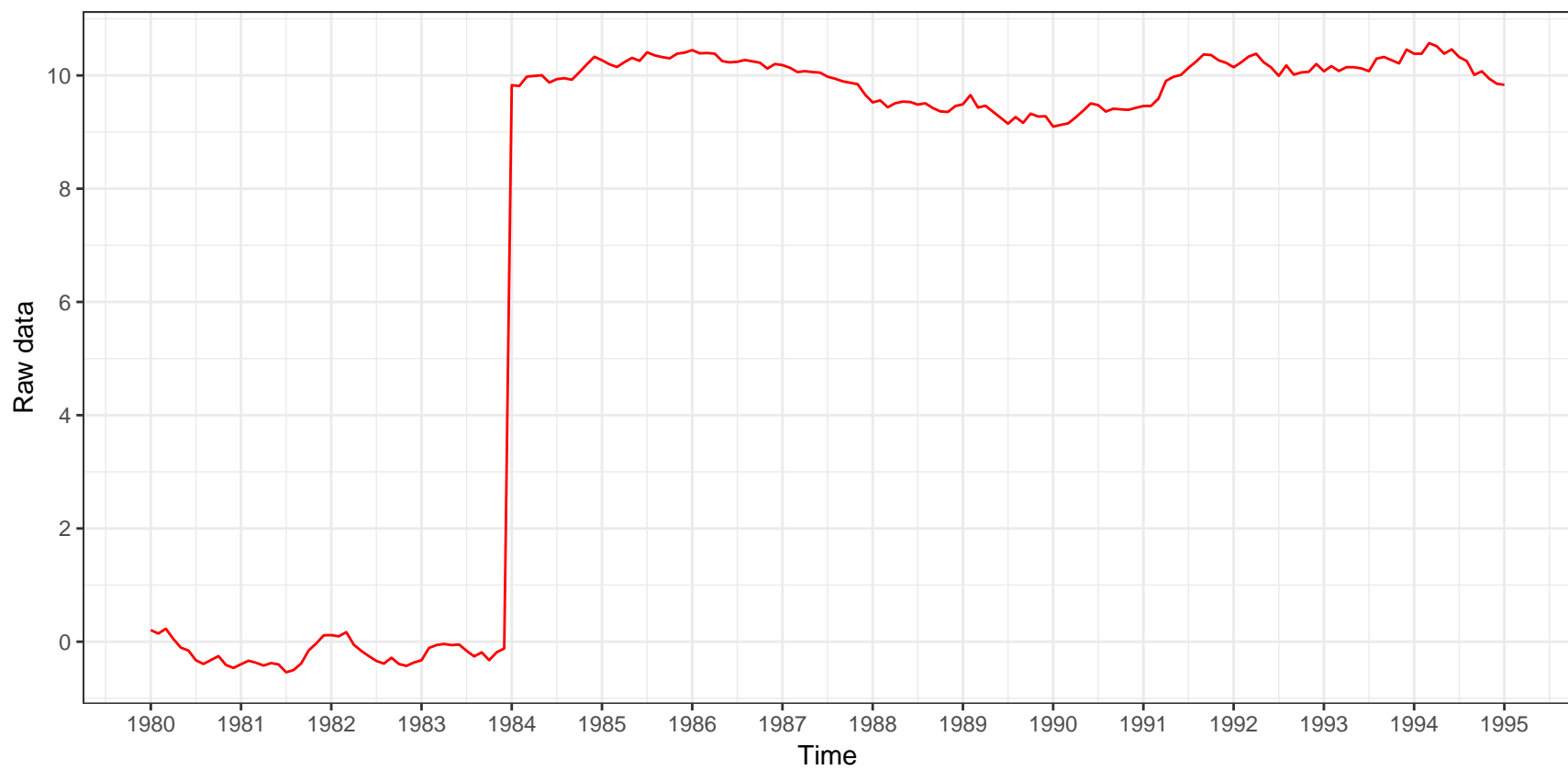


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Estimation of the outlier

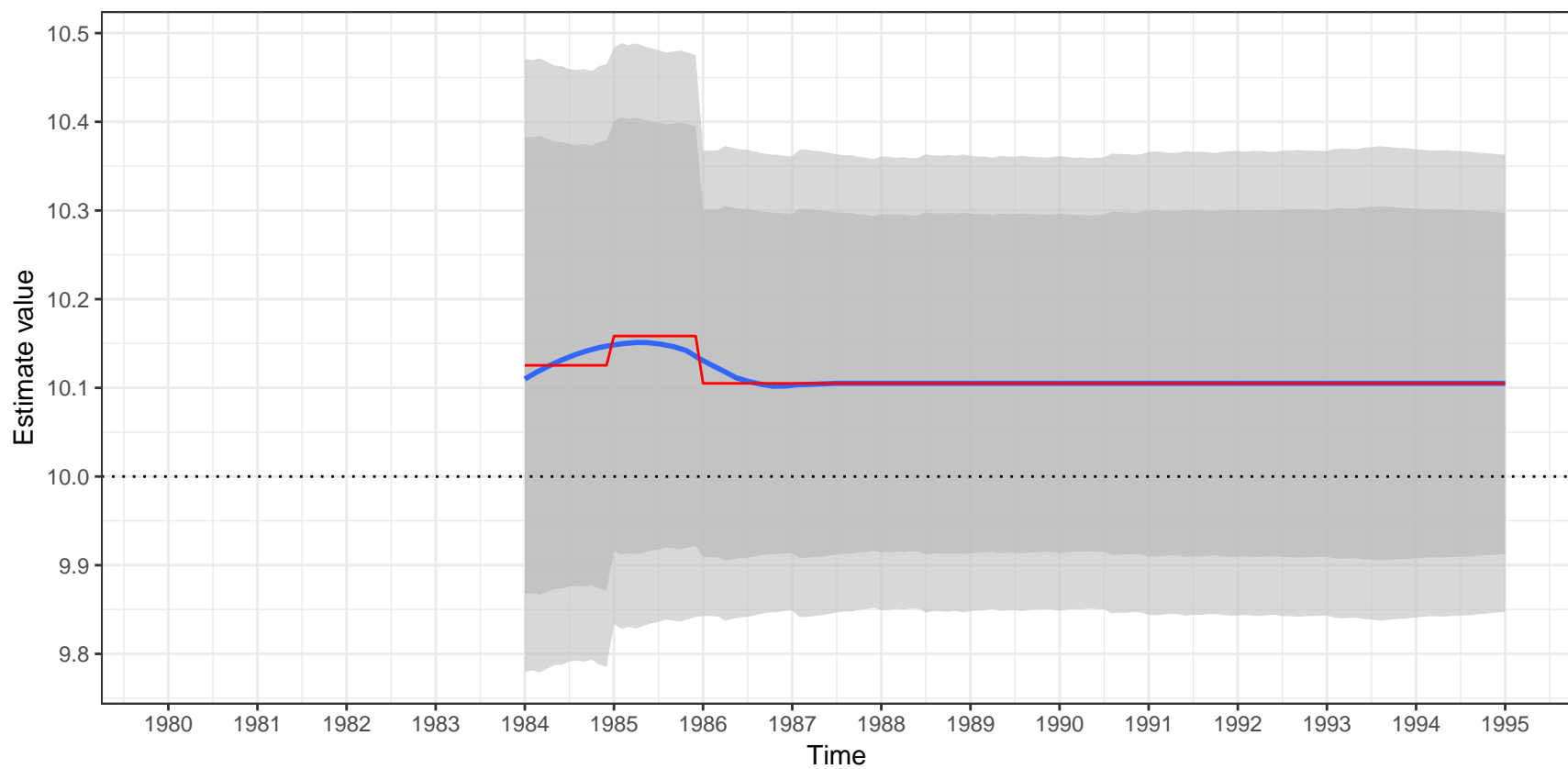


Raw data

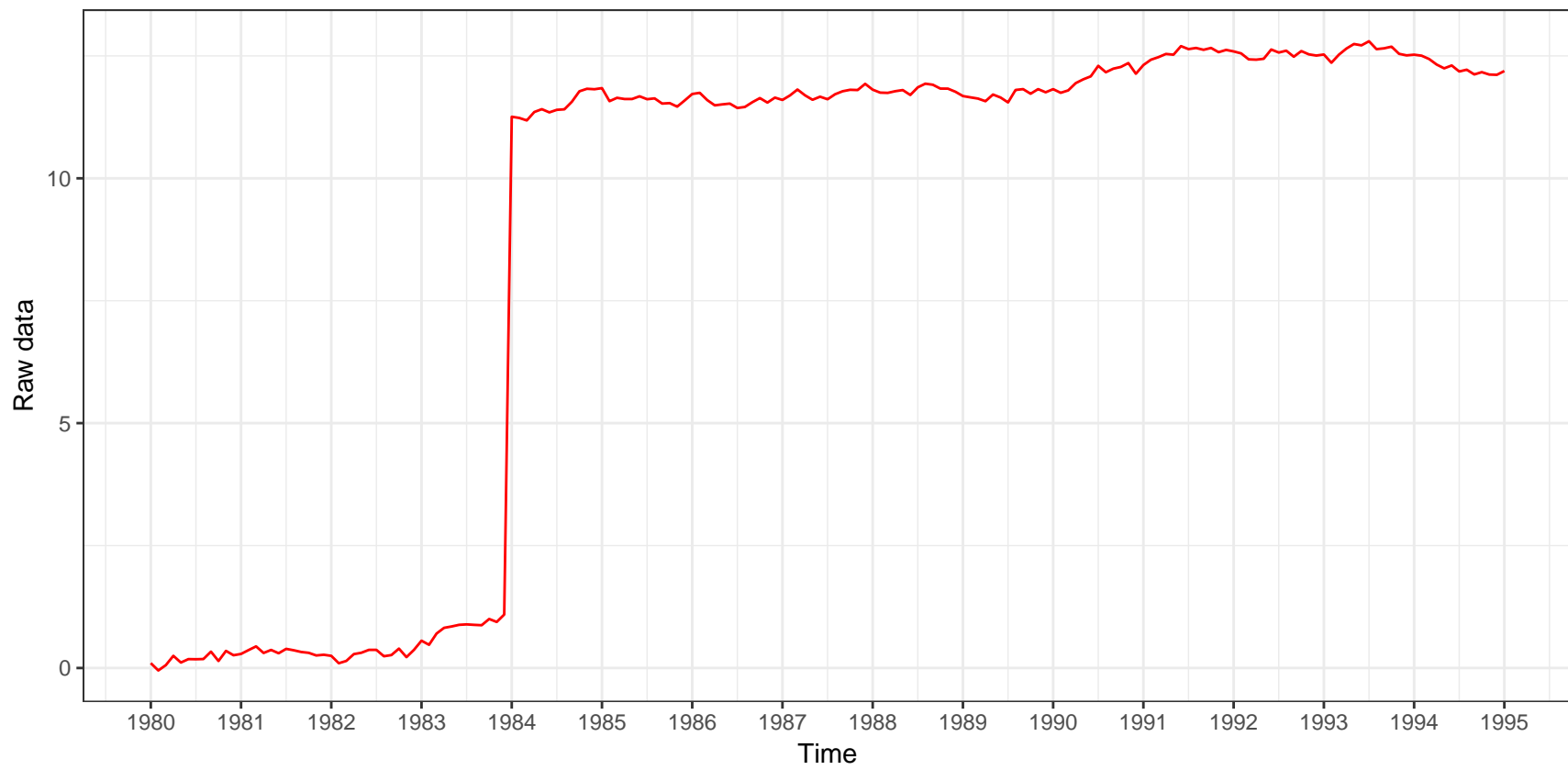


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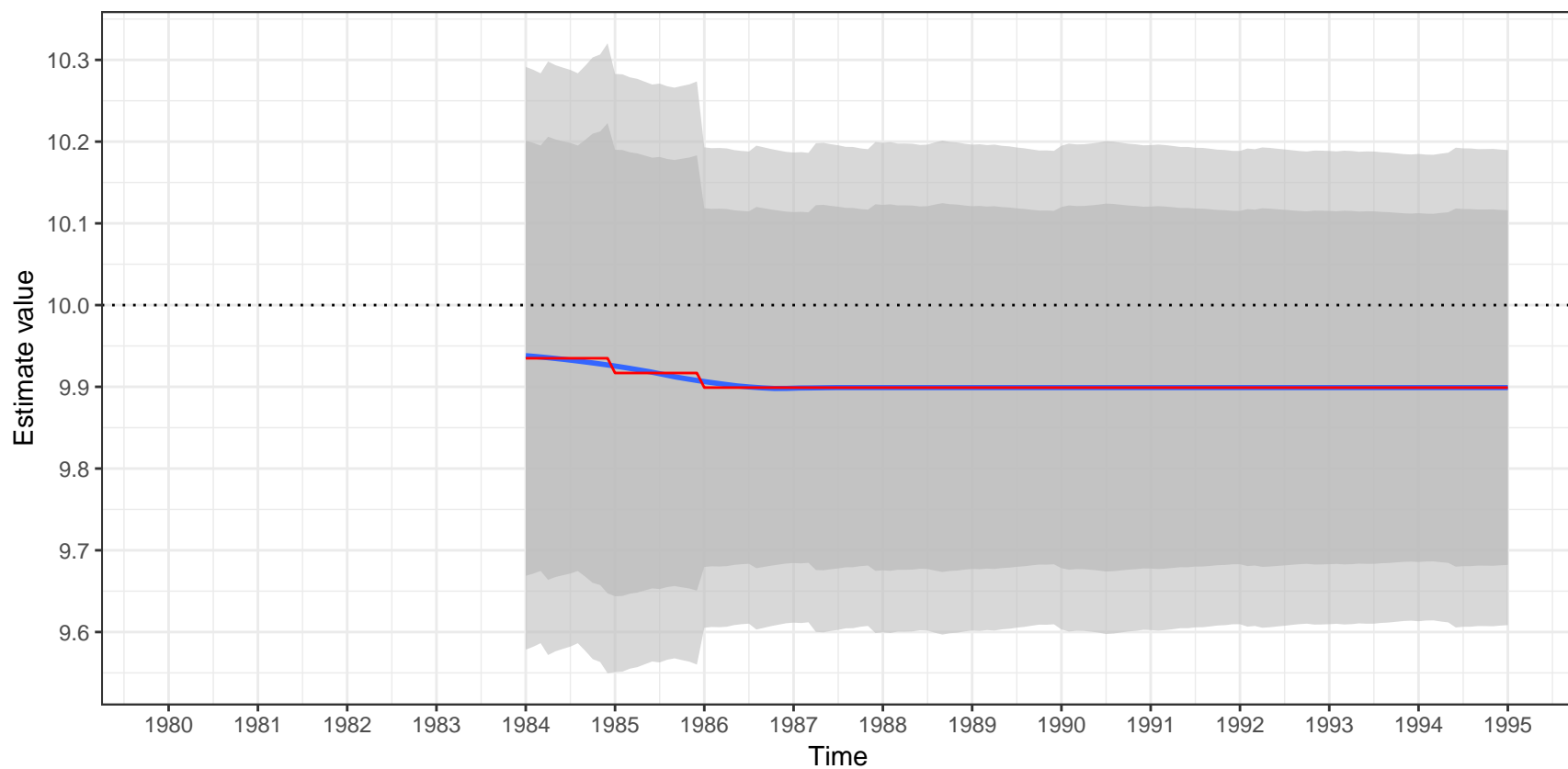


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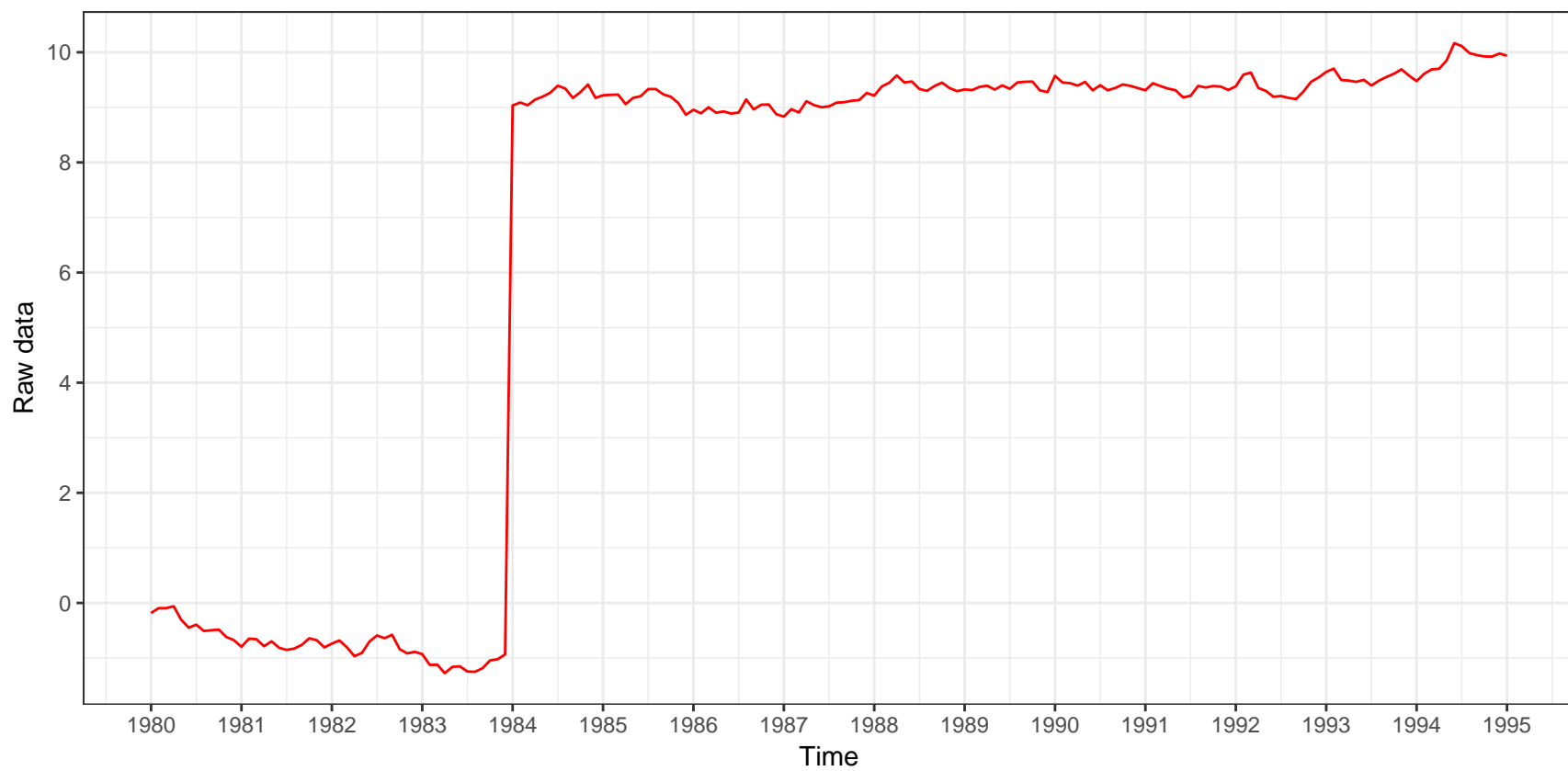


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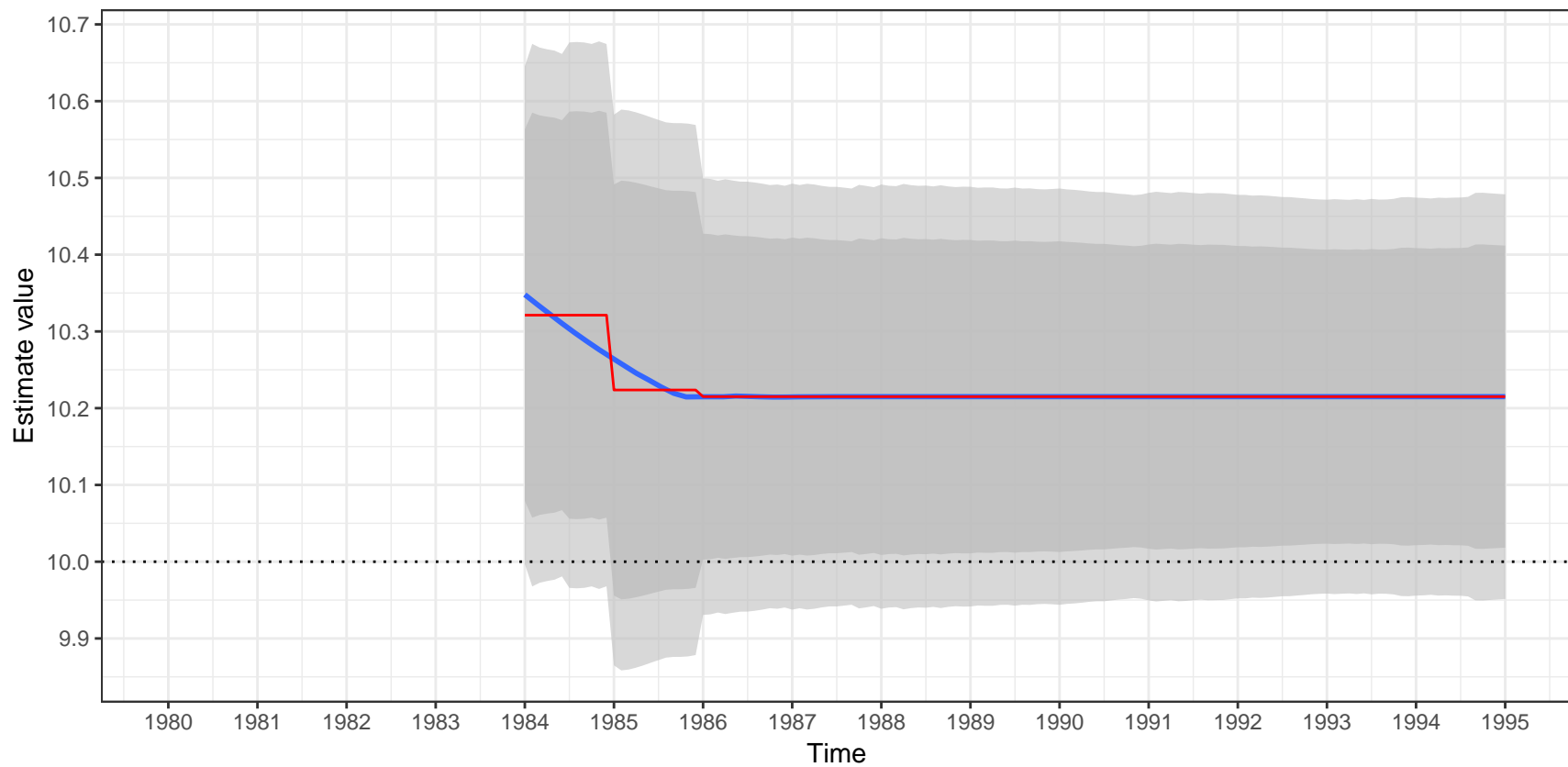


Raw data



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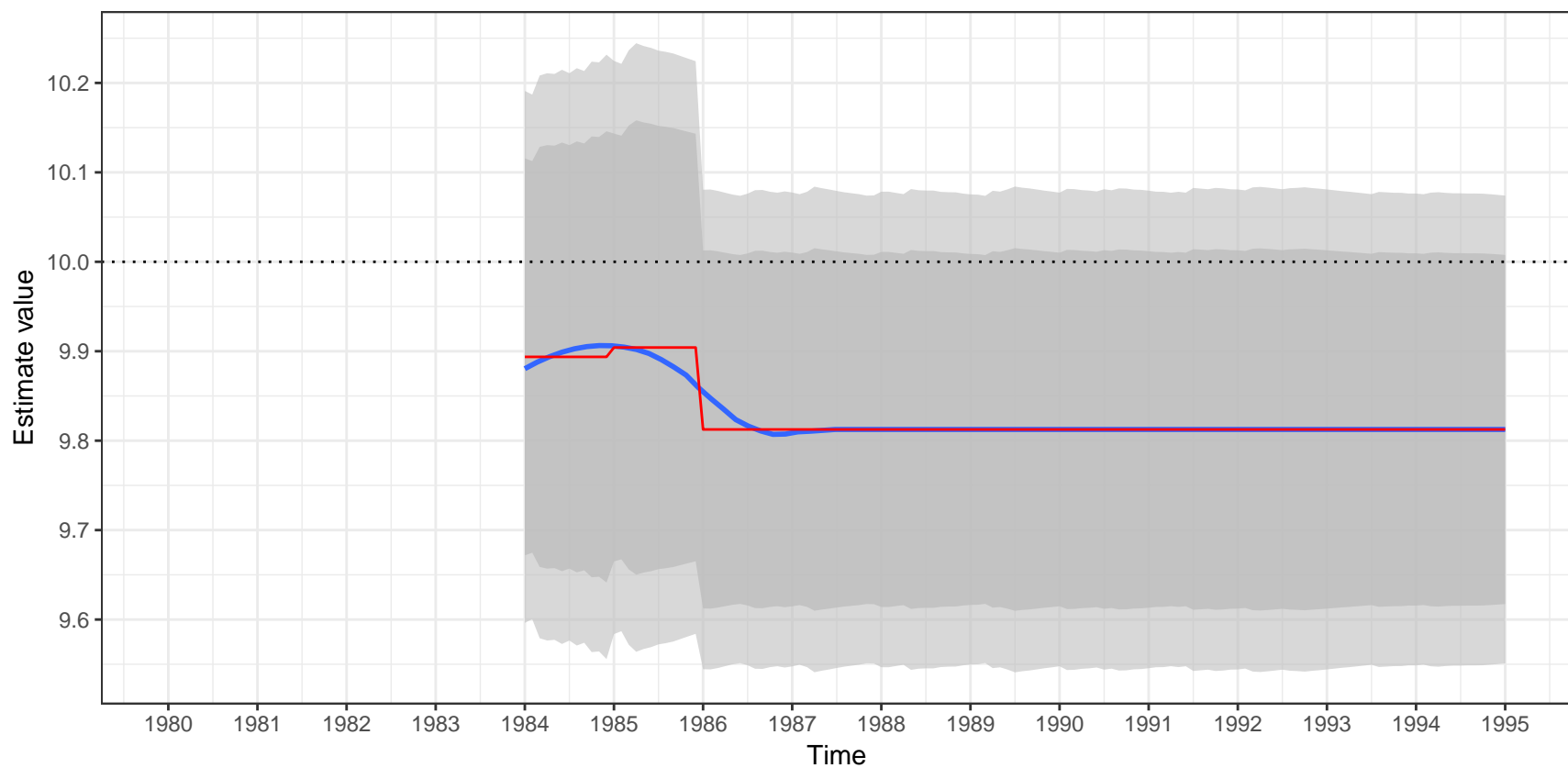


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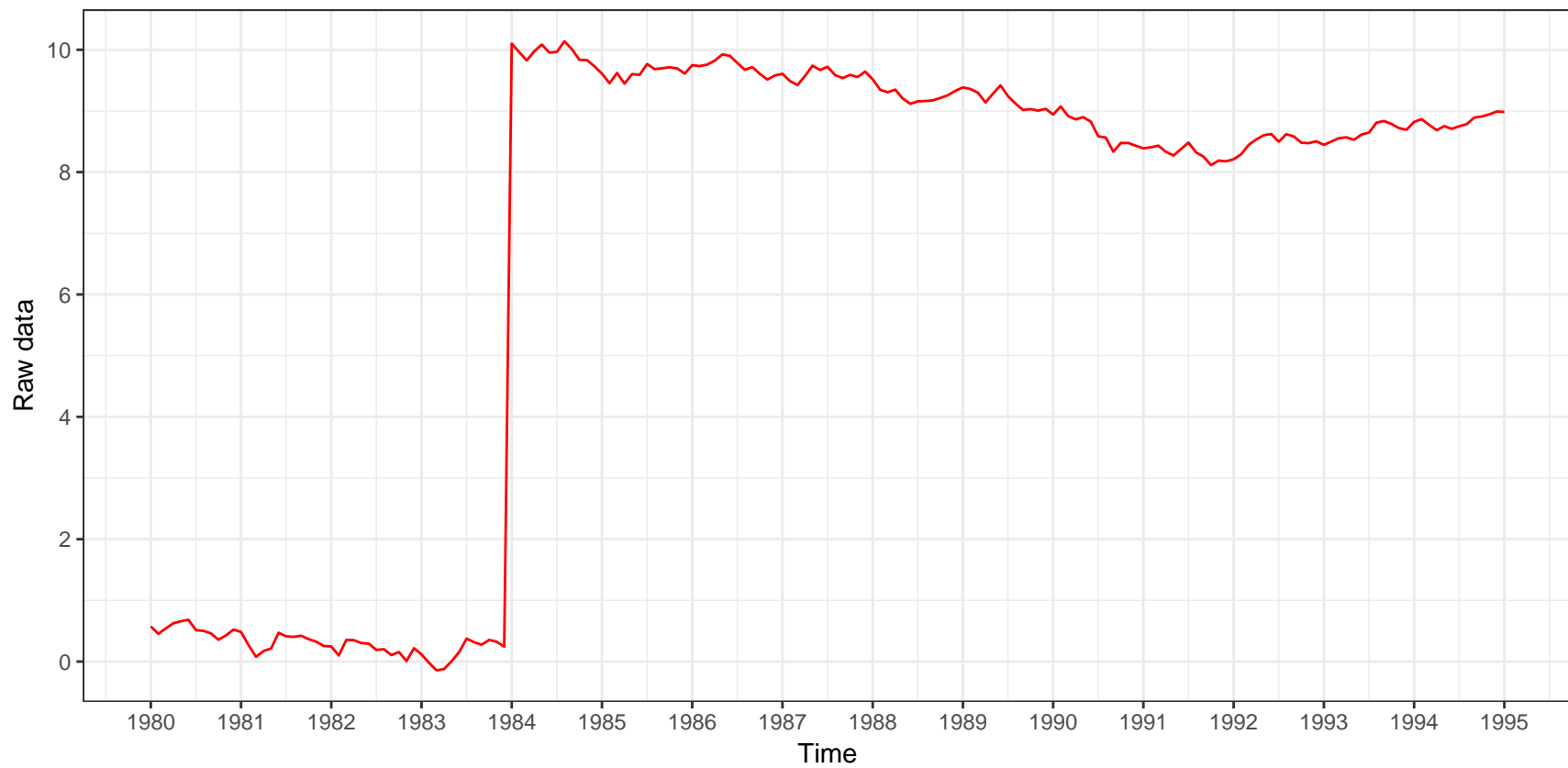


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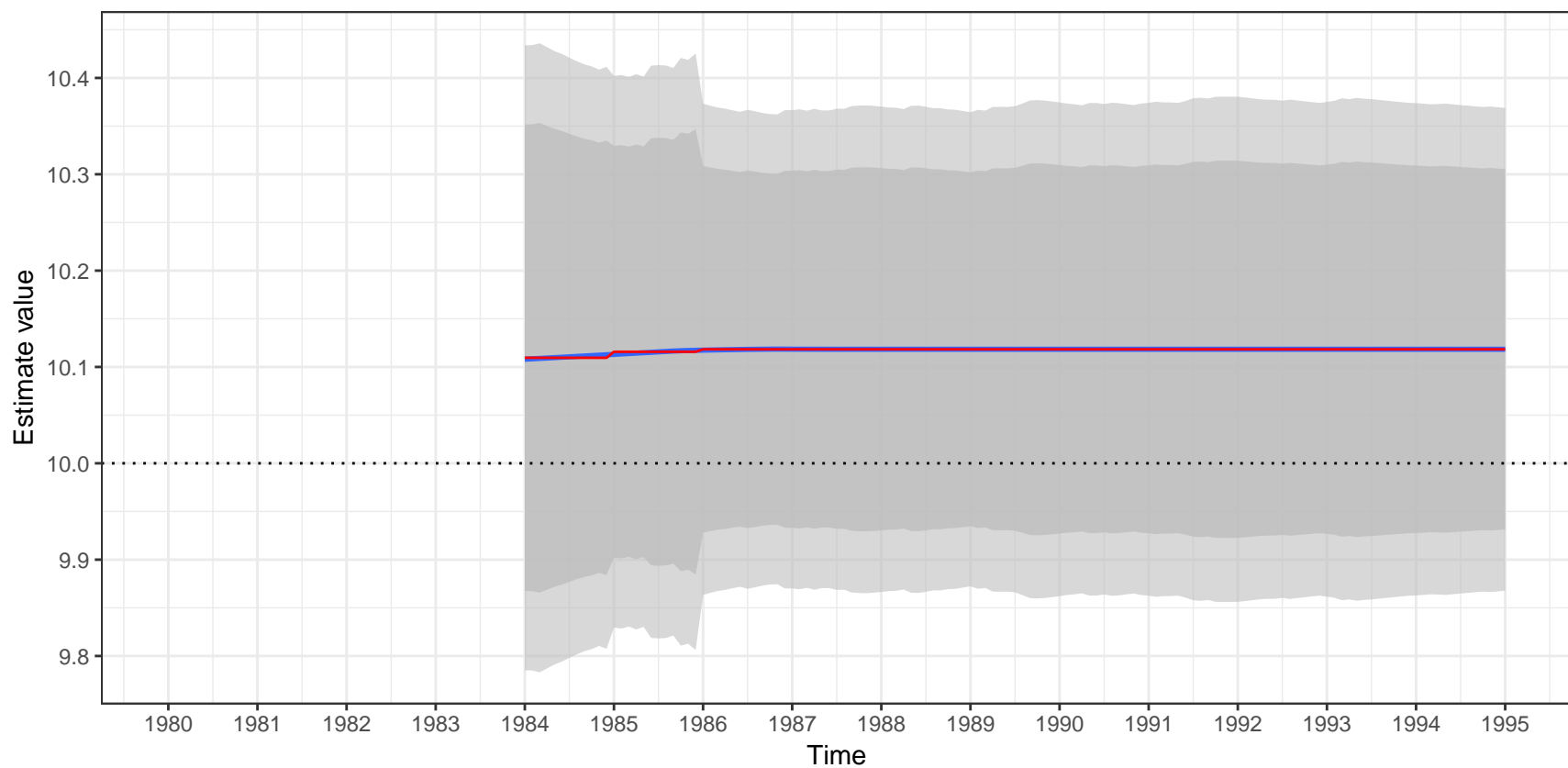


Raw data



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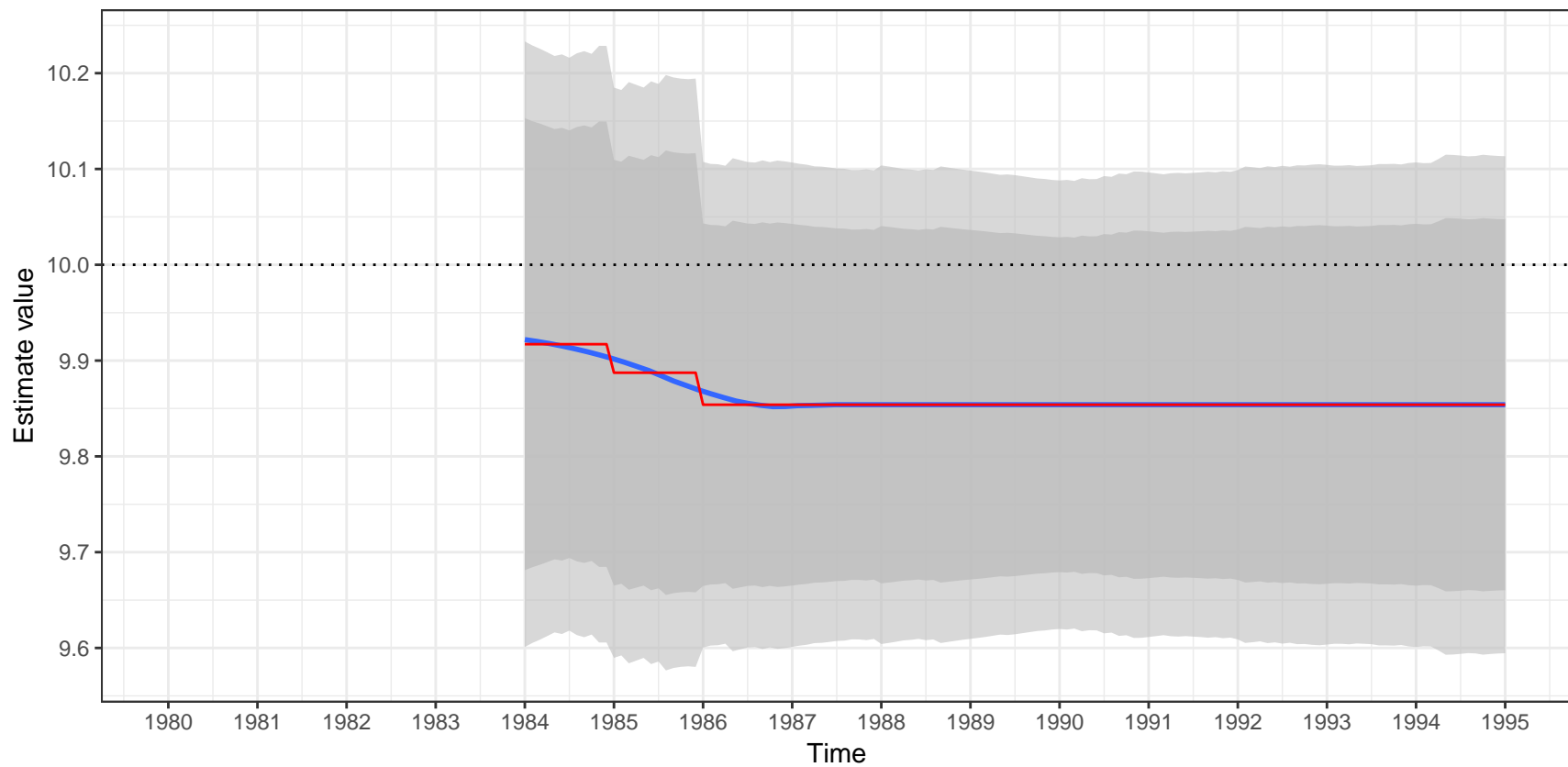


Raw data

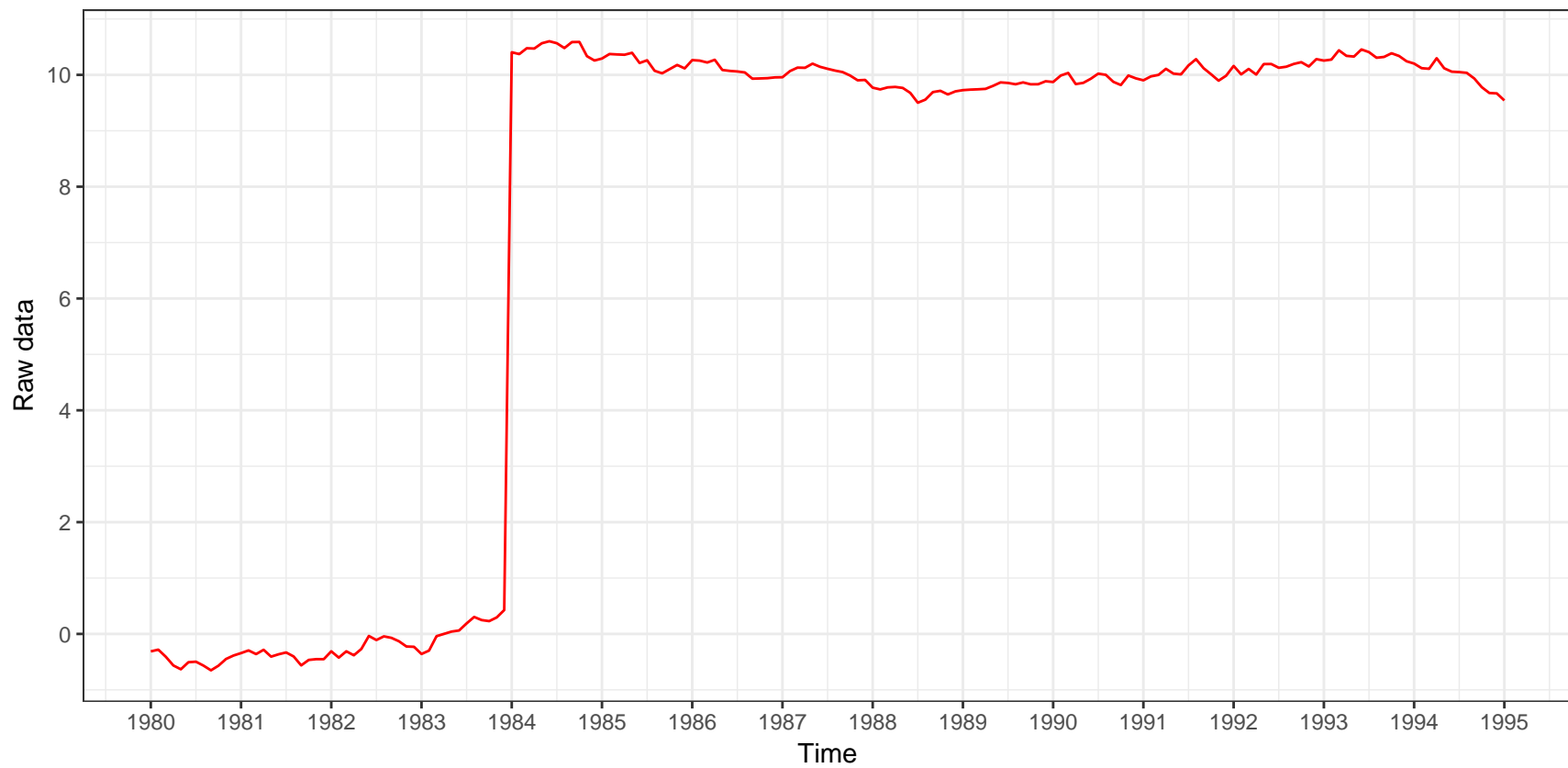


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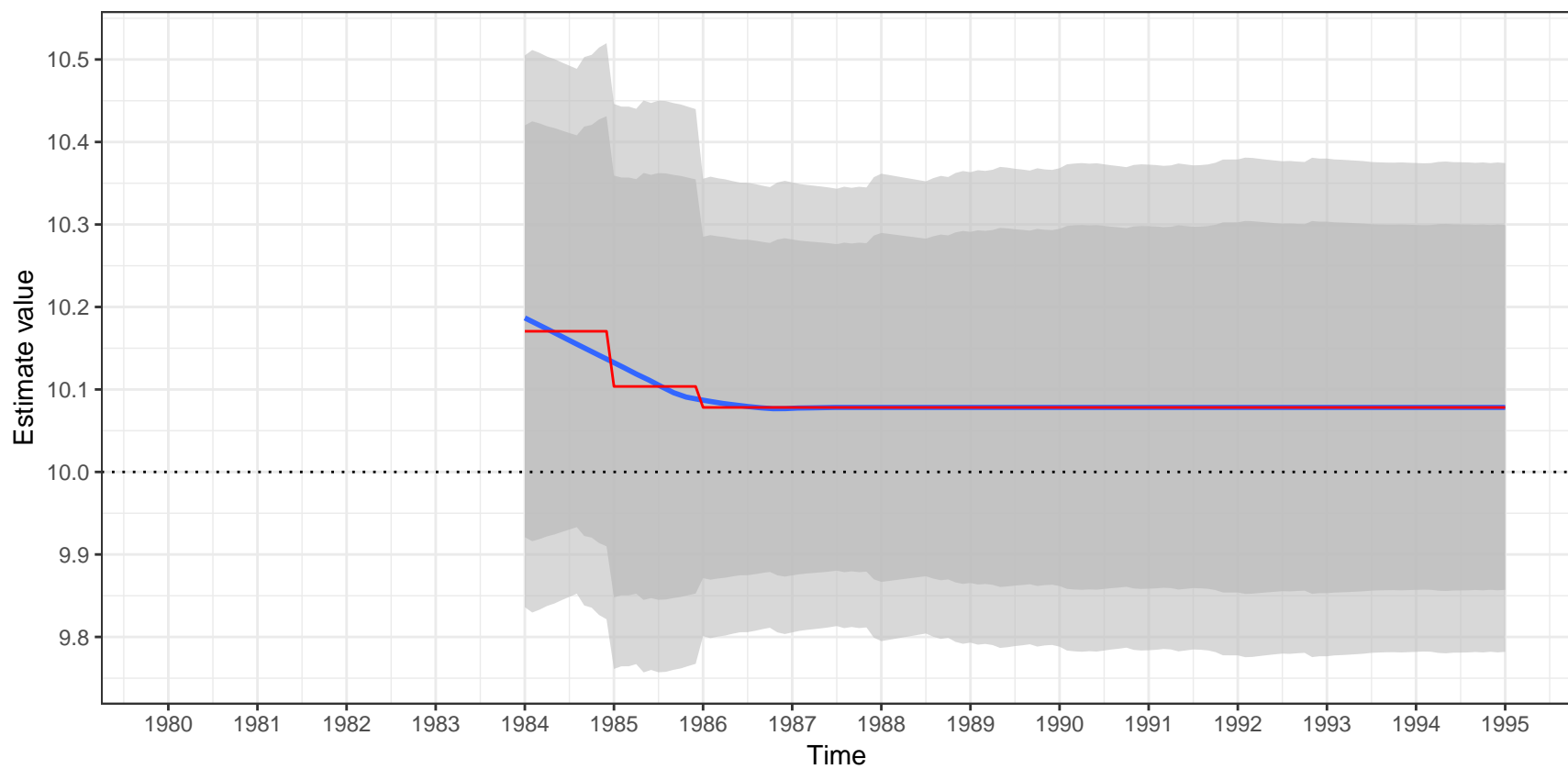


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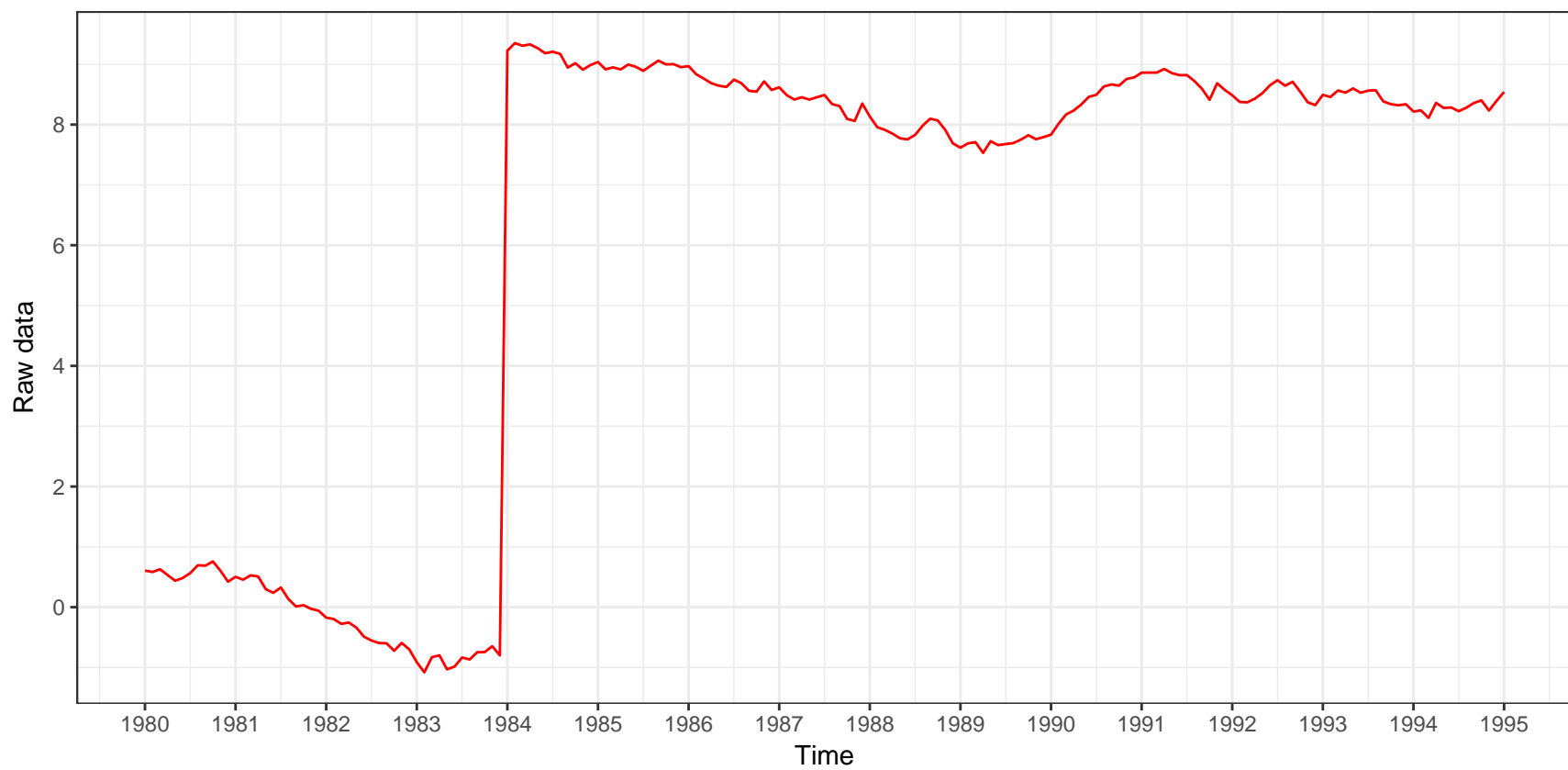


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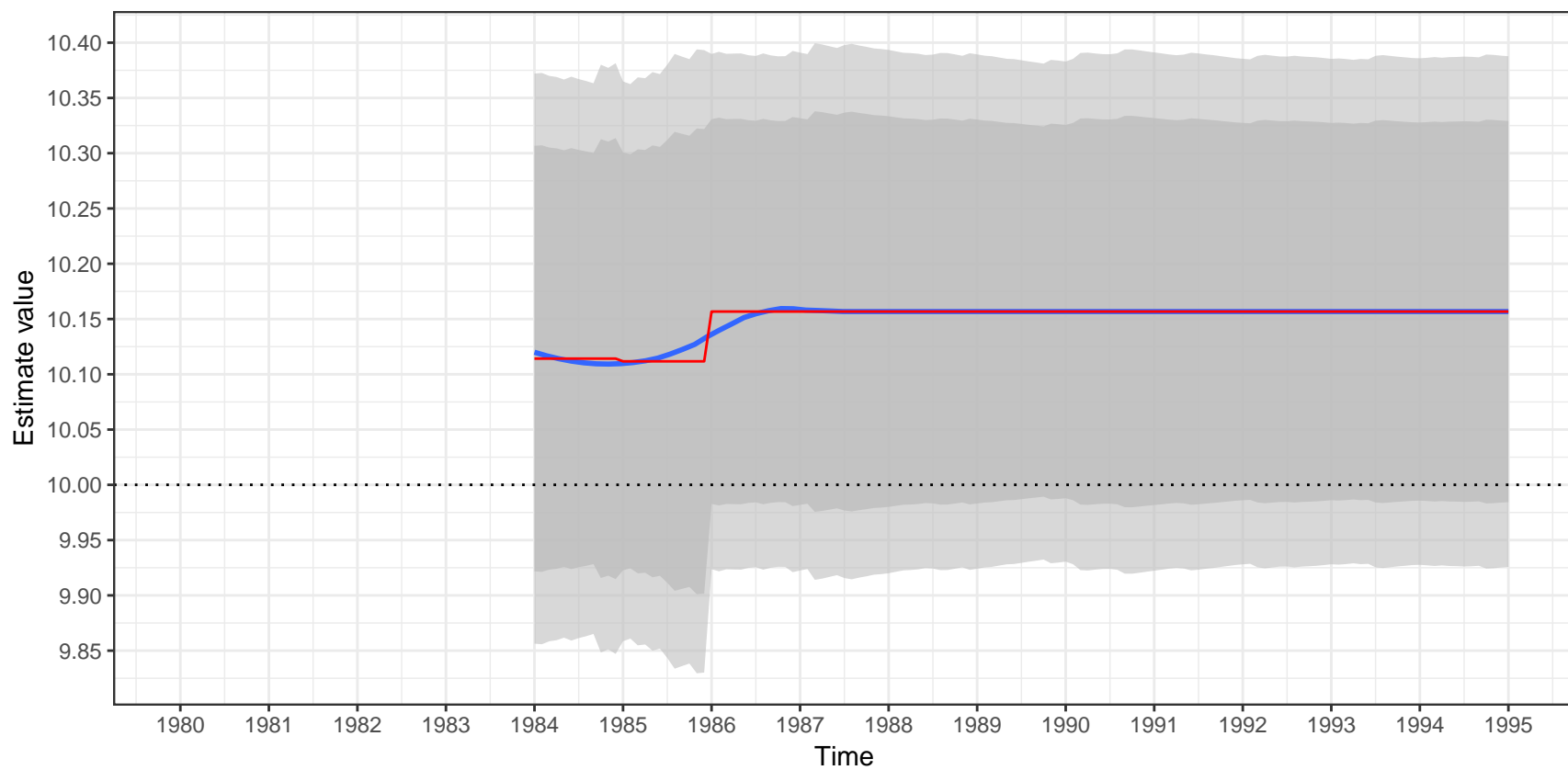


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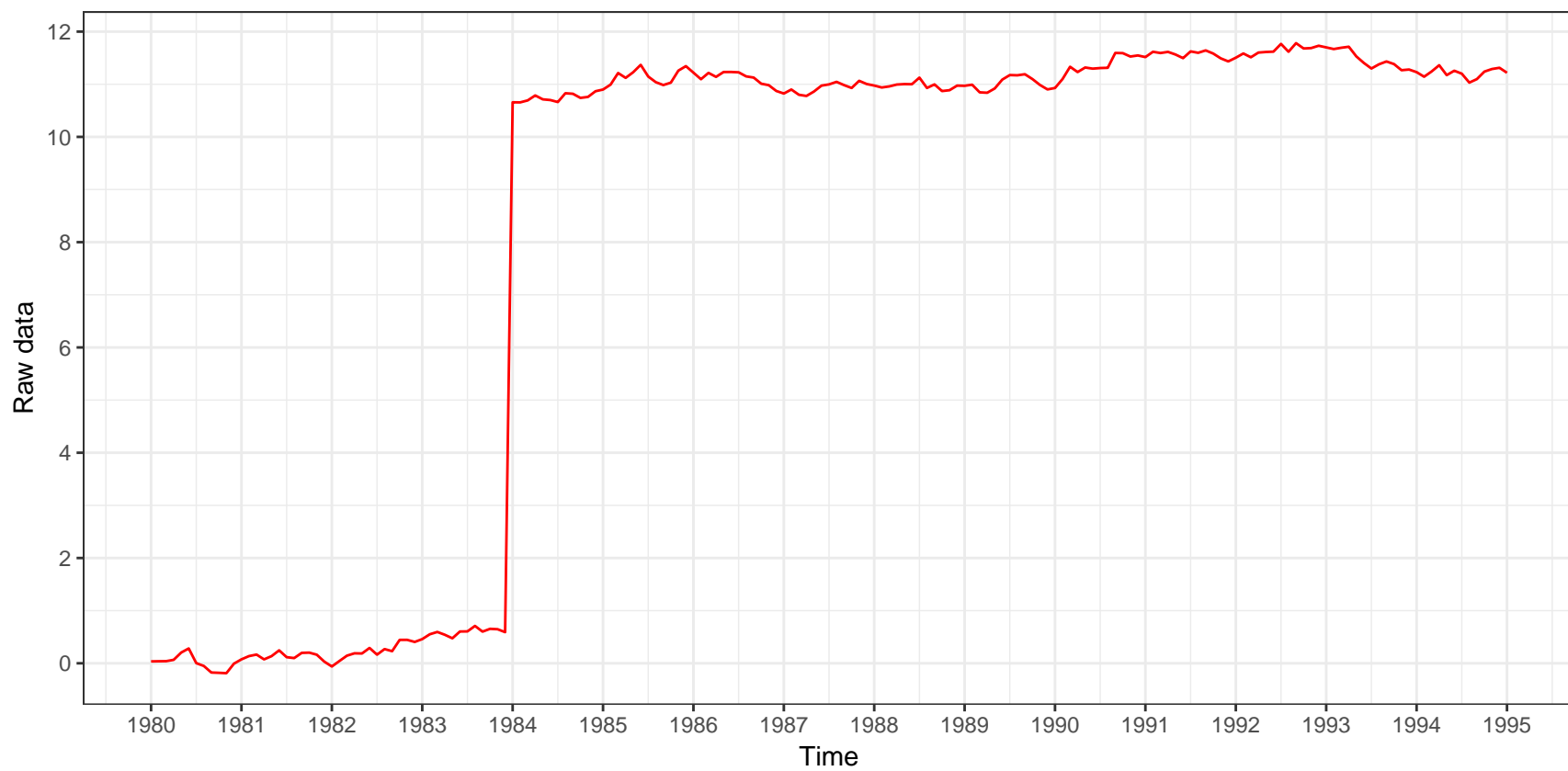


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(1,0,0) – additive decomposition
 $(1-B)(1+0.7B^{12})X_t=at$

Estimation of the outlier

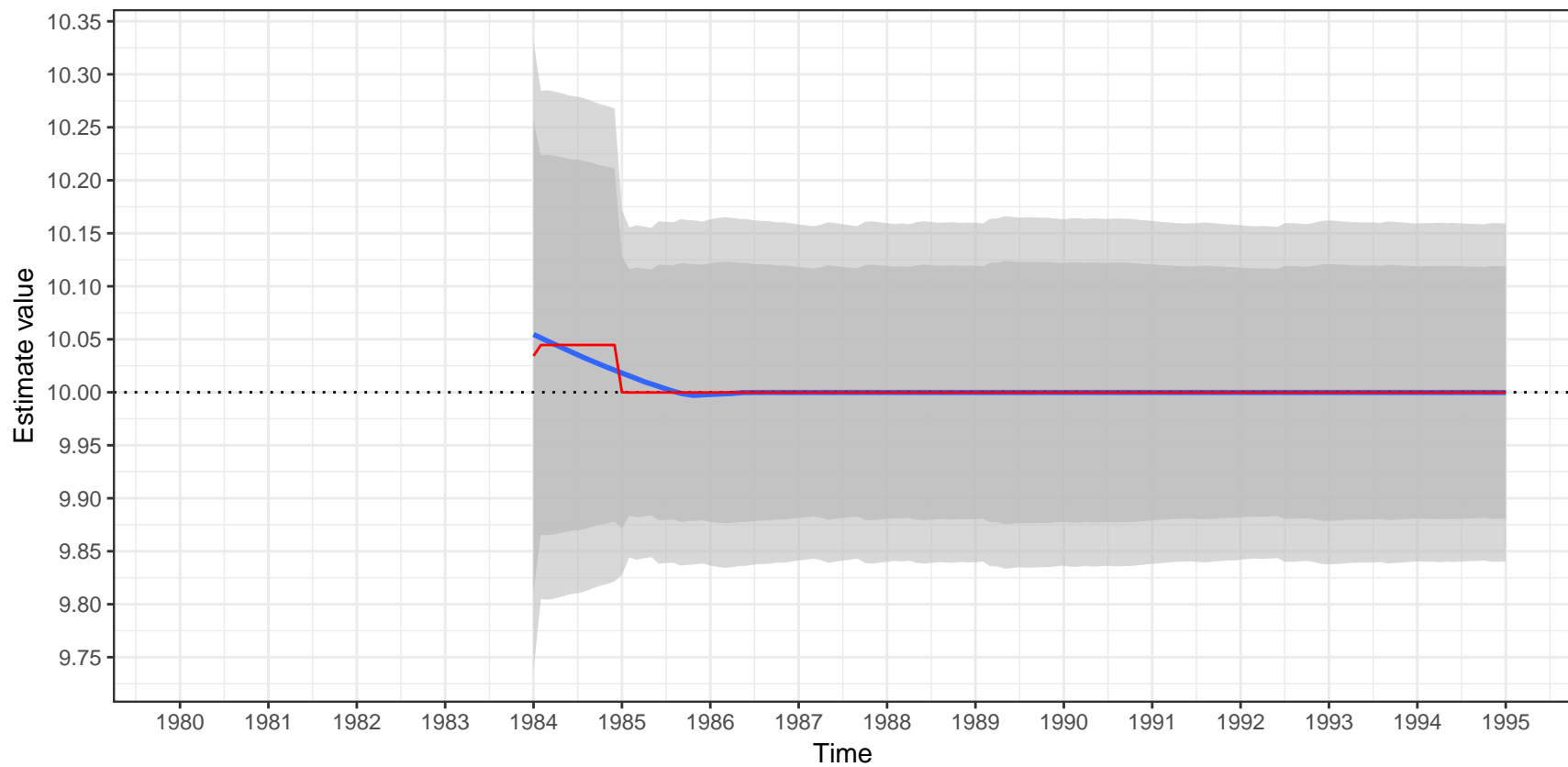


Raw data

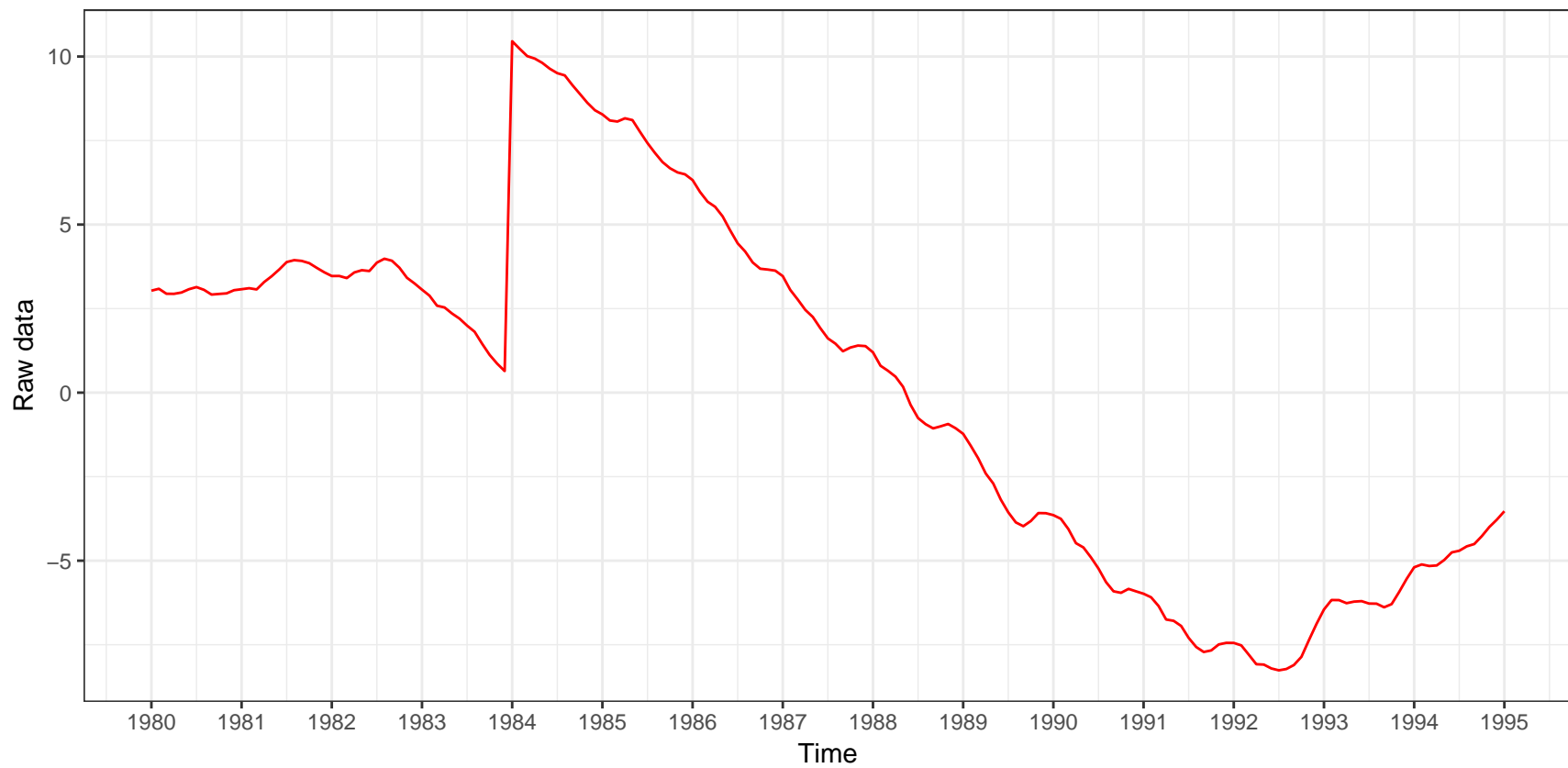


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

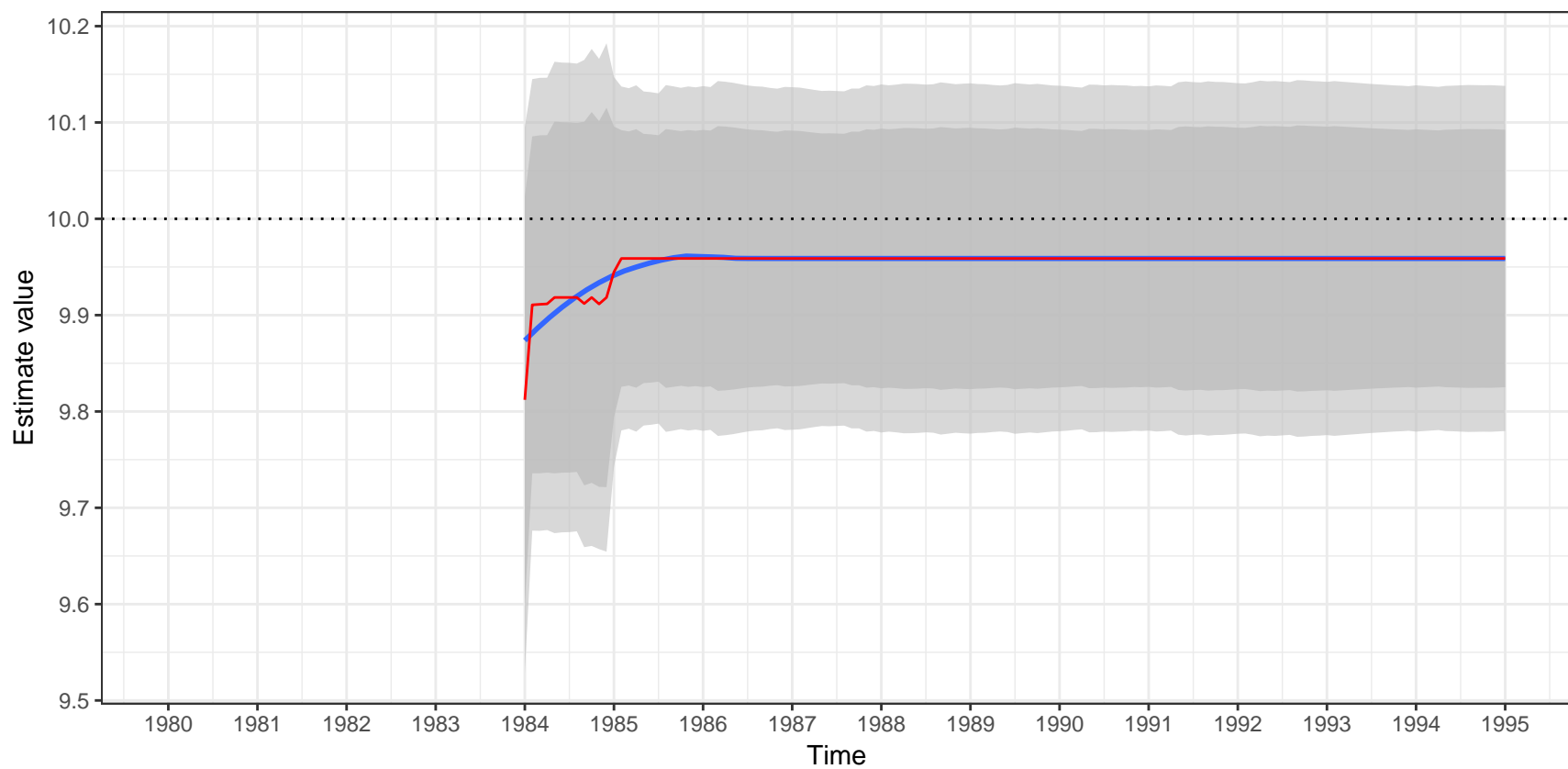


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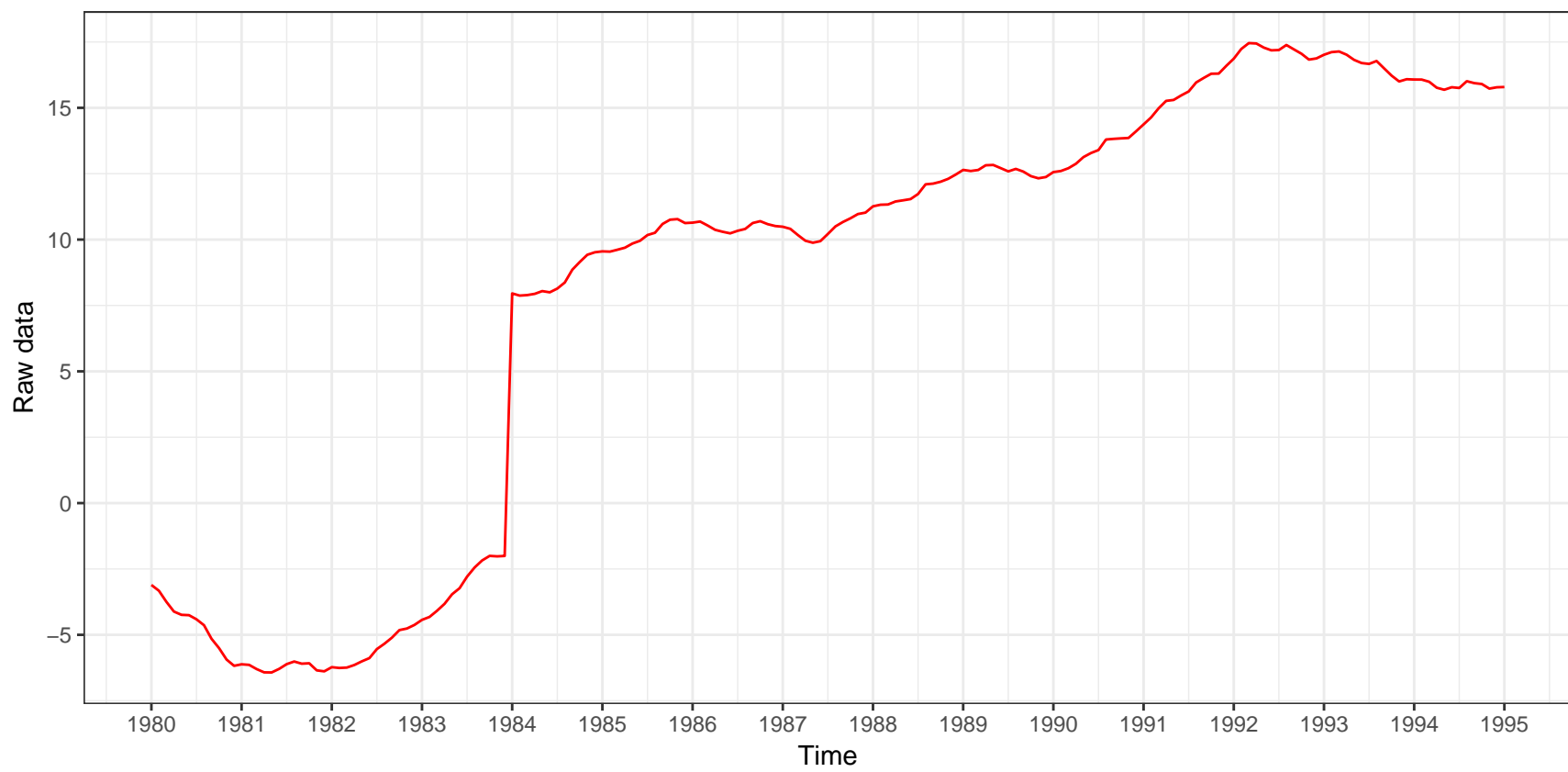


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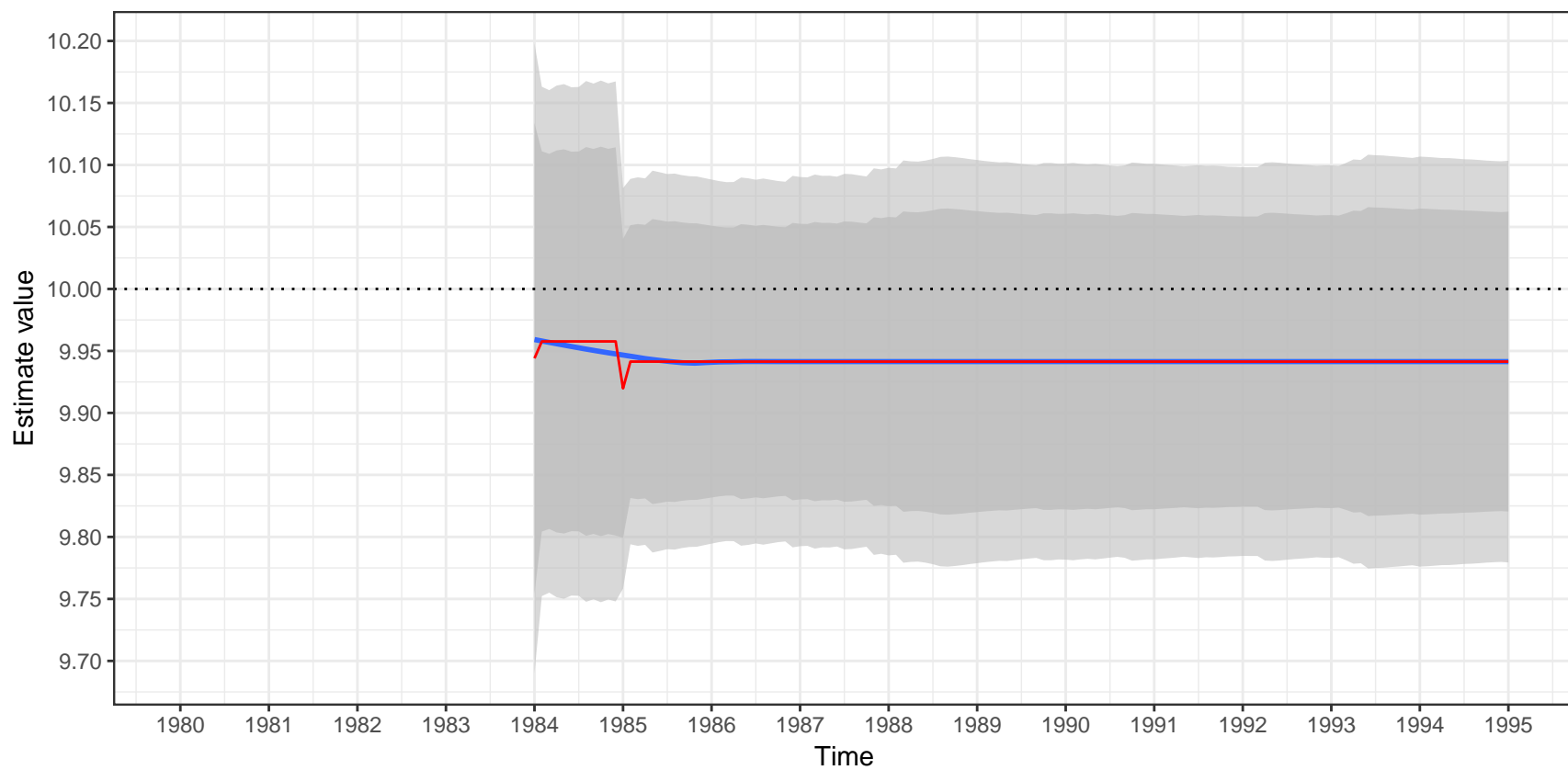


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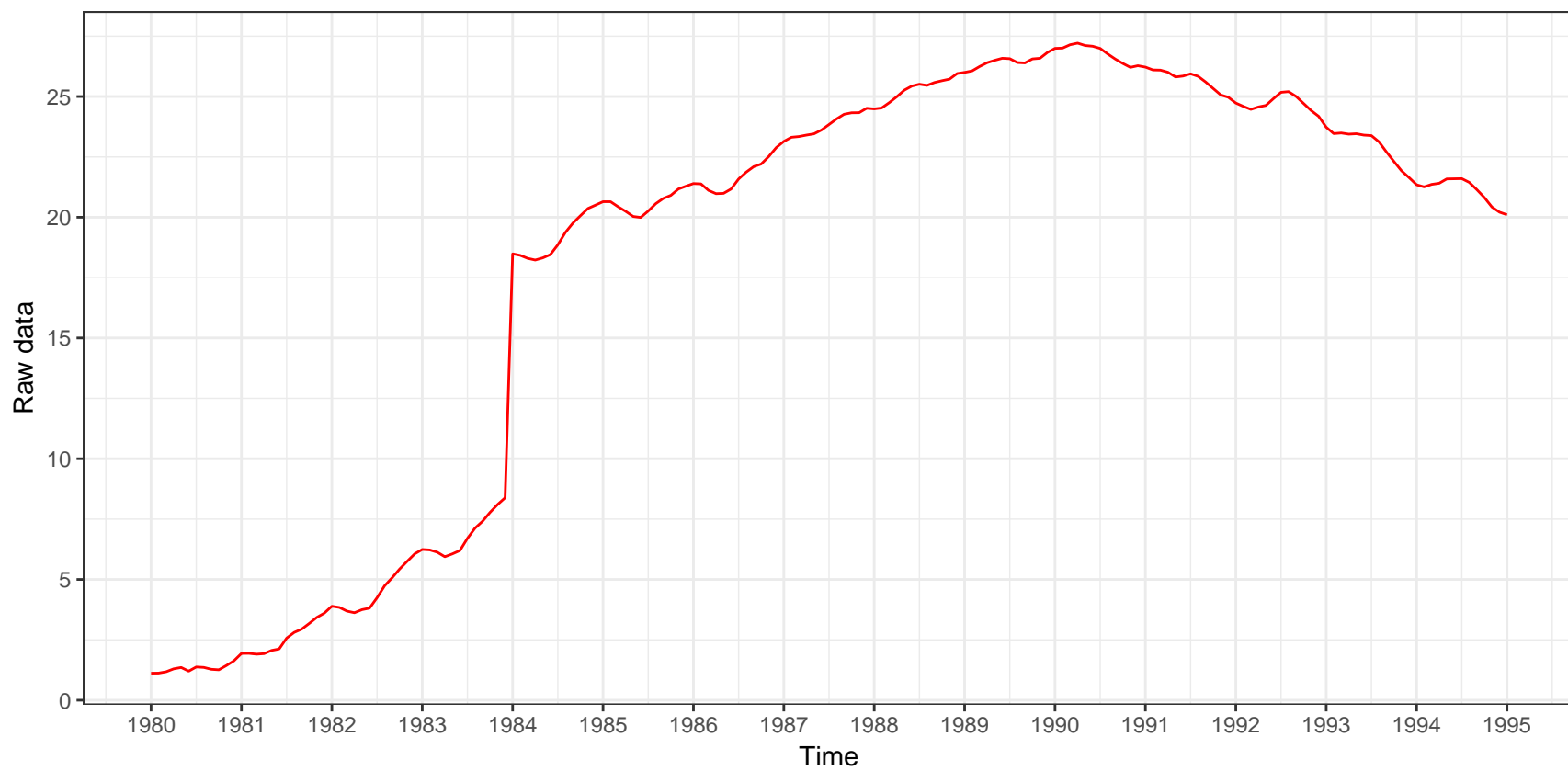


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ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

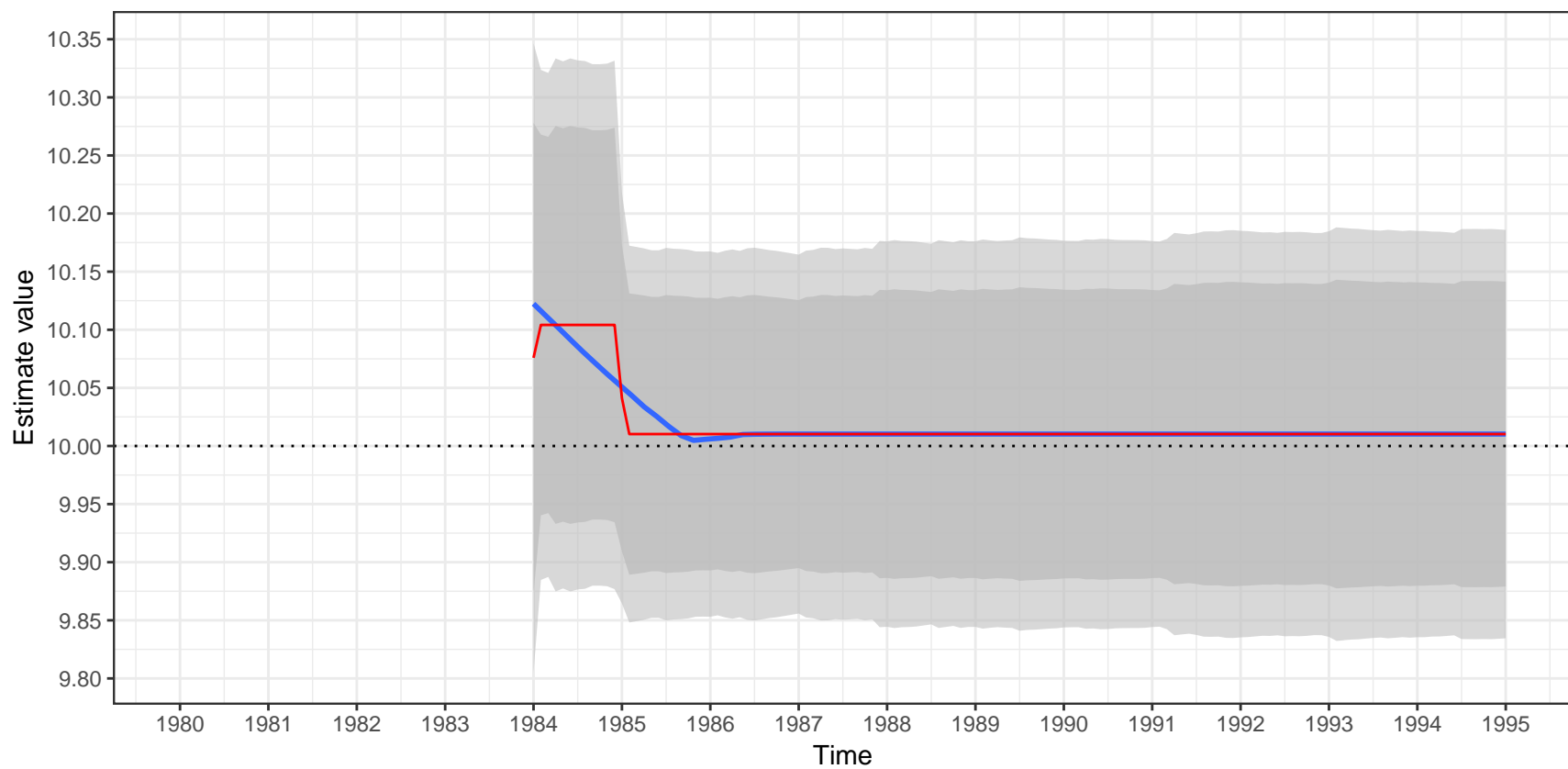


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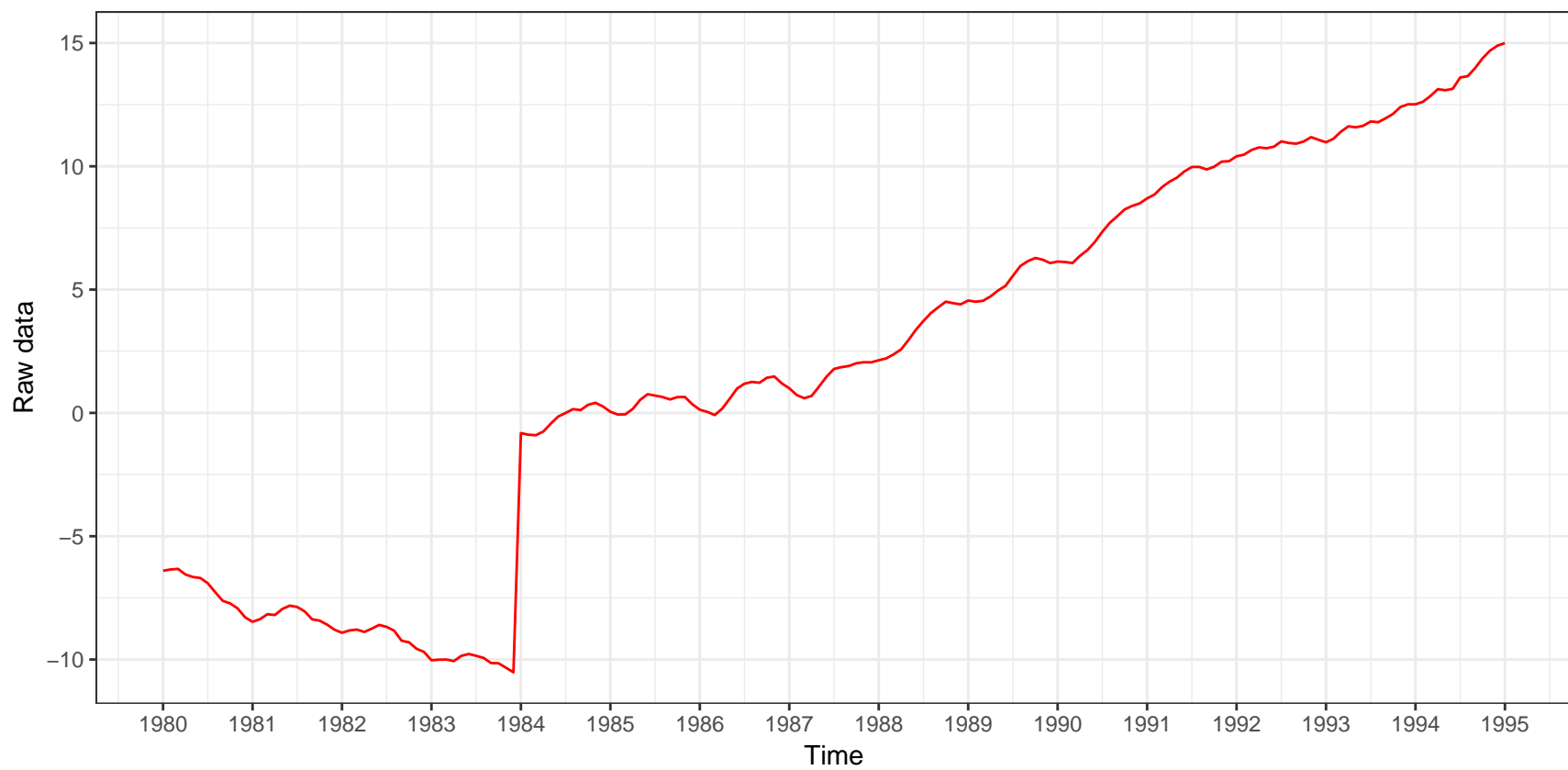


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ARIMA (1,1,0)(0,0,0) – additive decomposition
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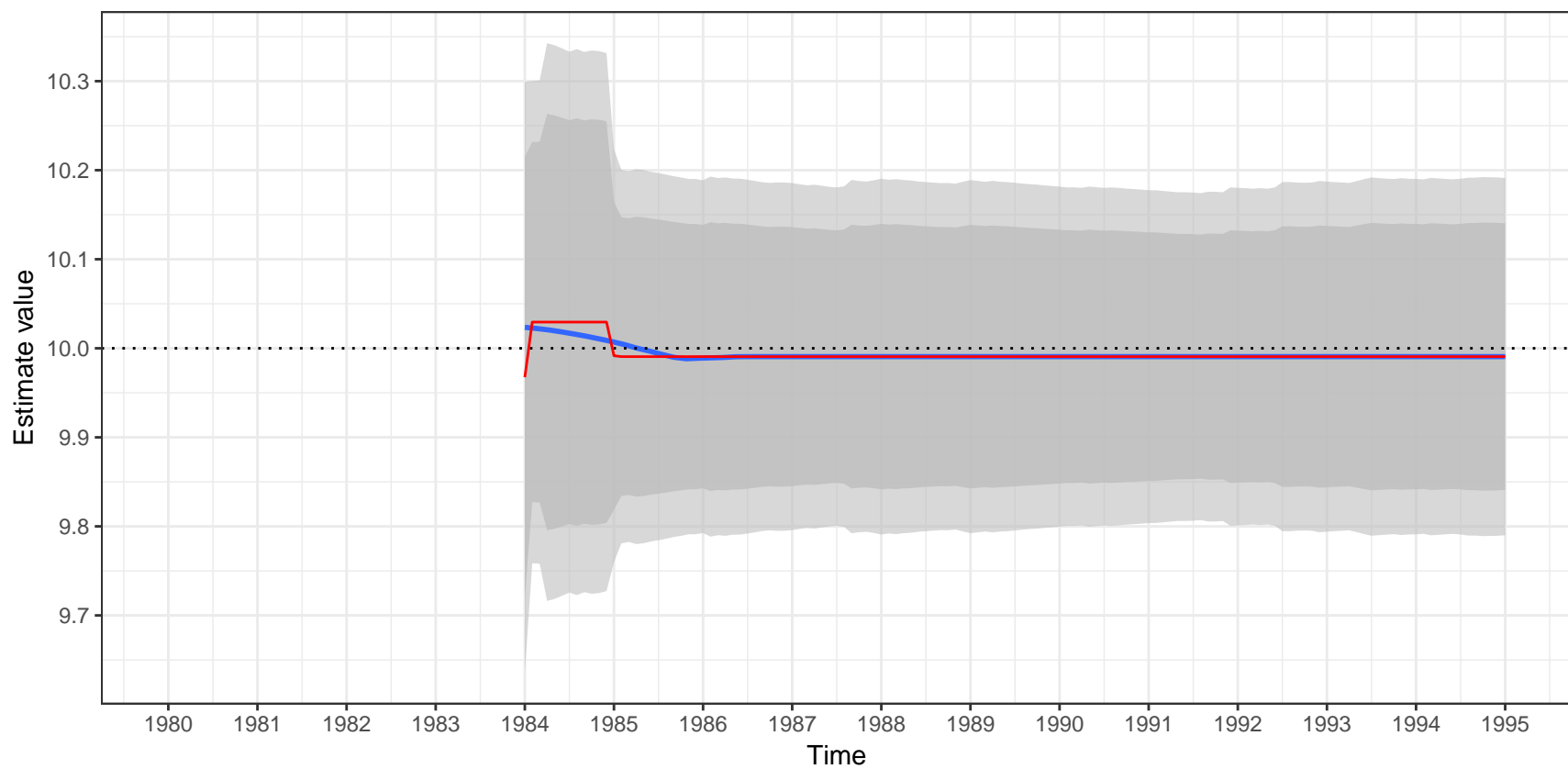


Raw data

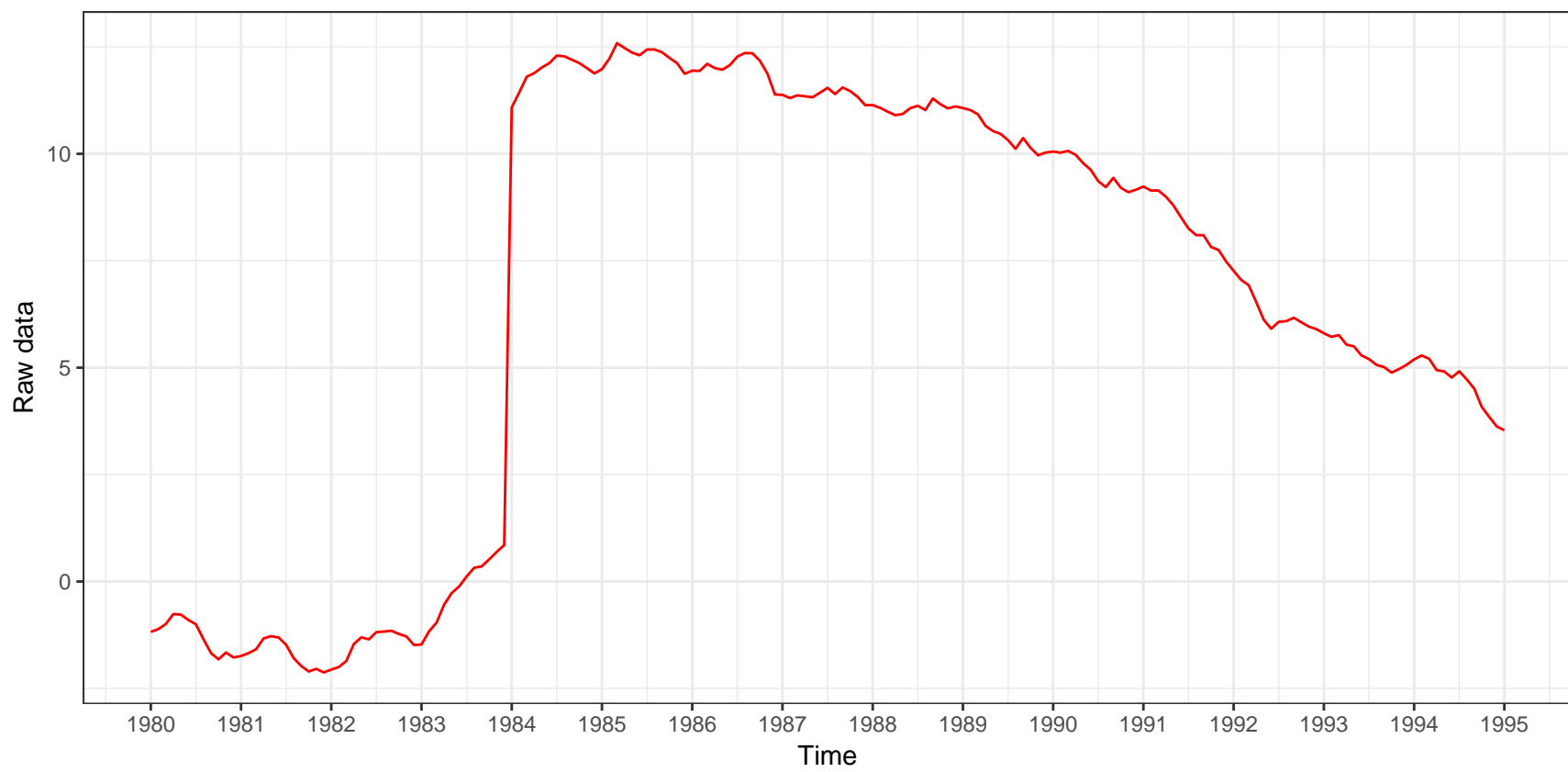


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

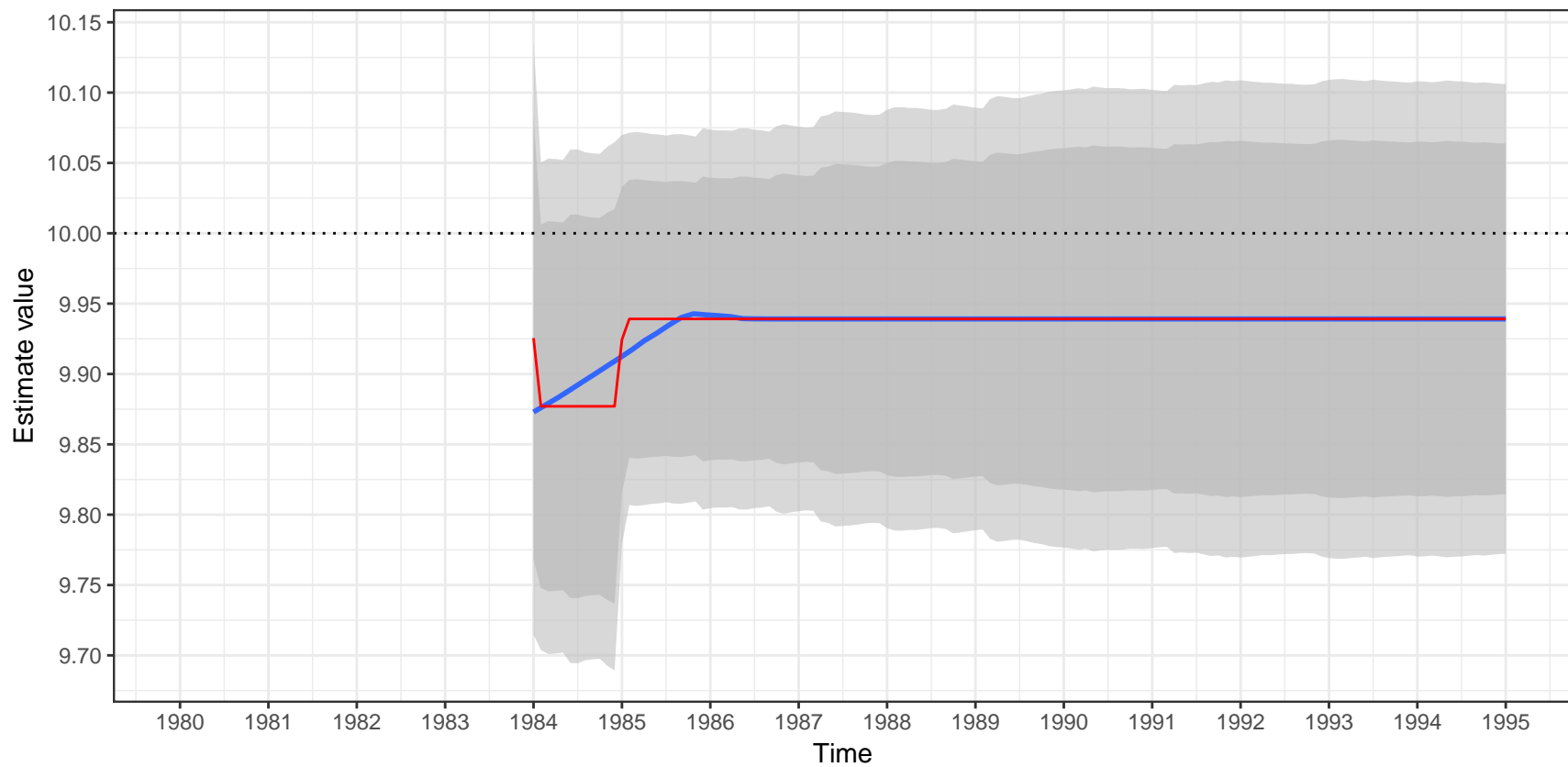


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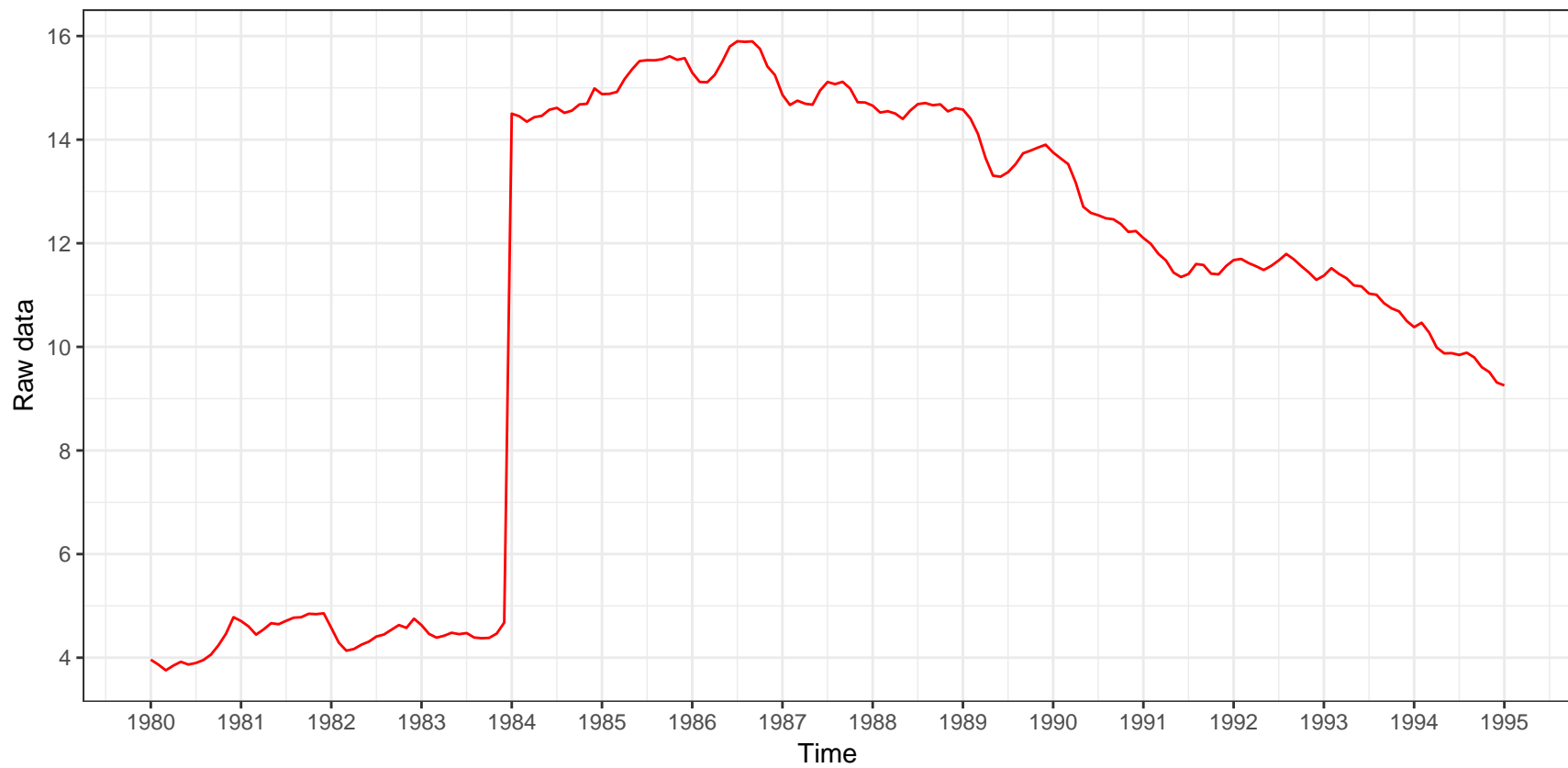


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

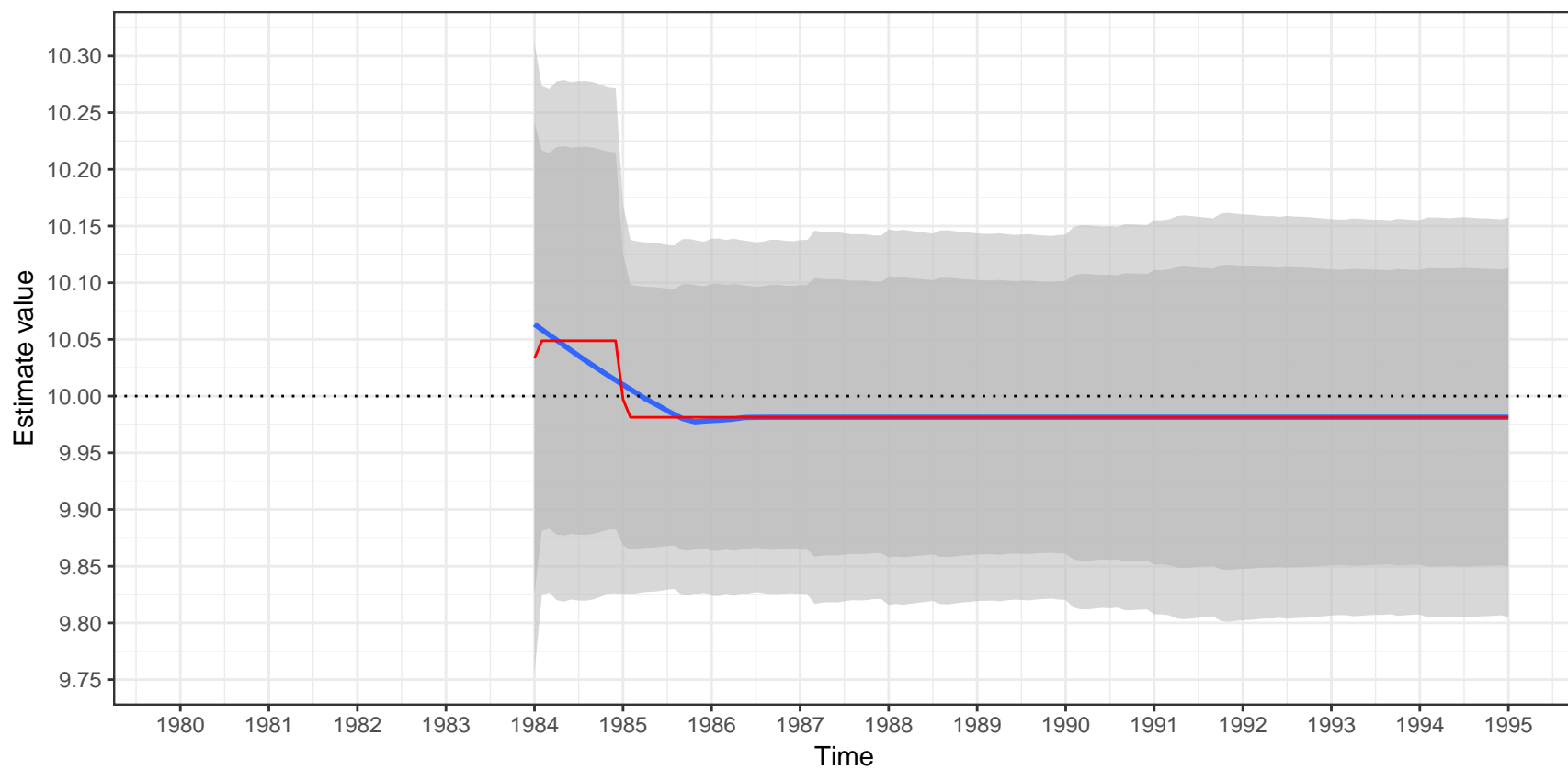


Raw data

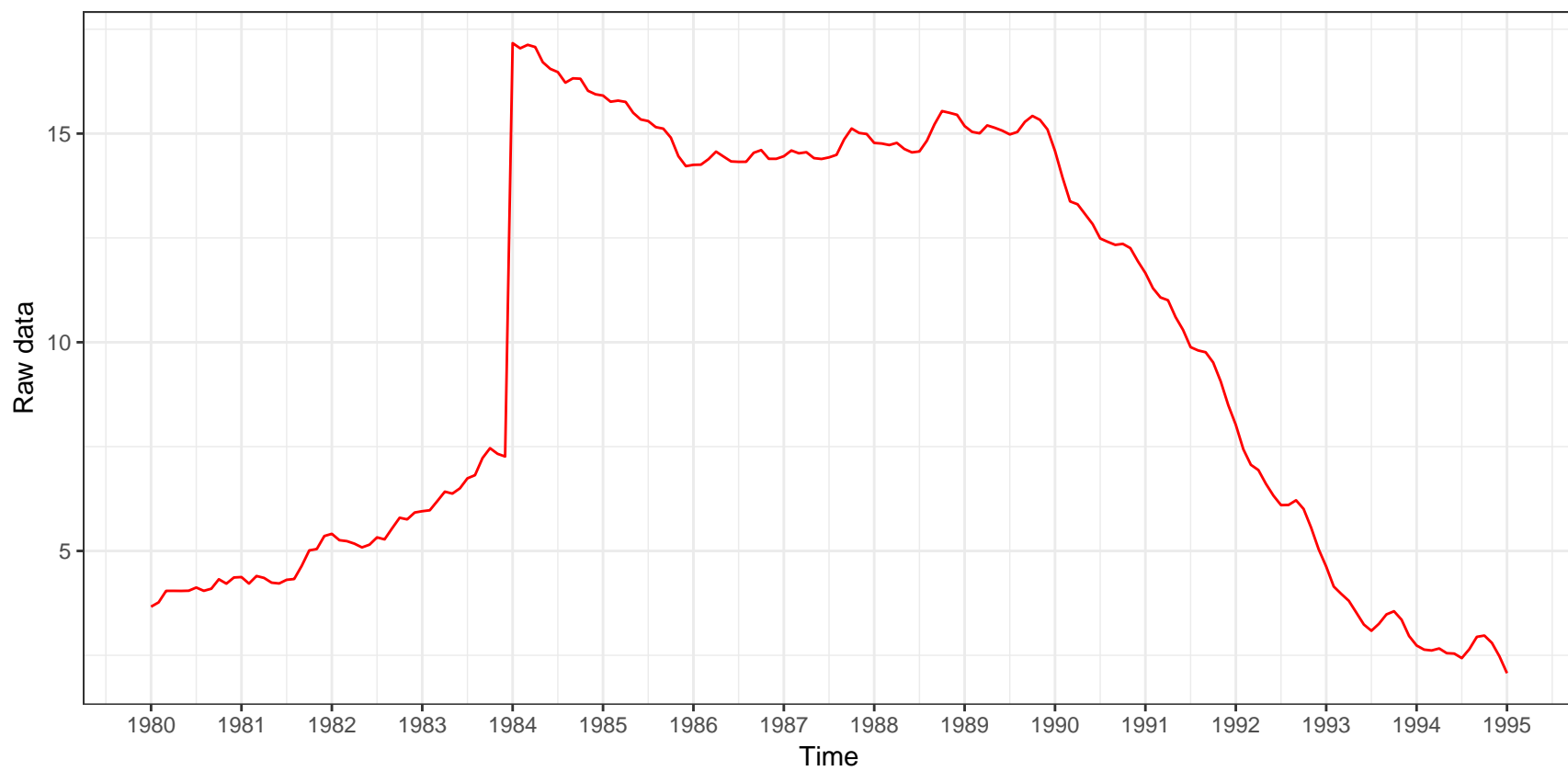


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

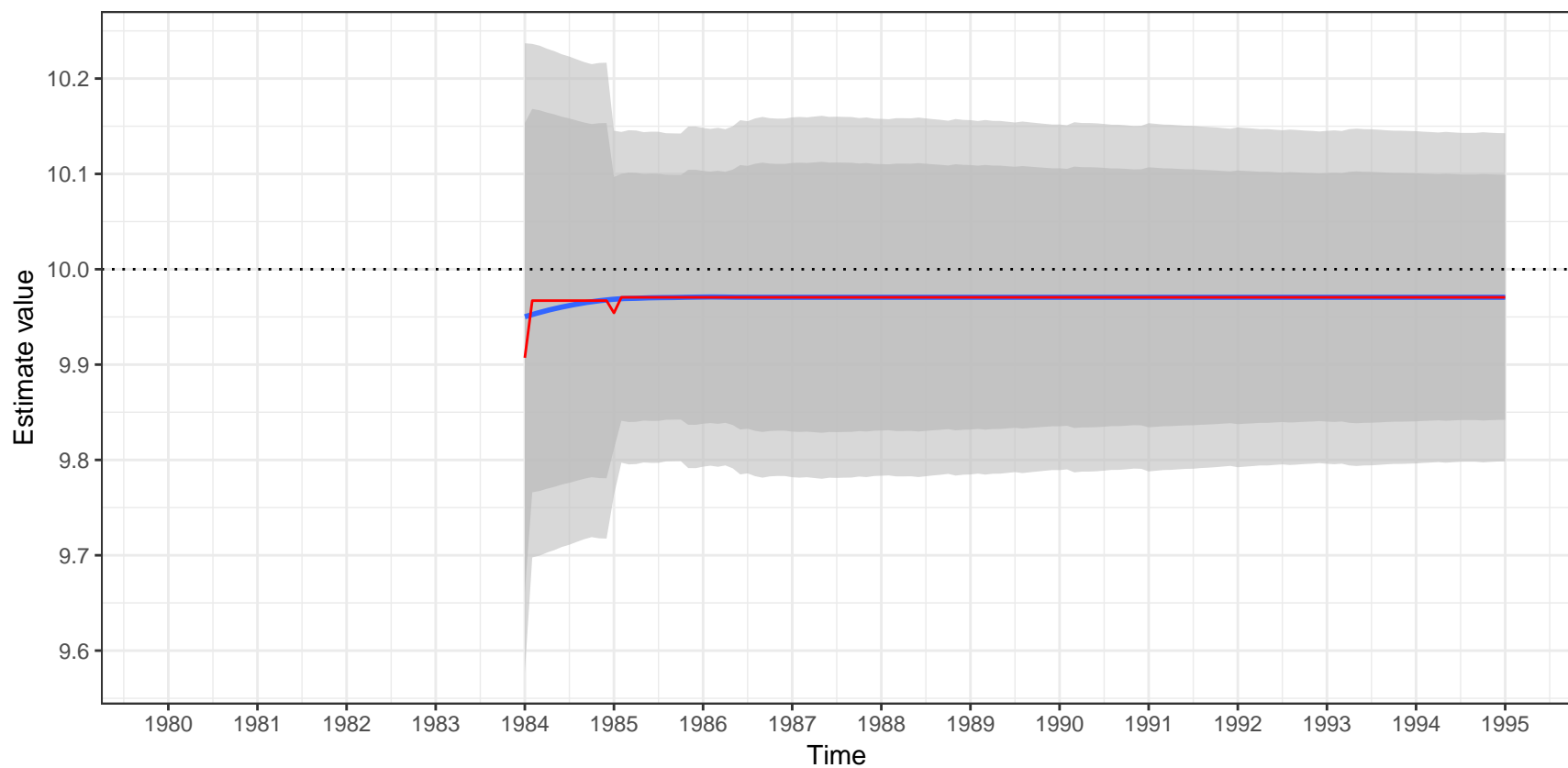


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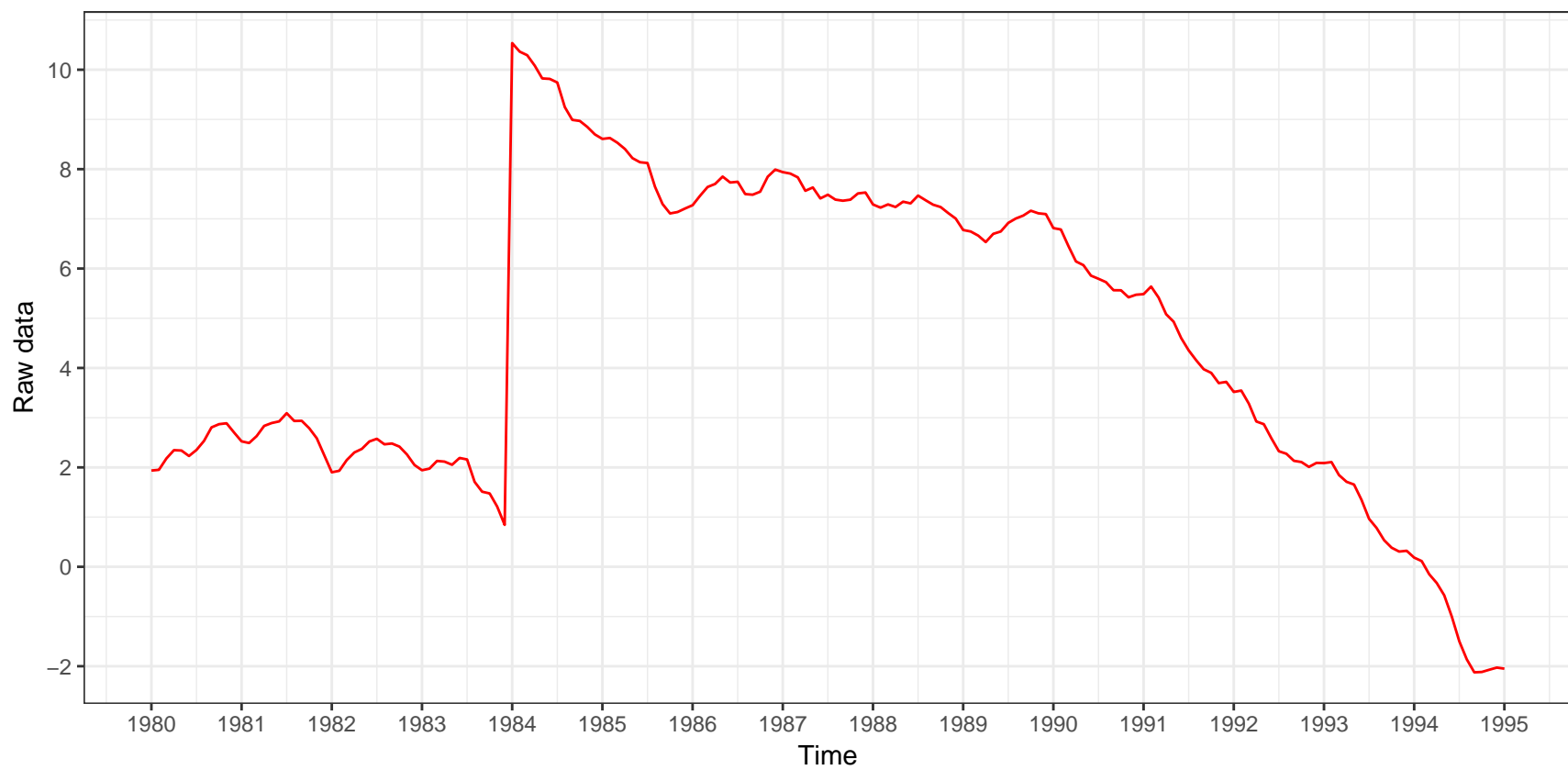


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

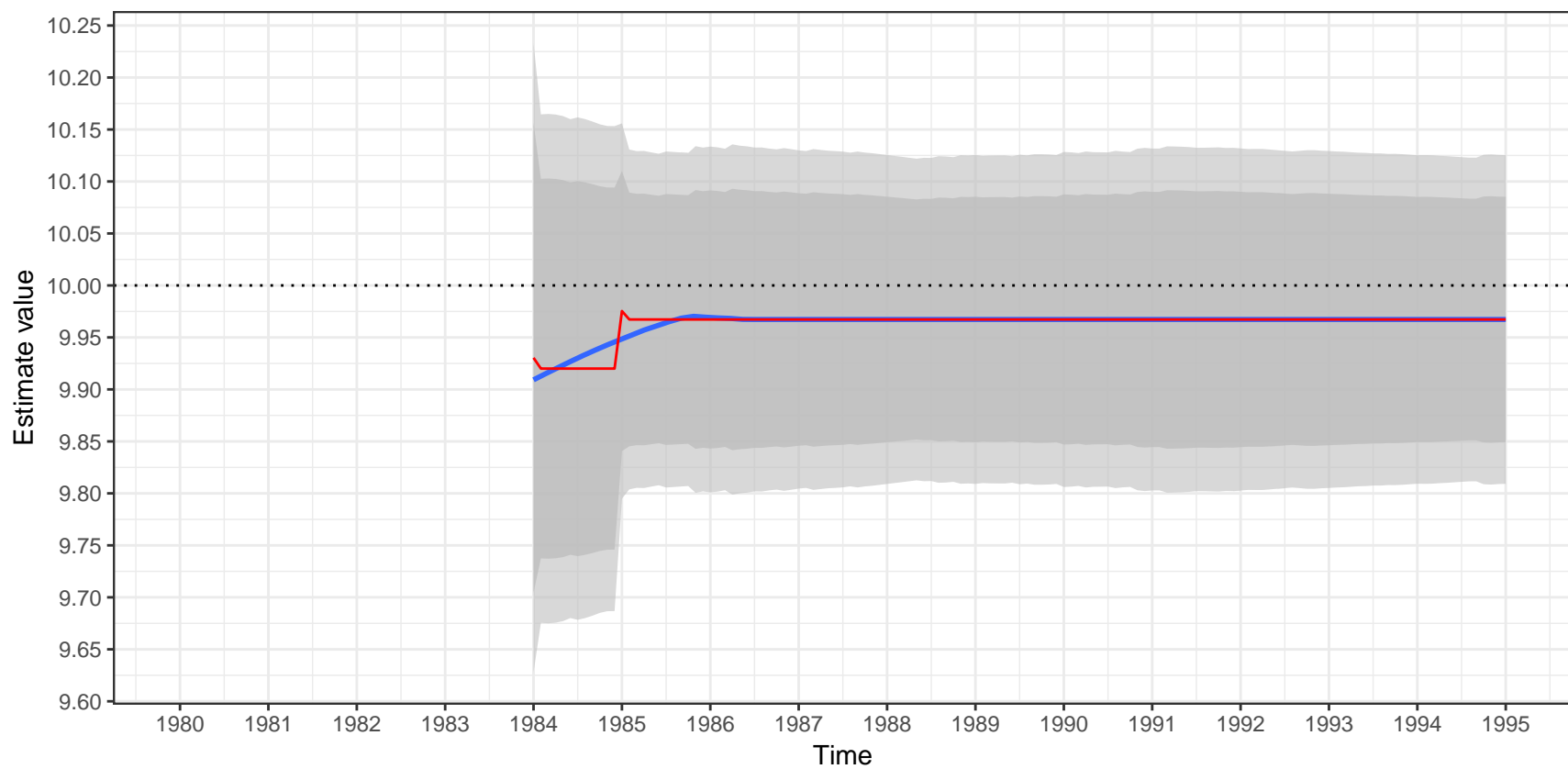


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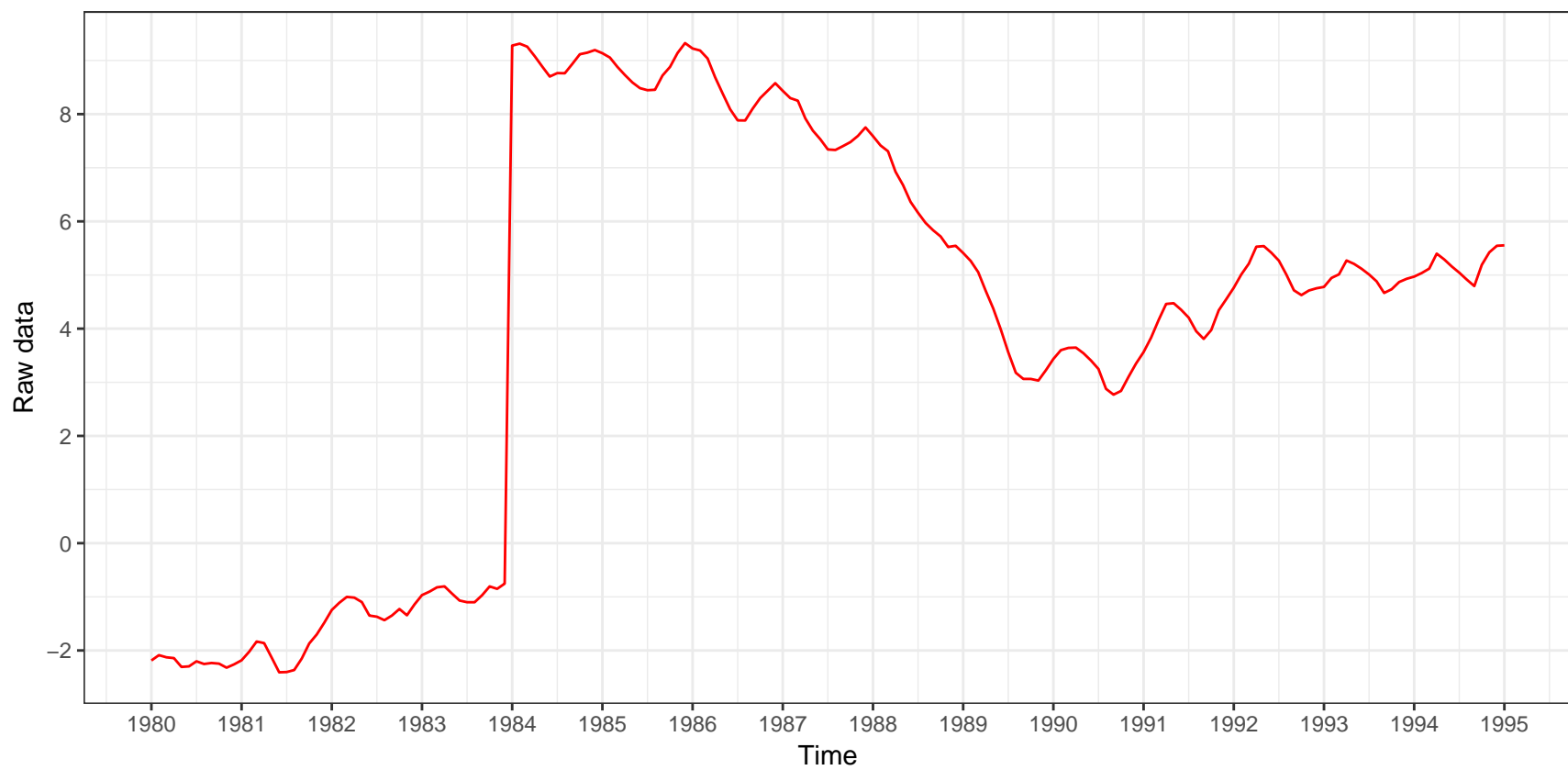


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

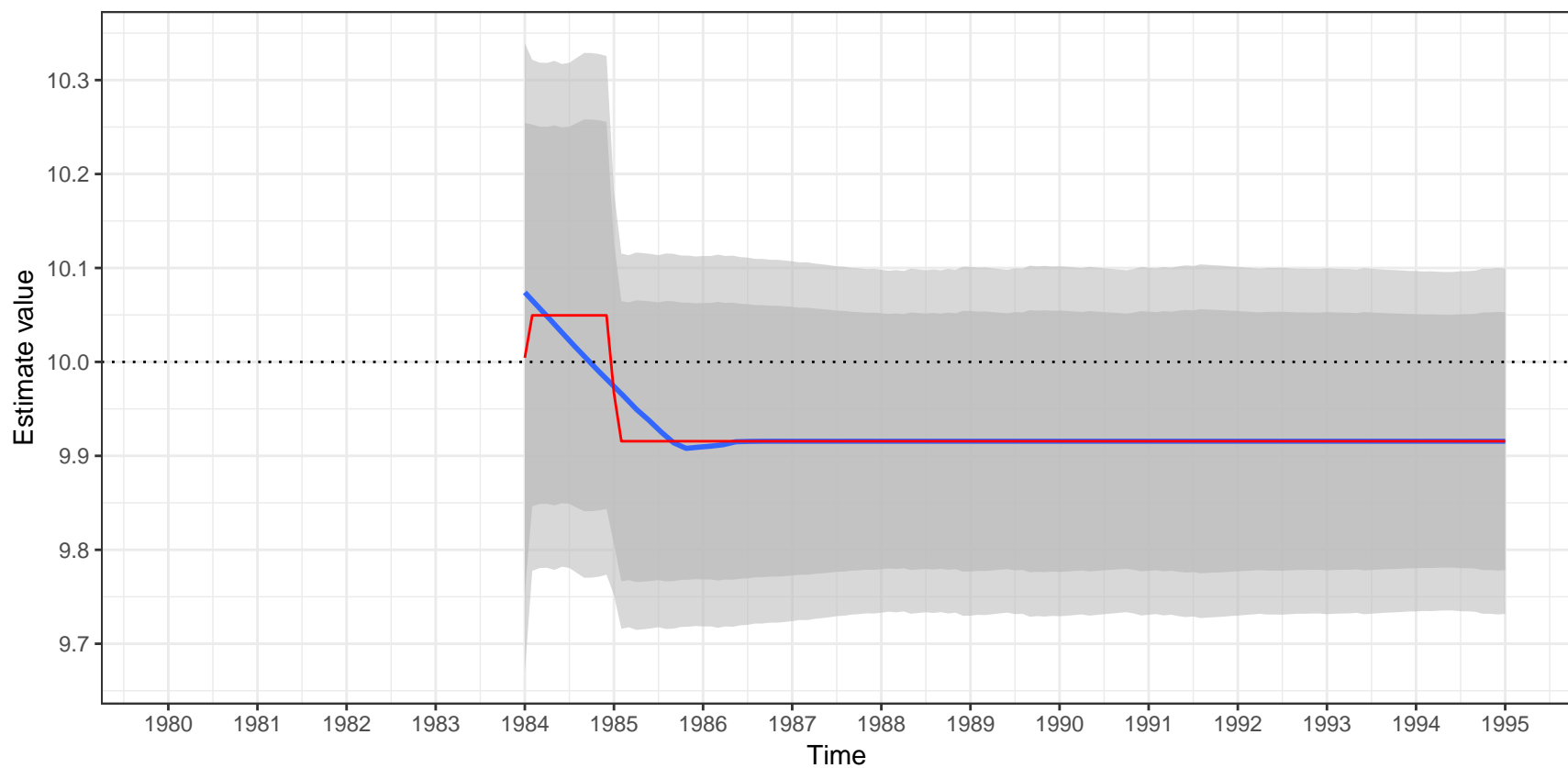


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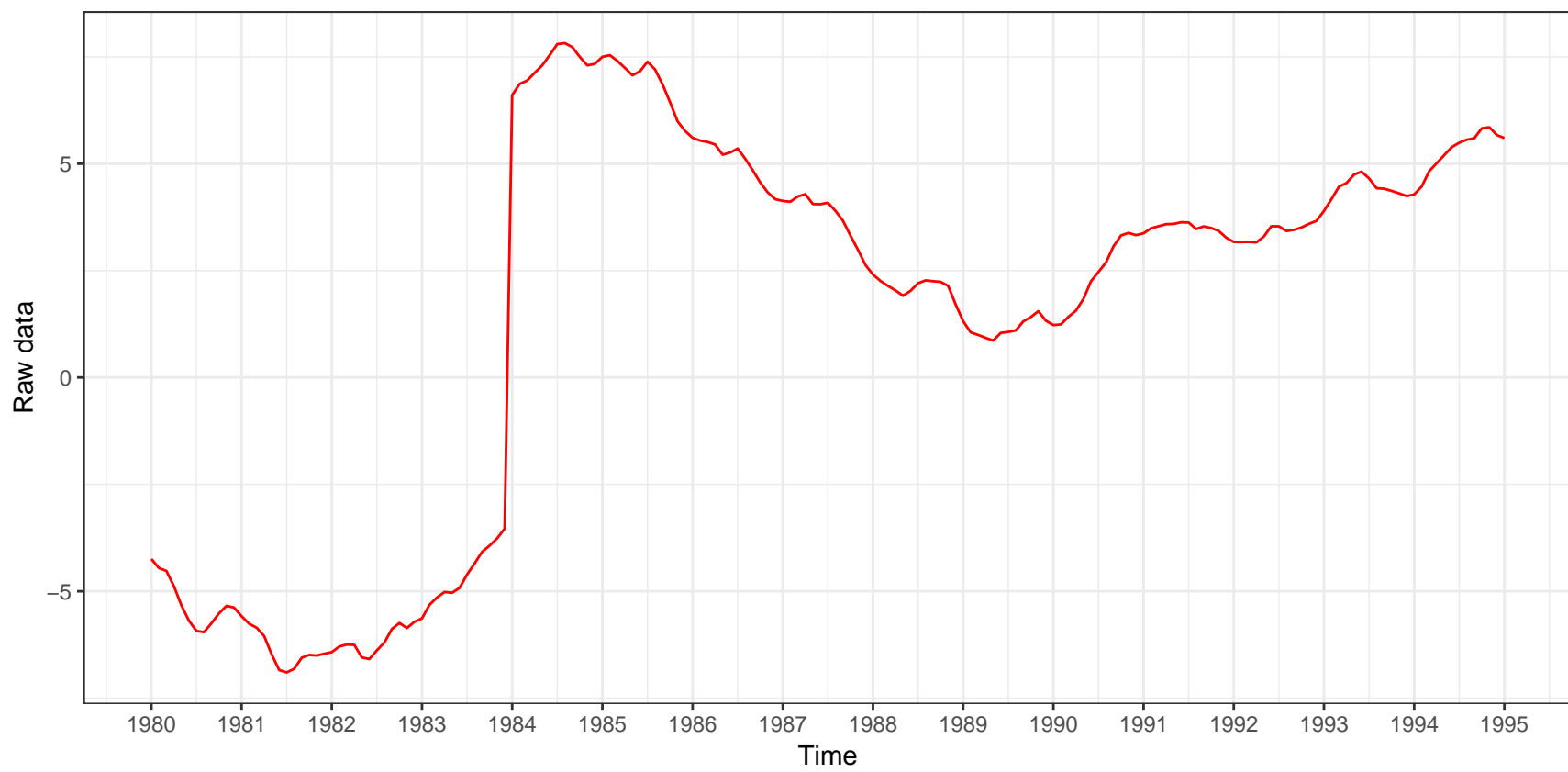


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.7B)X_t=at$

Estimation of the outlier

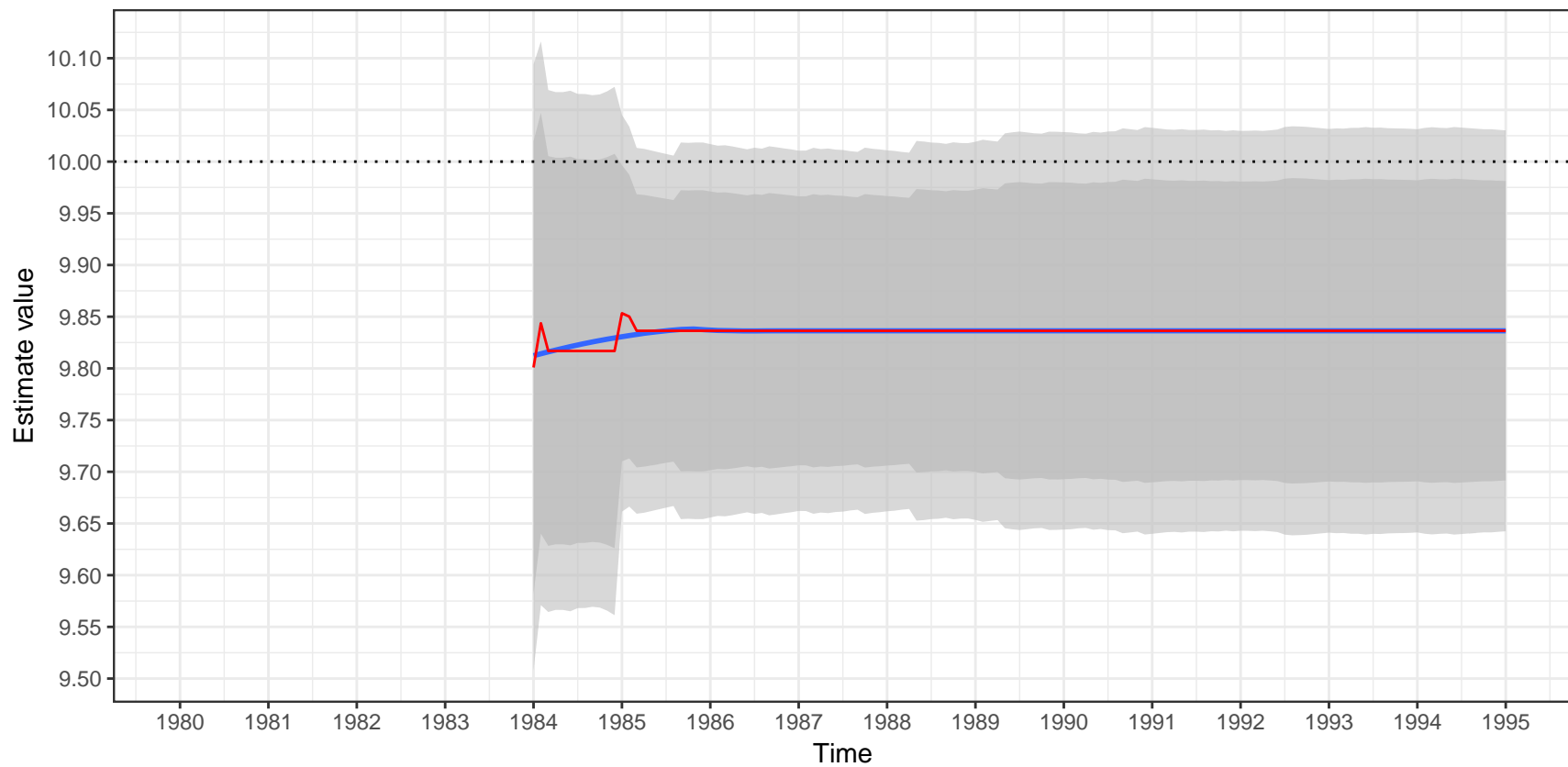


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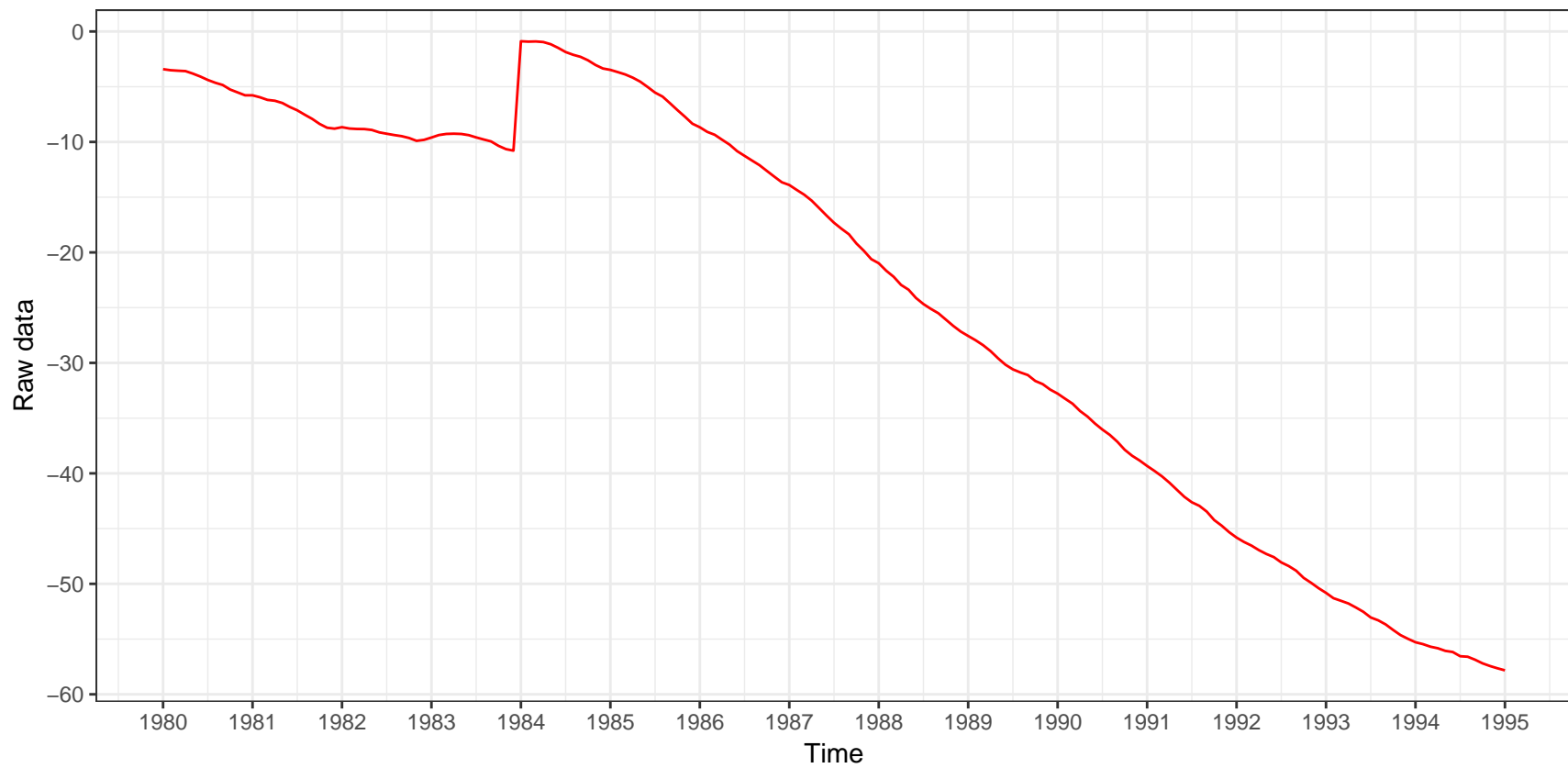


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

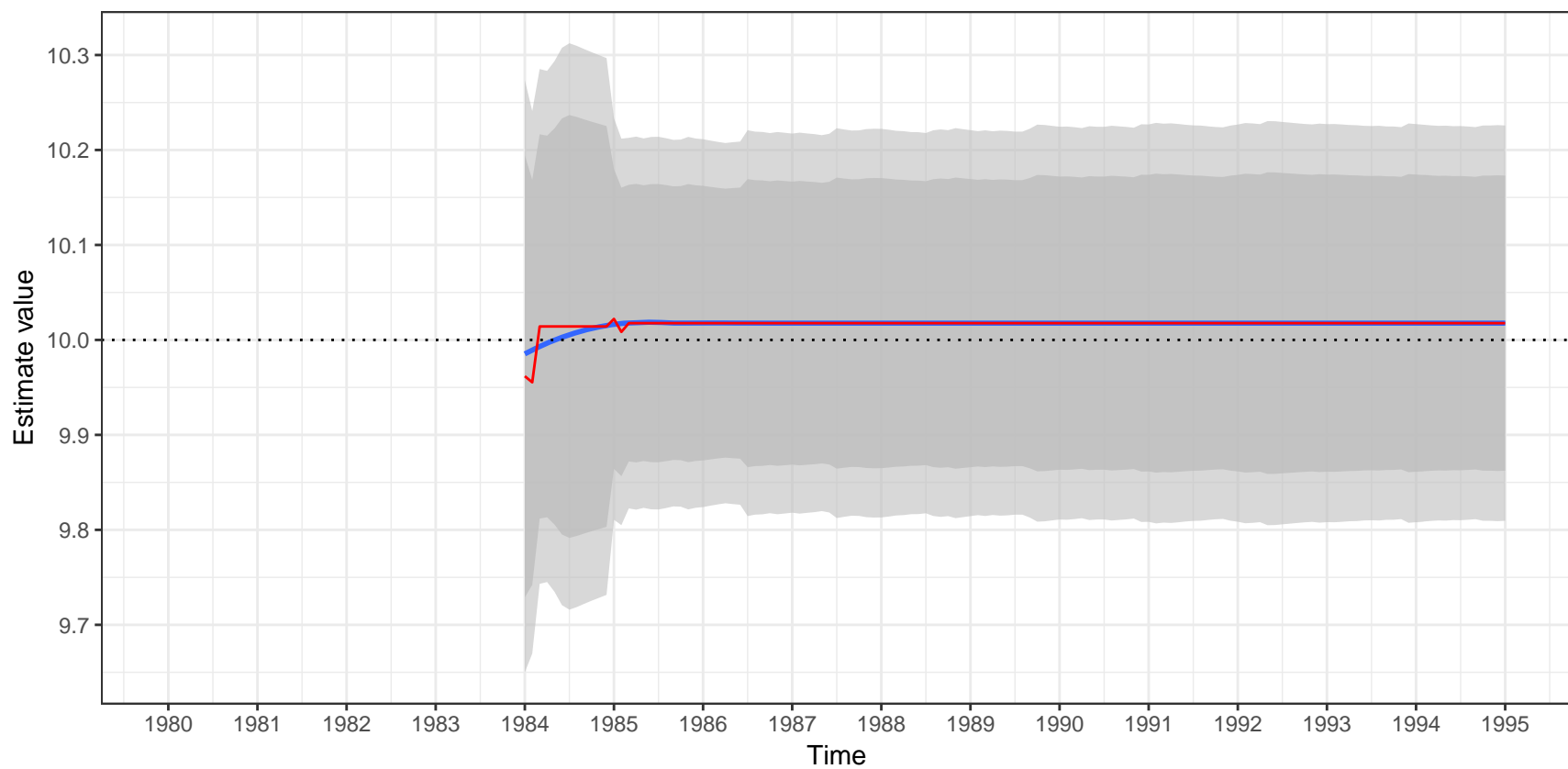


Raw data

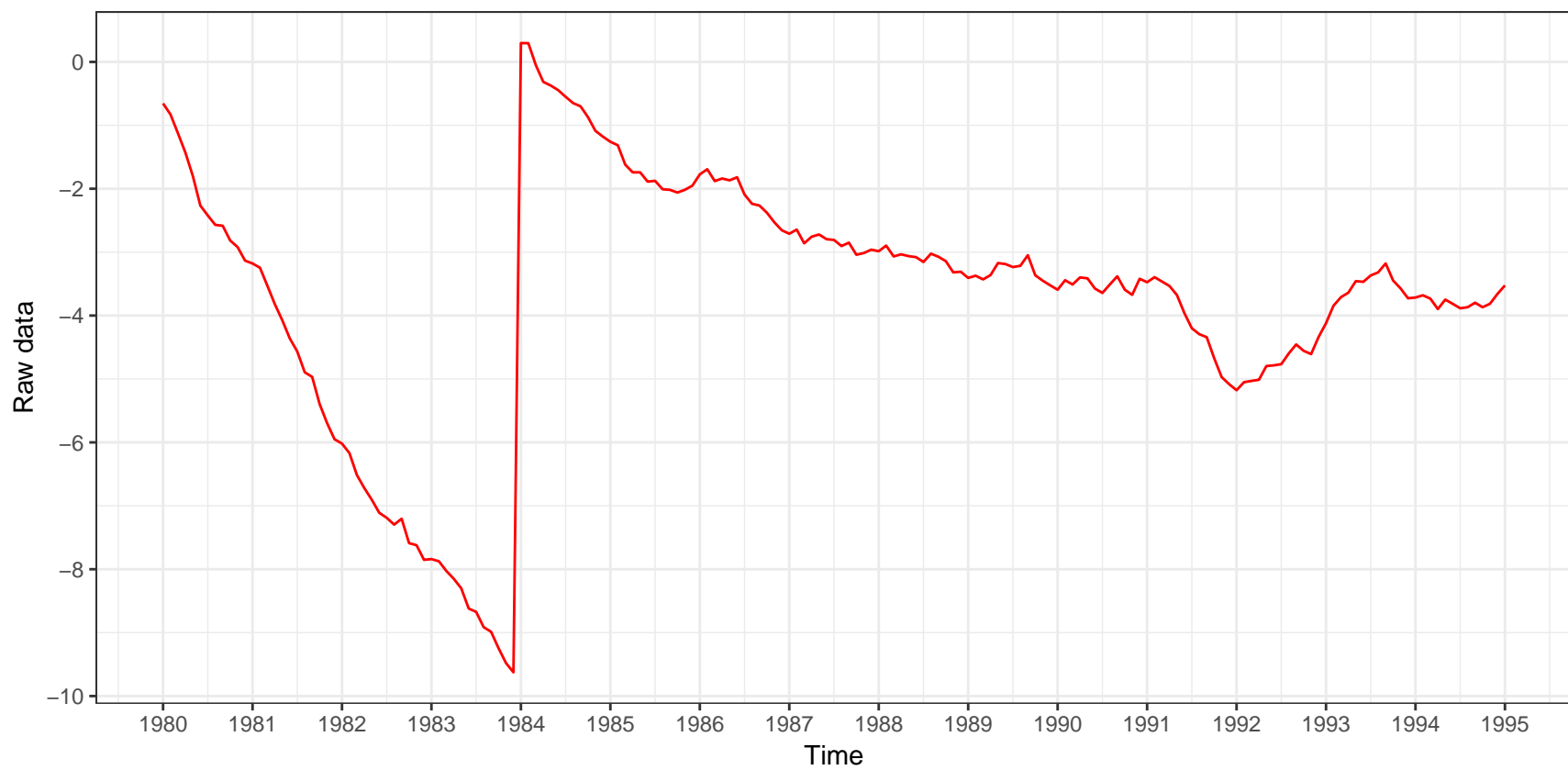


Estimate value of a LS(1984-01)
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Estimation of the outlier

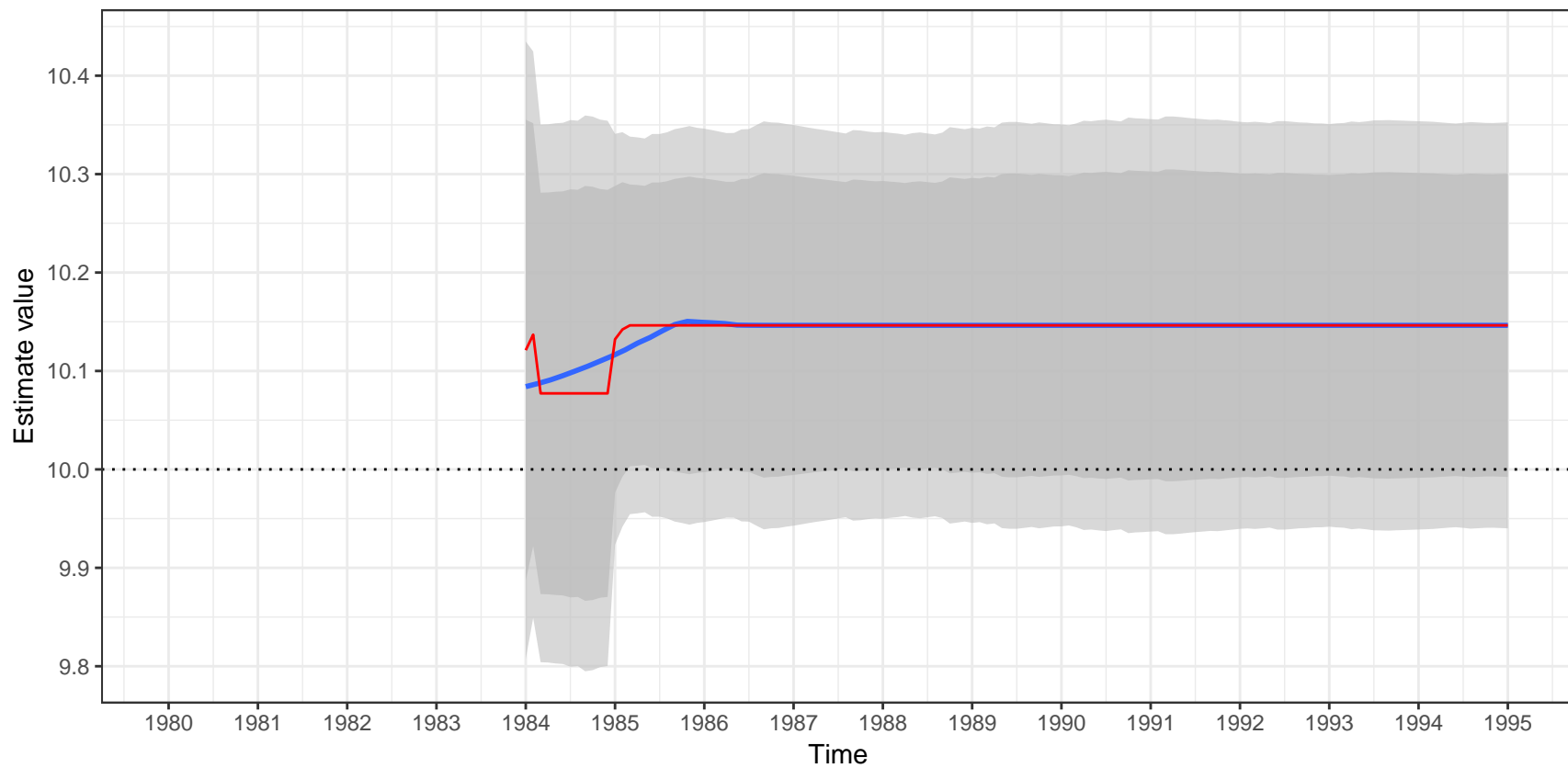


Raw data

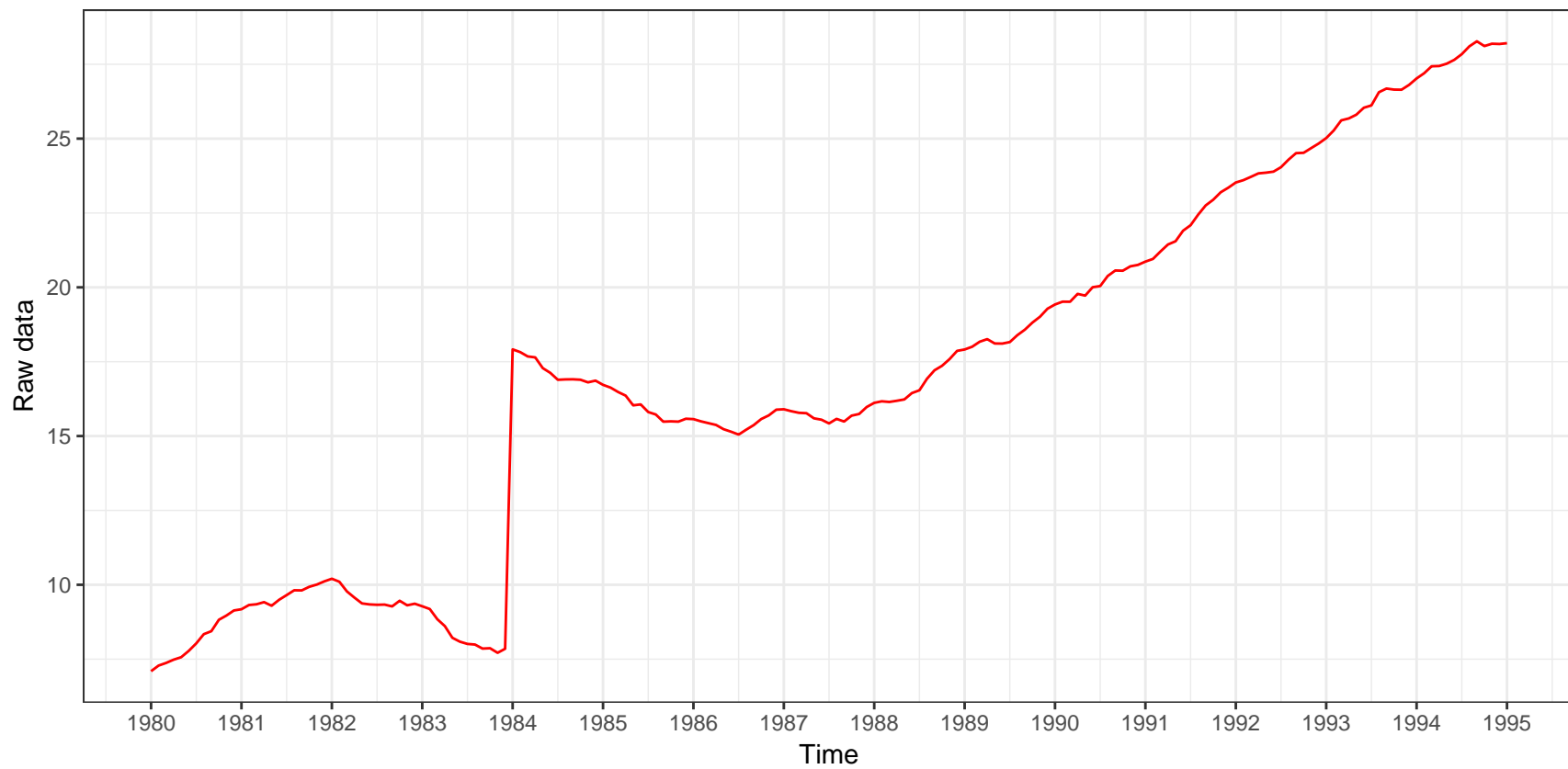


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

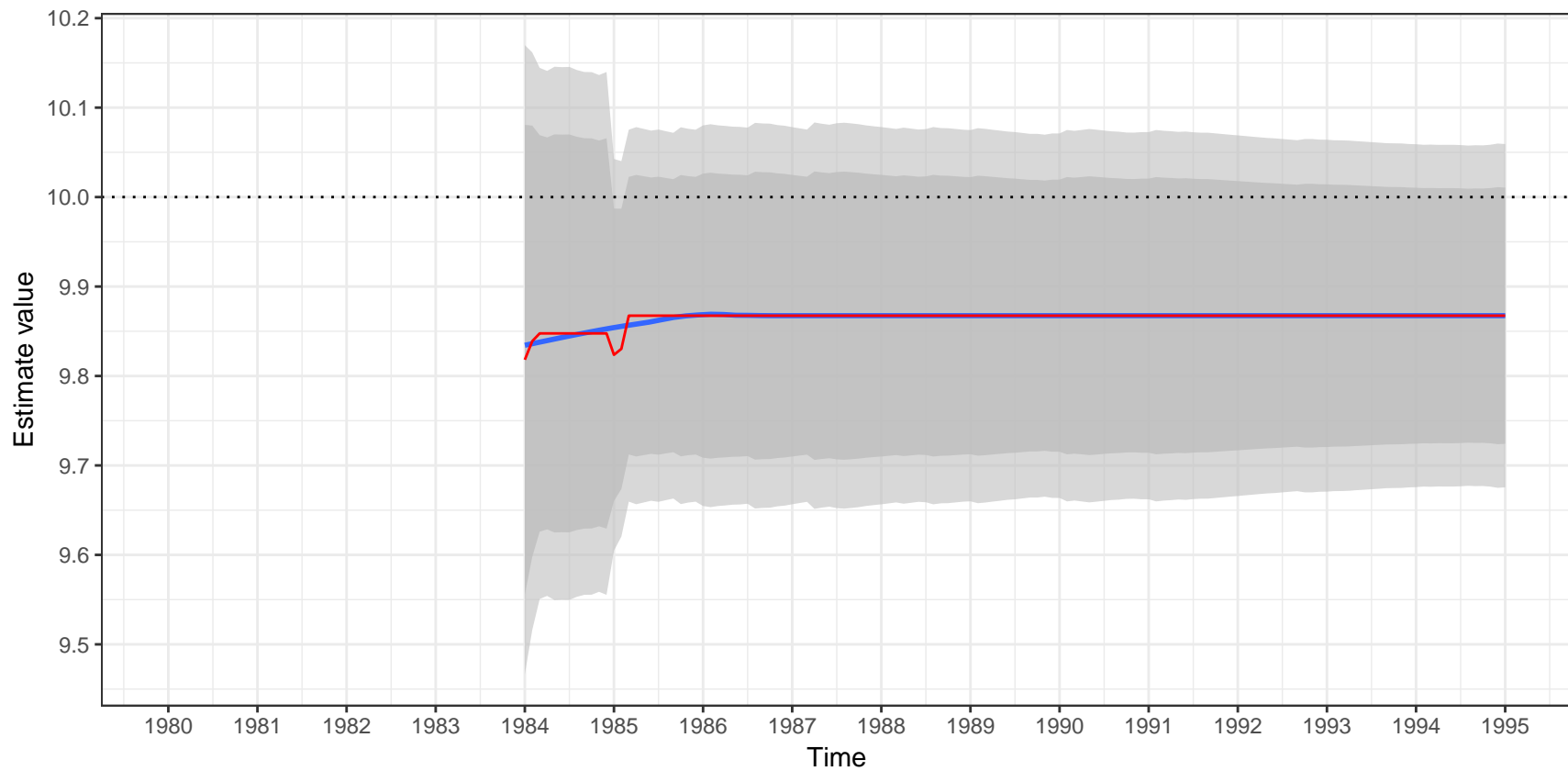


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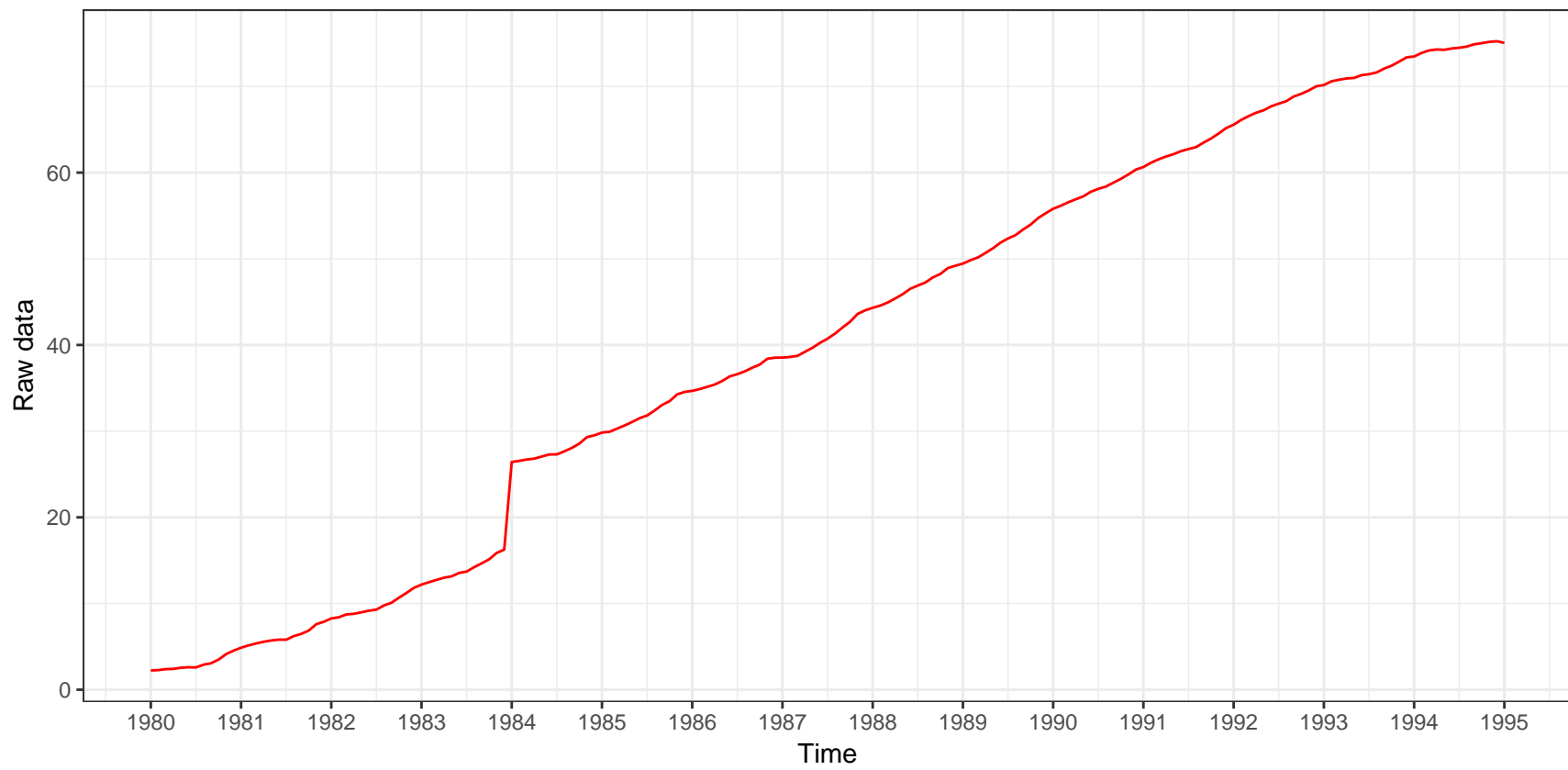


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

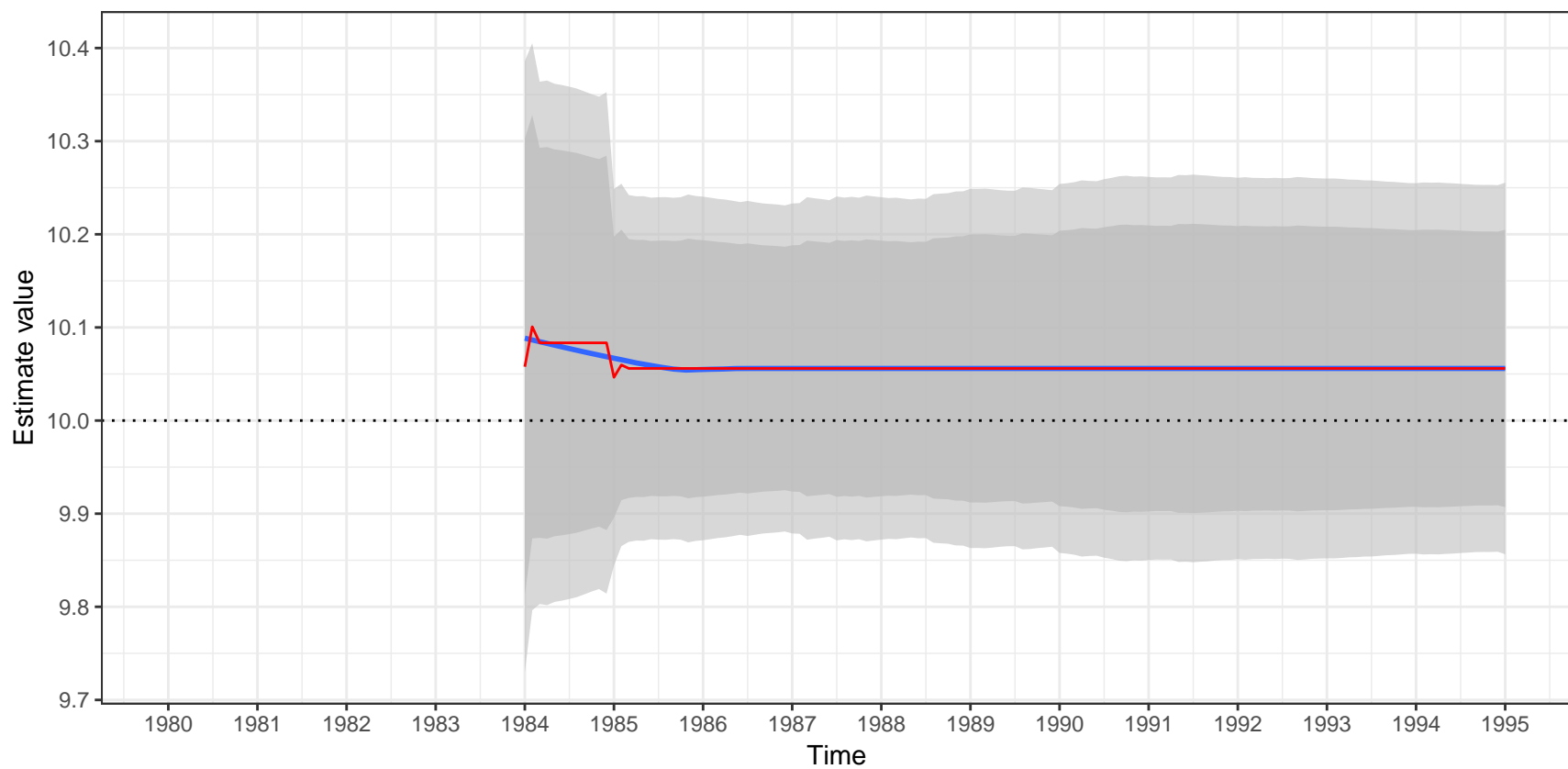


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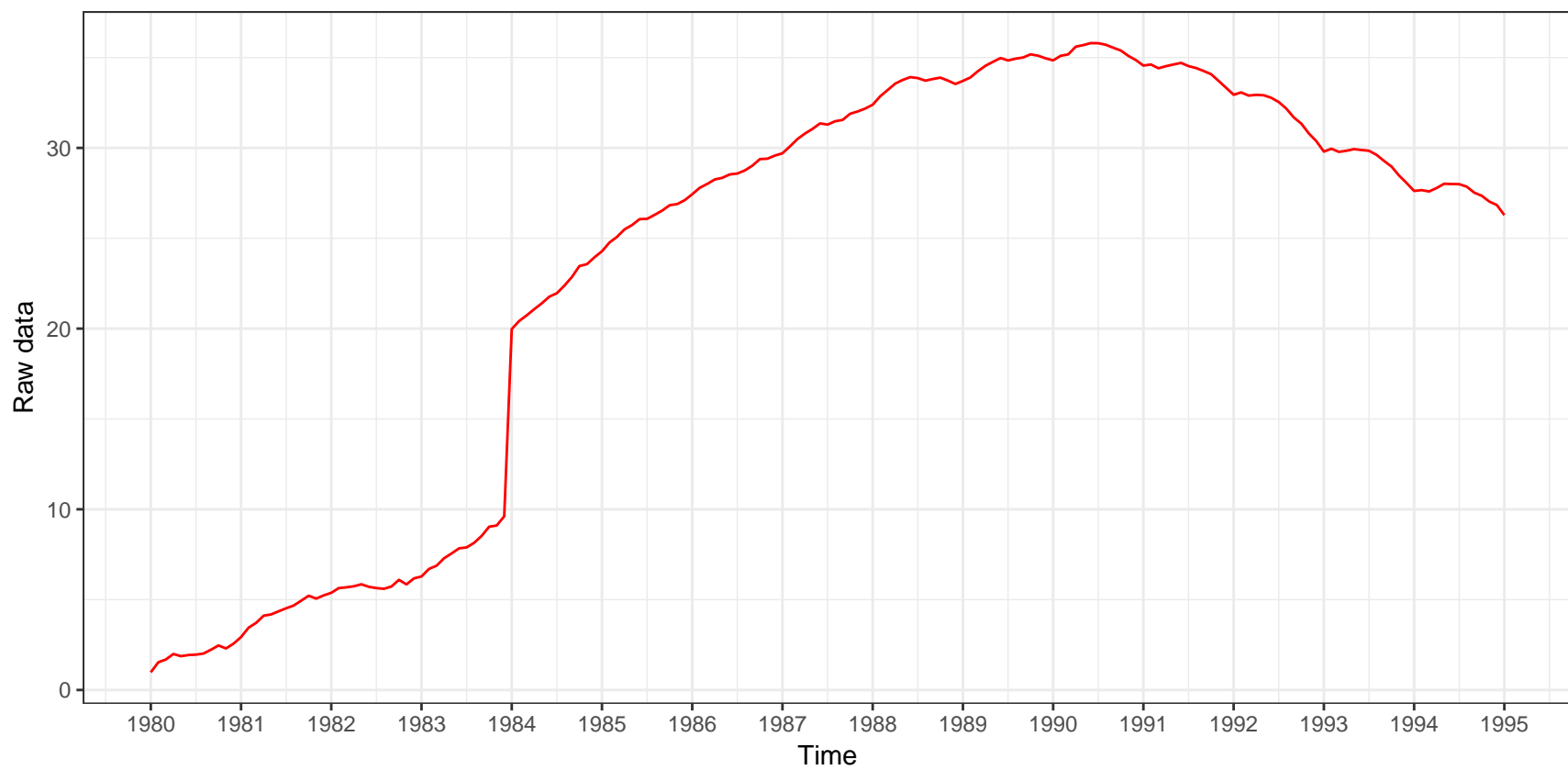


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

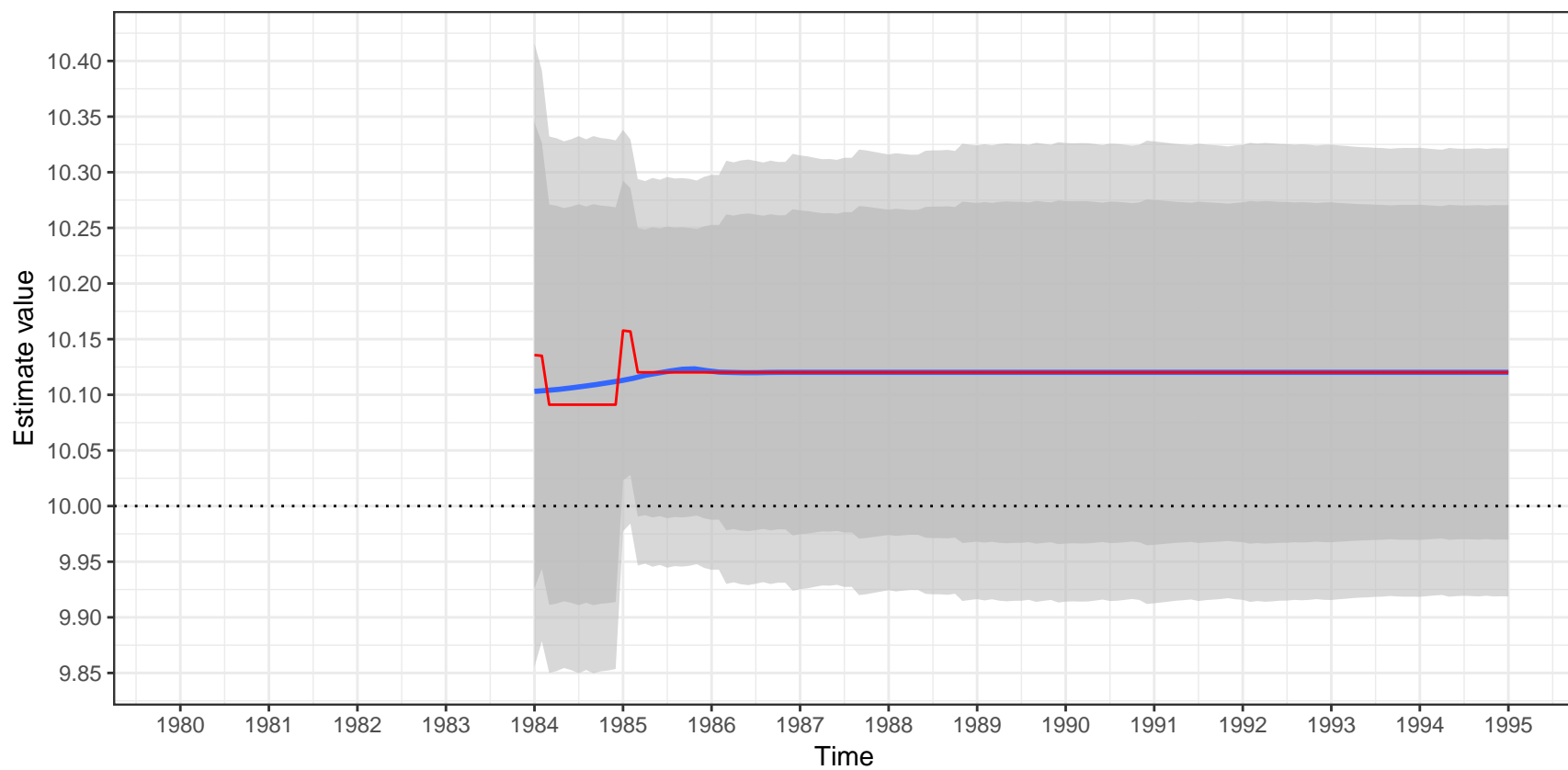


Raw data

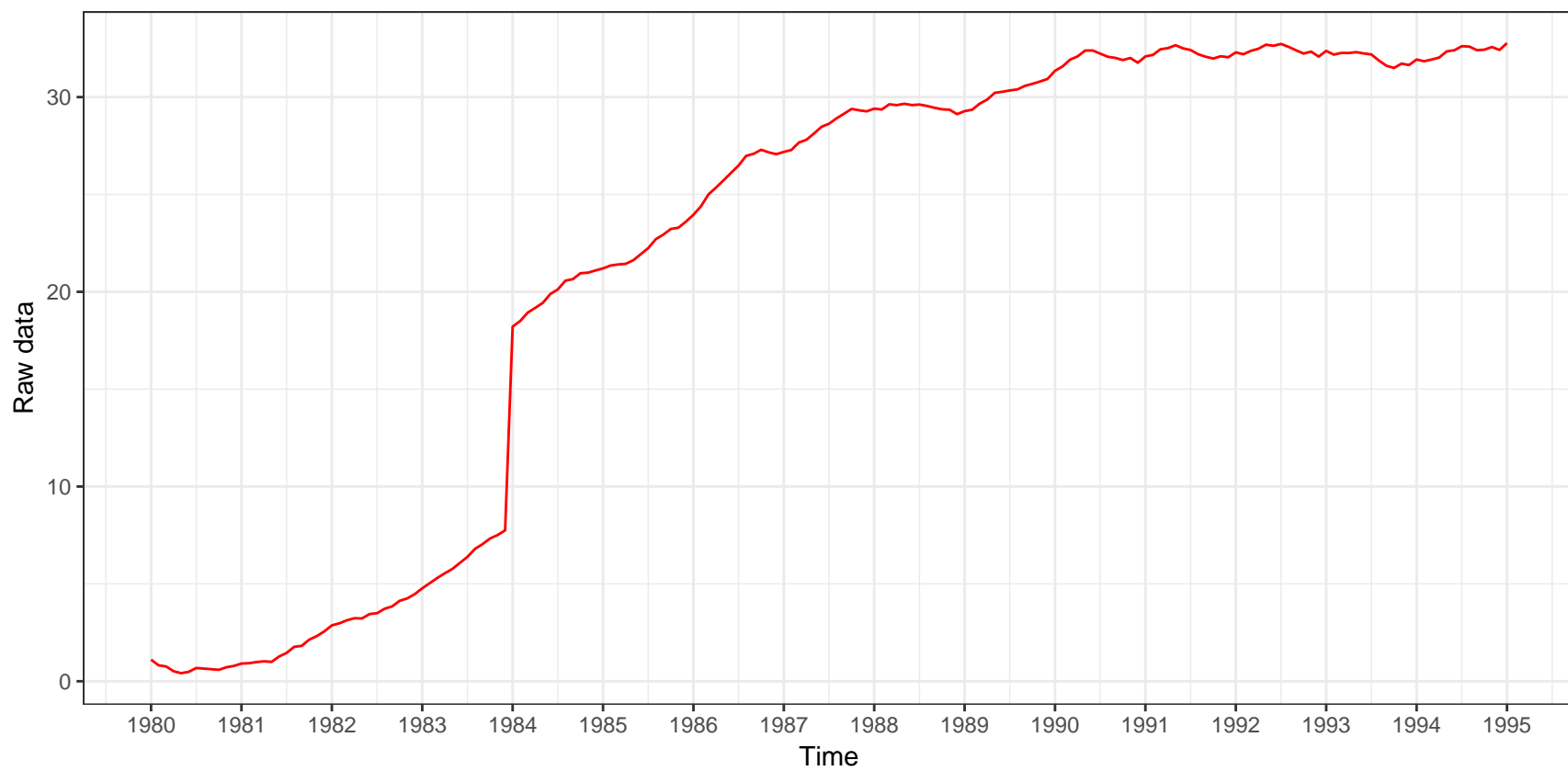


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

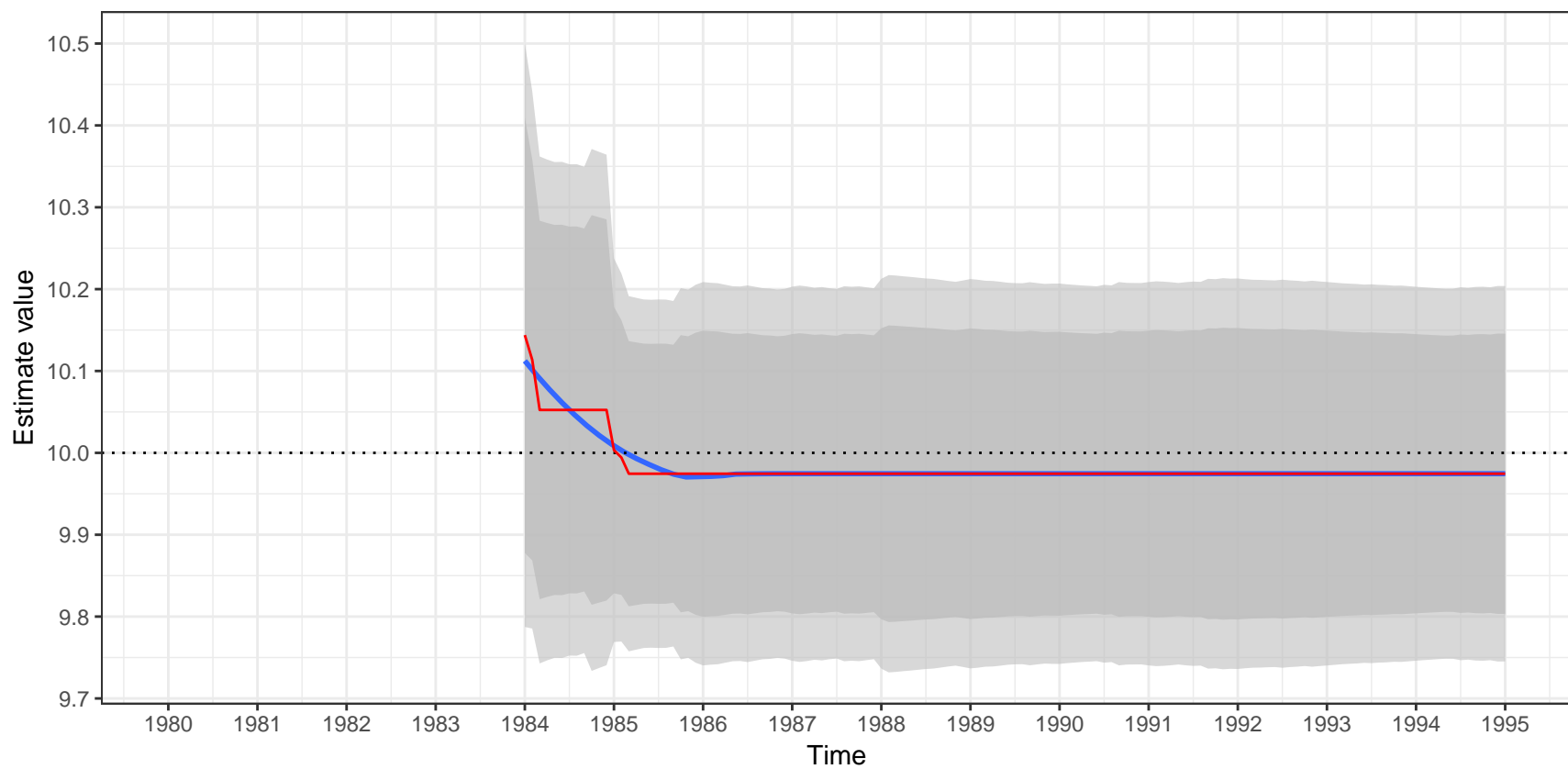


Raw data

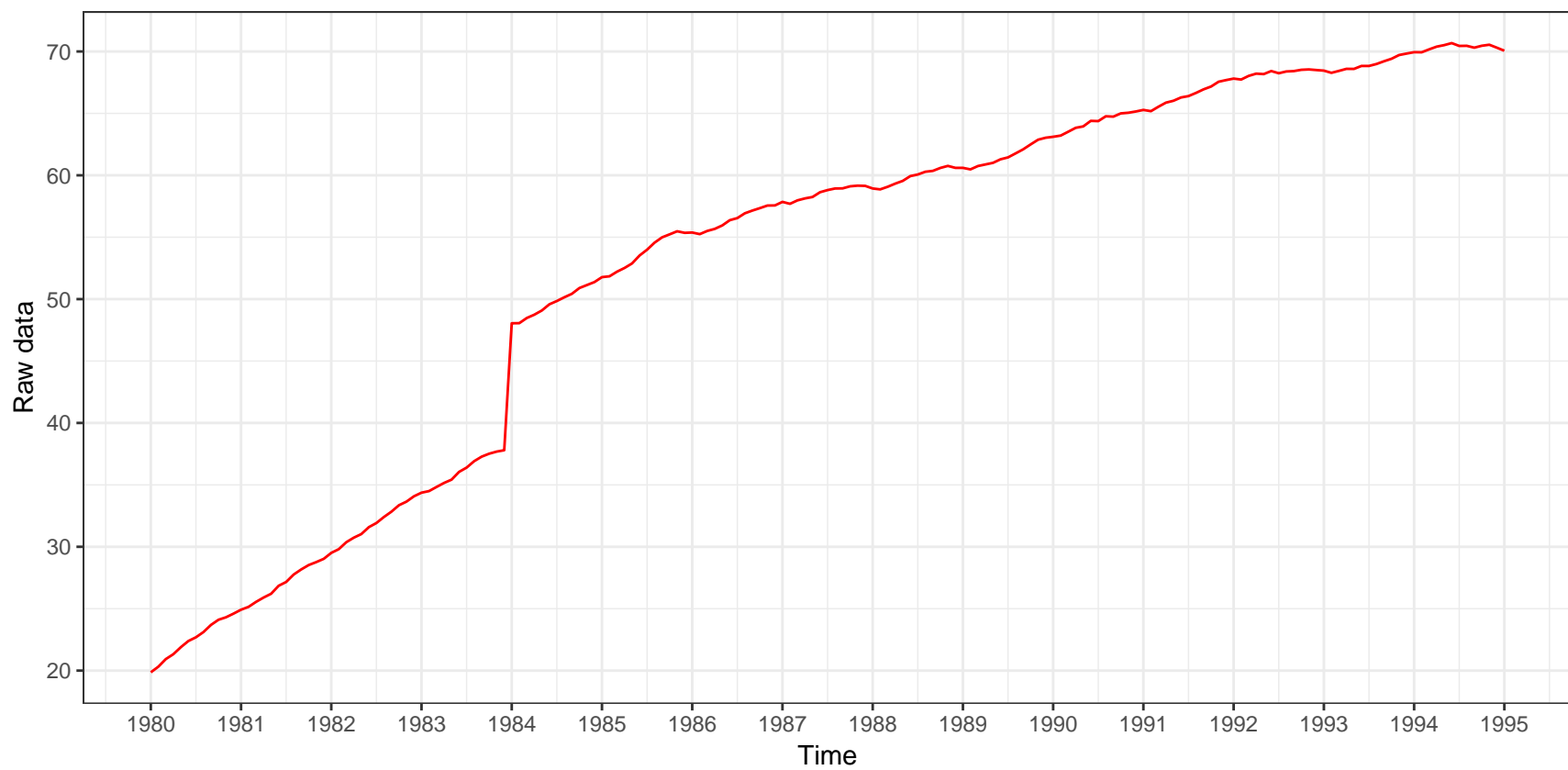


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

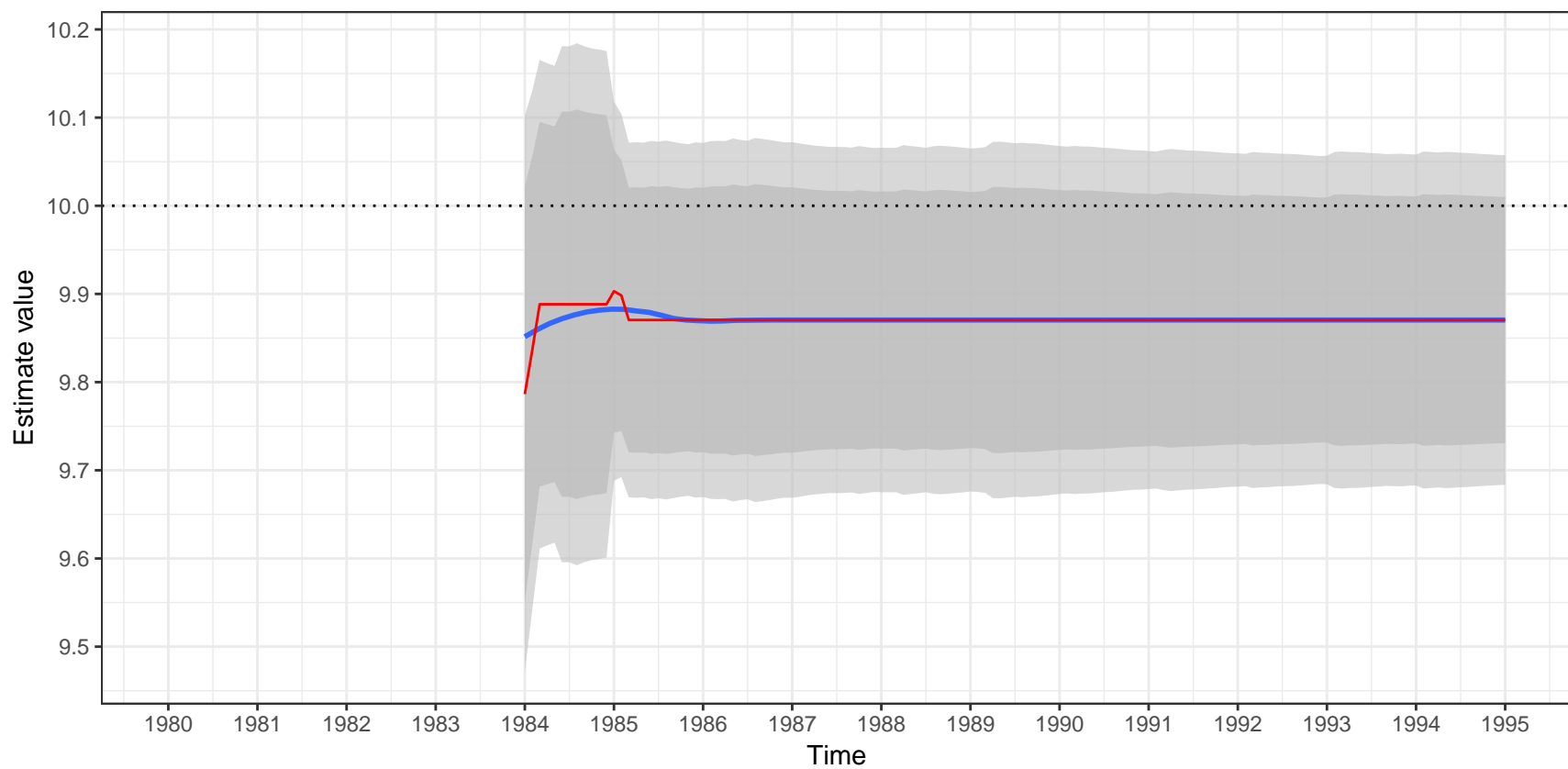


Raw data

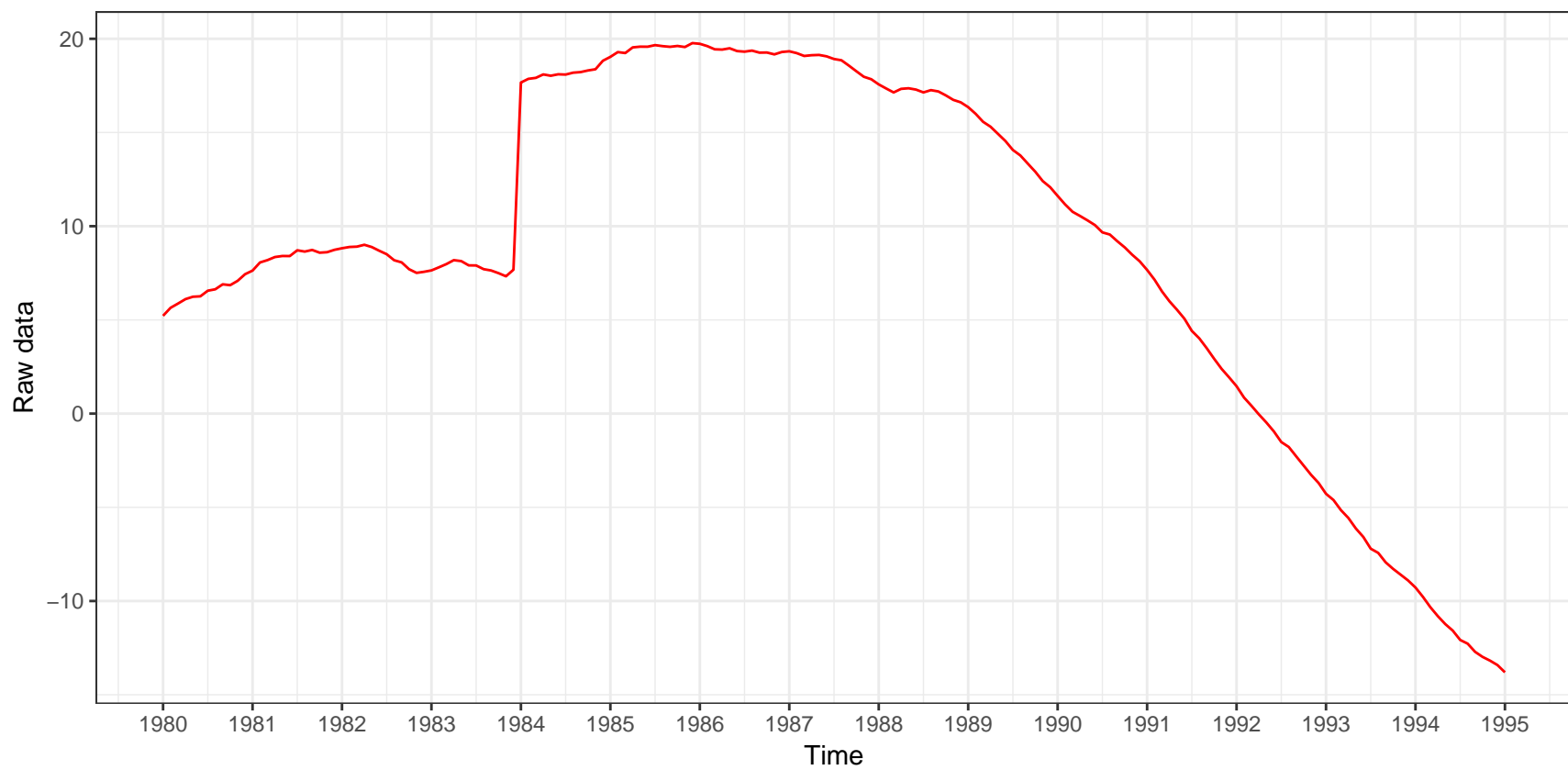


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

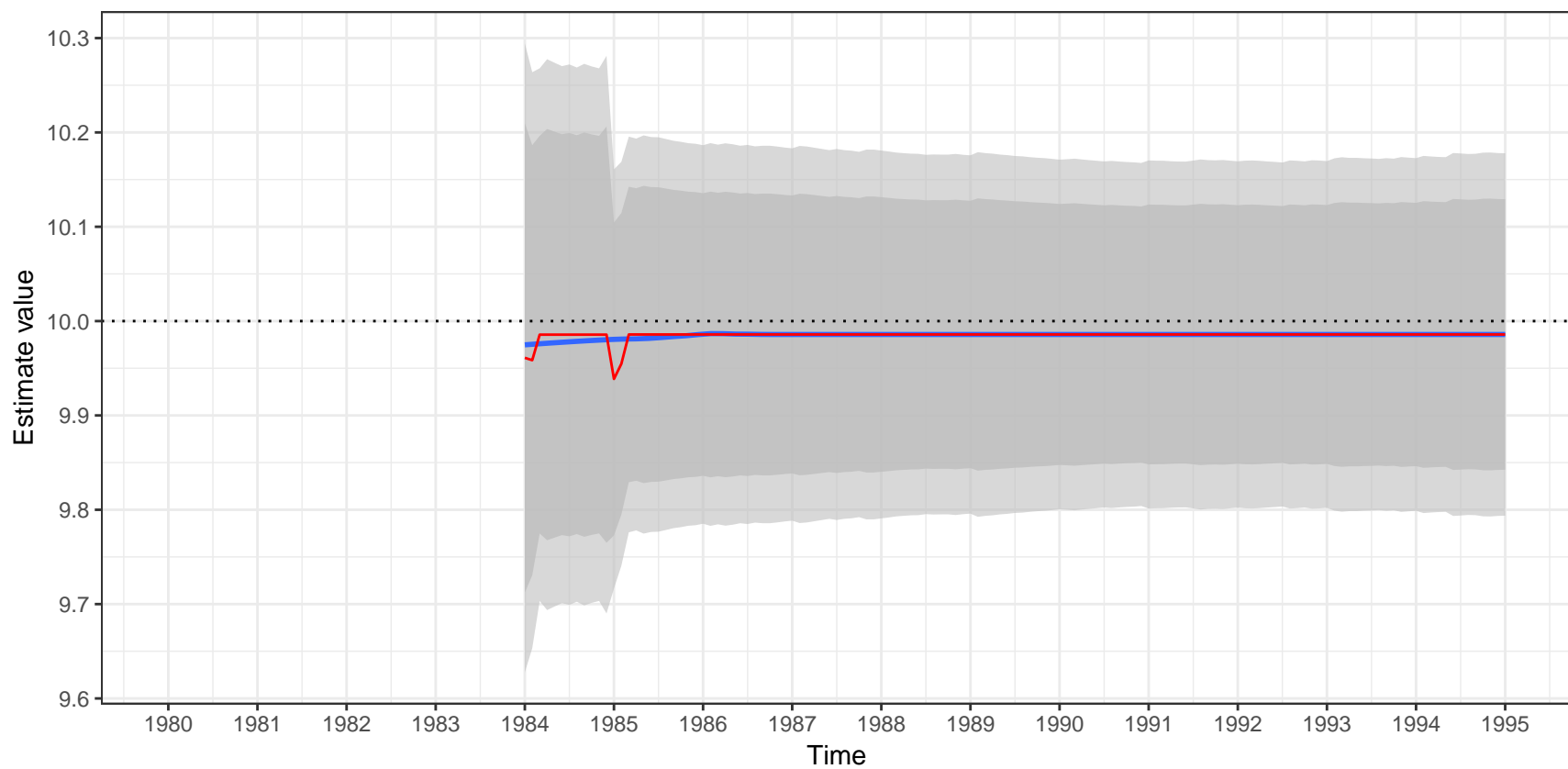


Raw data

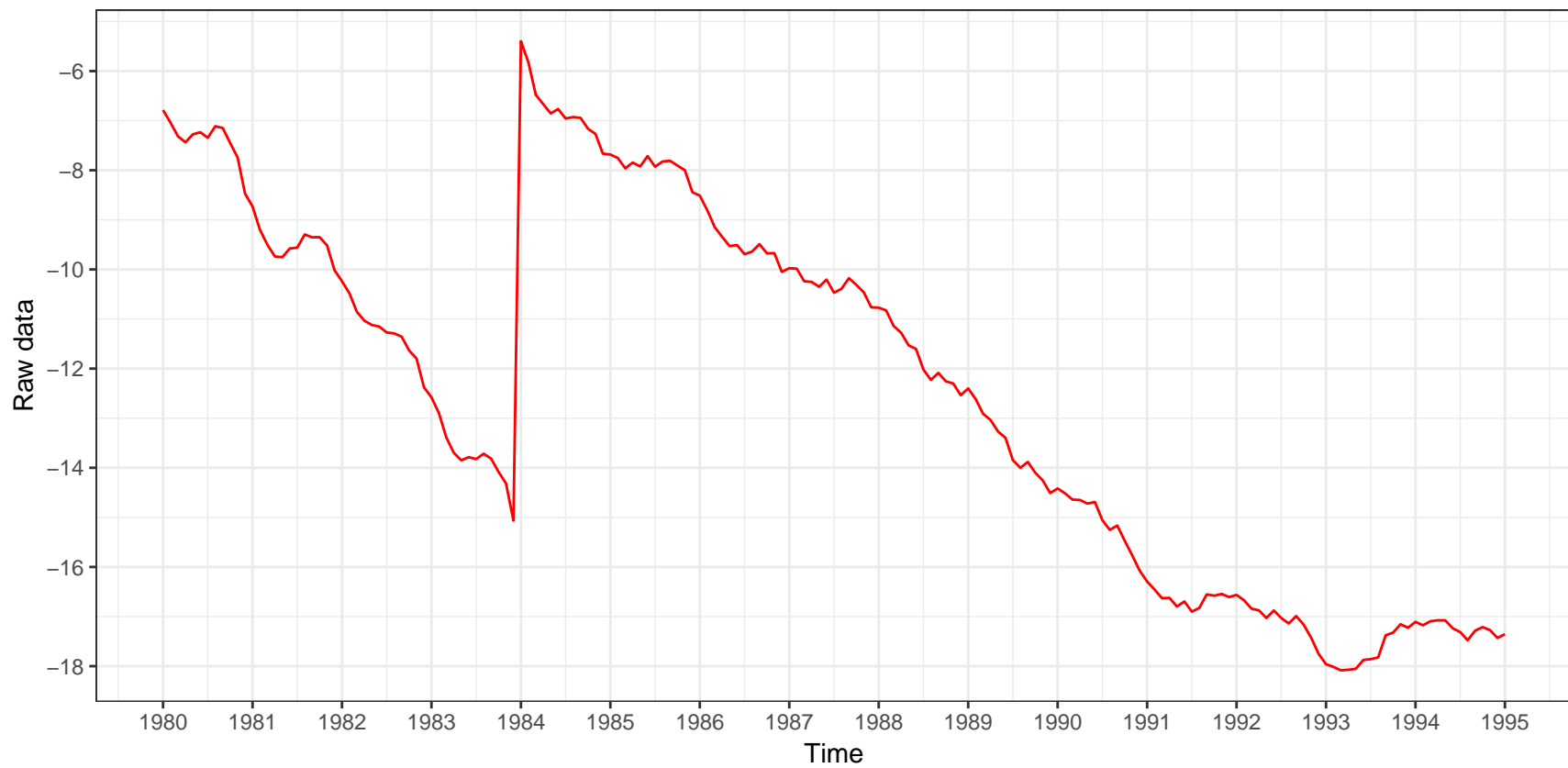


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=a_t$

Estimation of the outlier

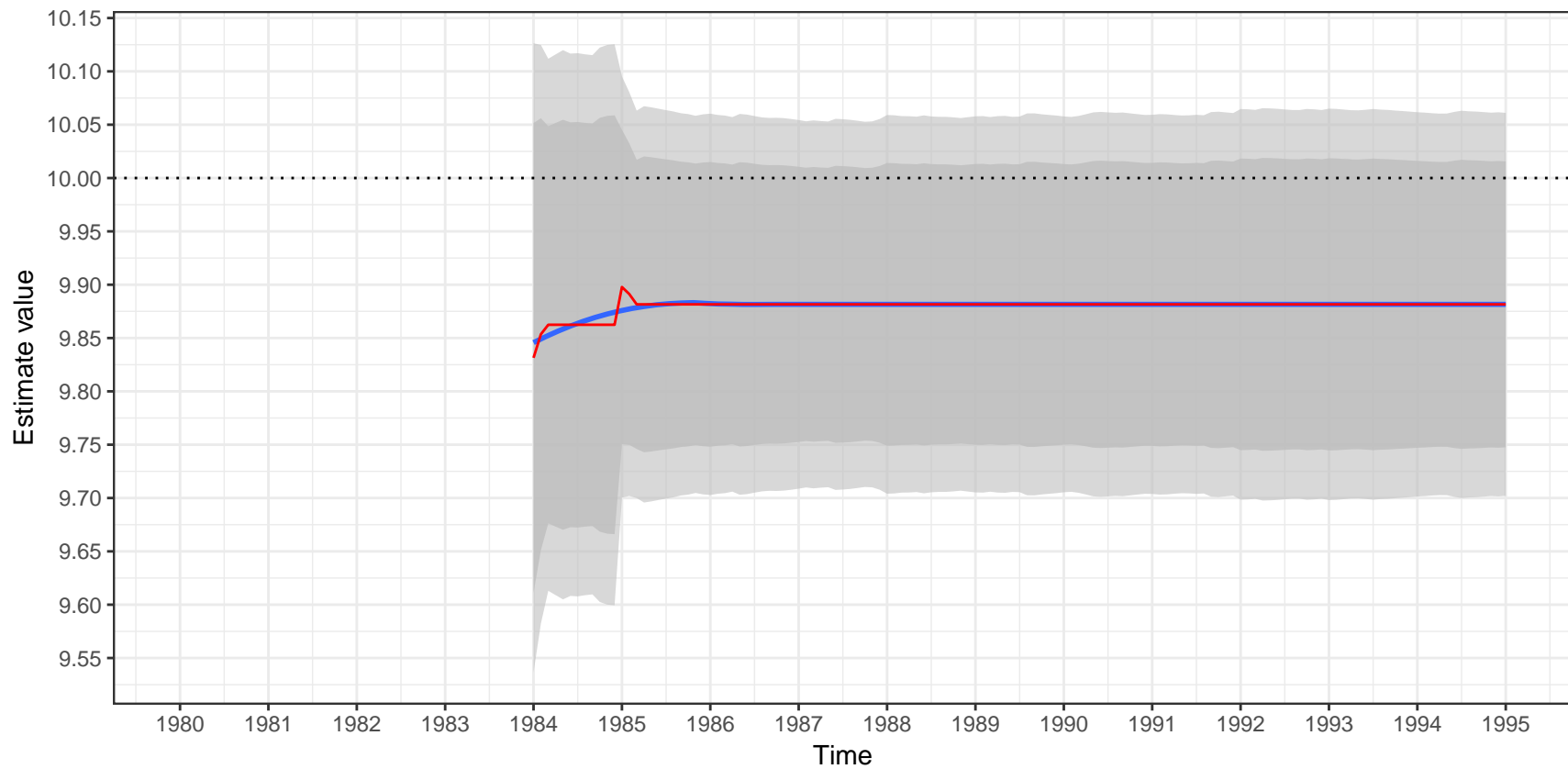


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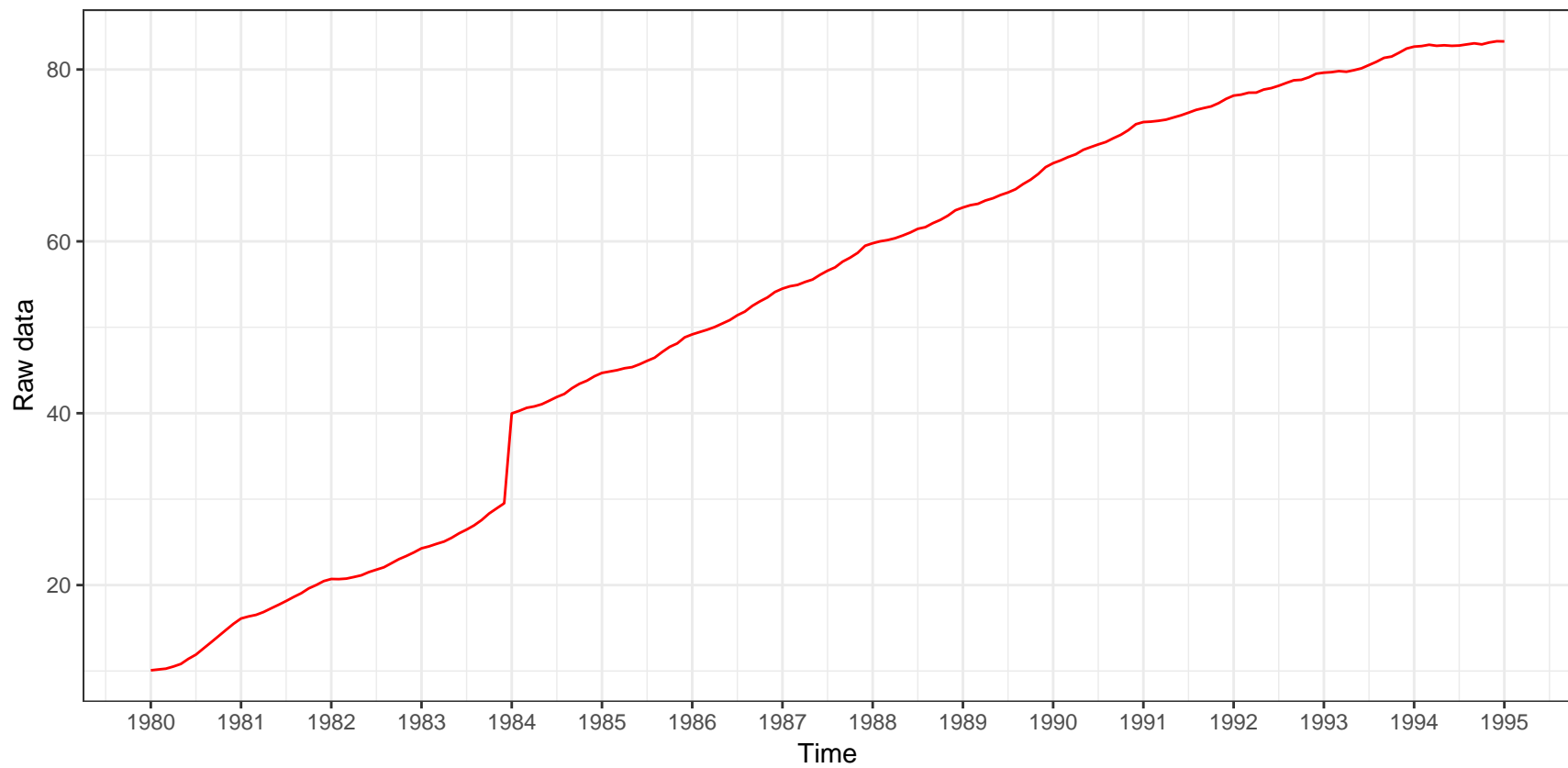


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,0,0) – additive decomposition
 $(1-B)(1-0.4B+0.42B^2)X_t=at$

Estimation of the outlier

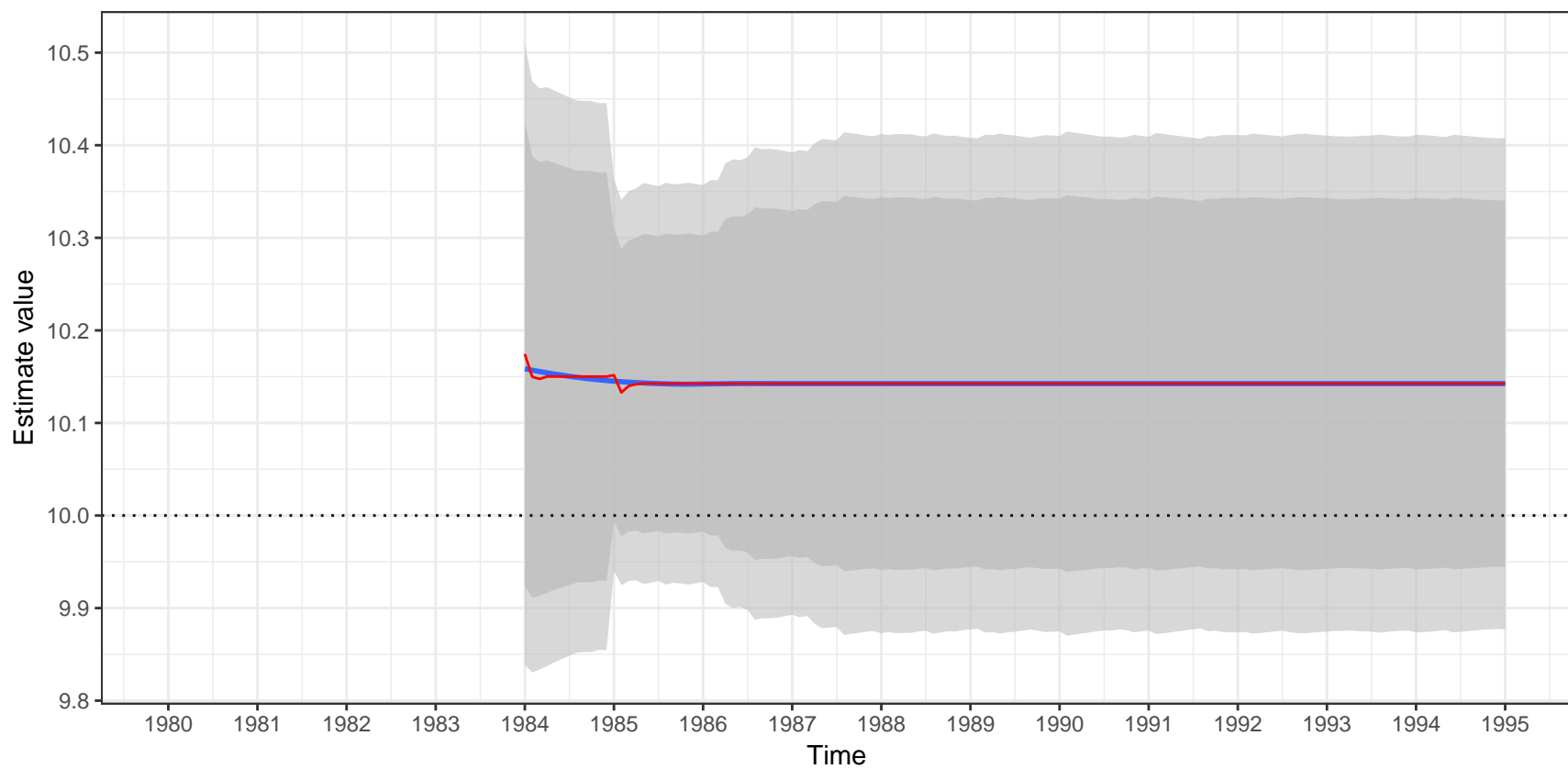


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.3B)a_t$

Estimation of the outlier

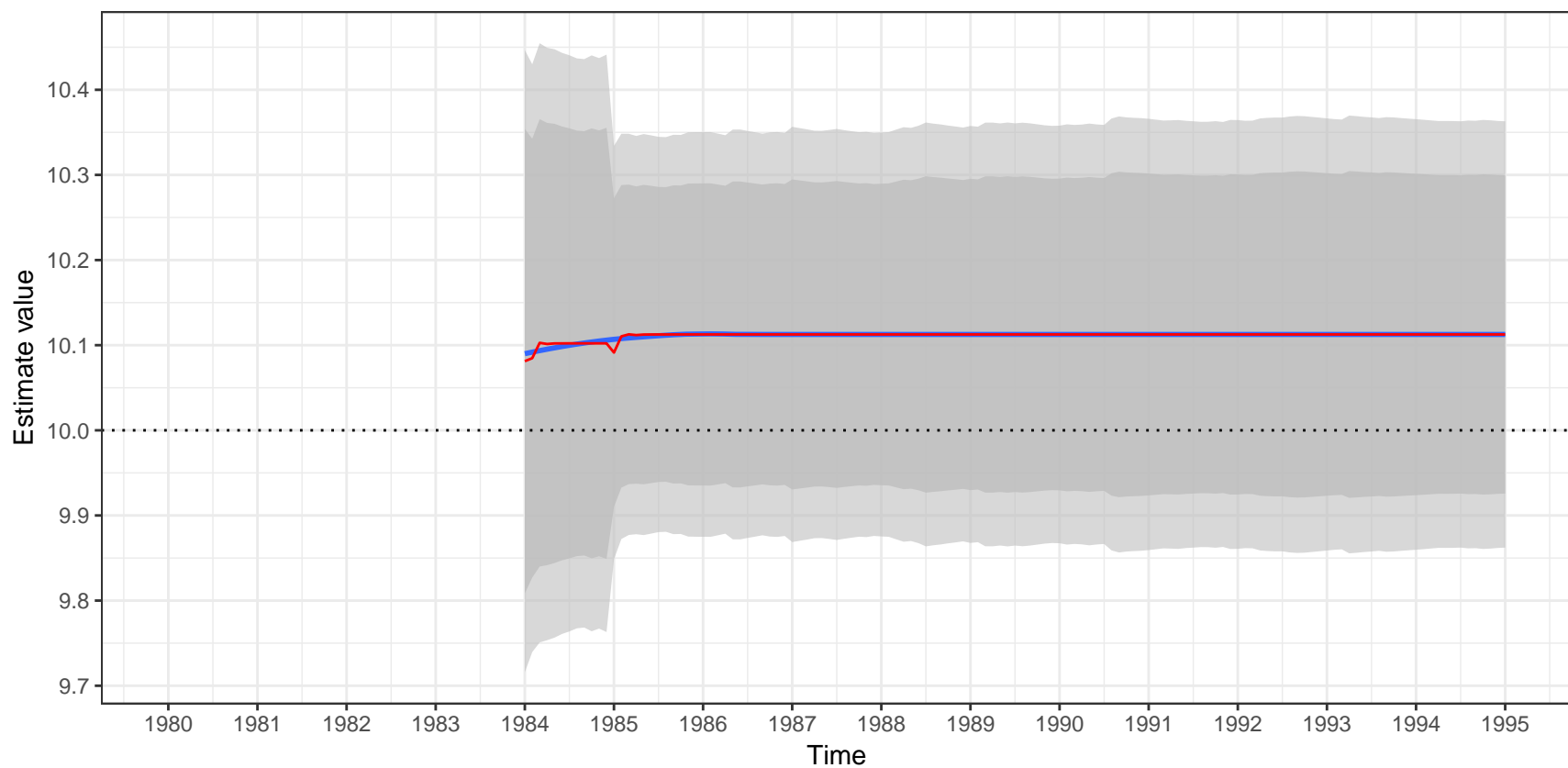


Raw data

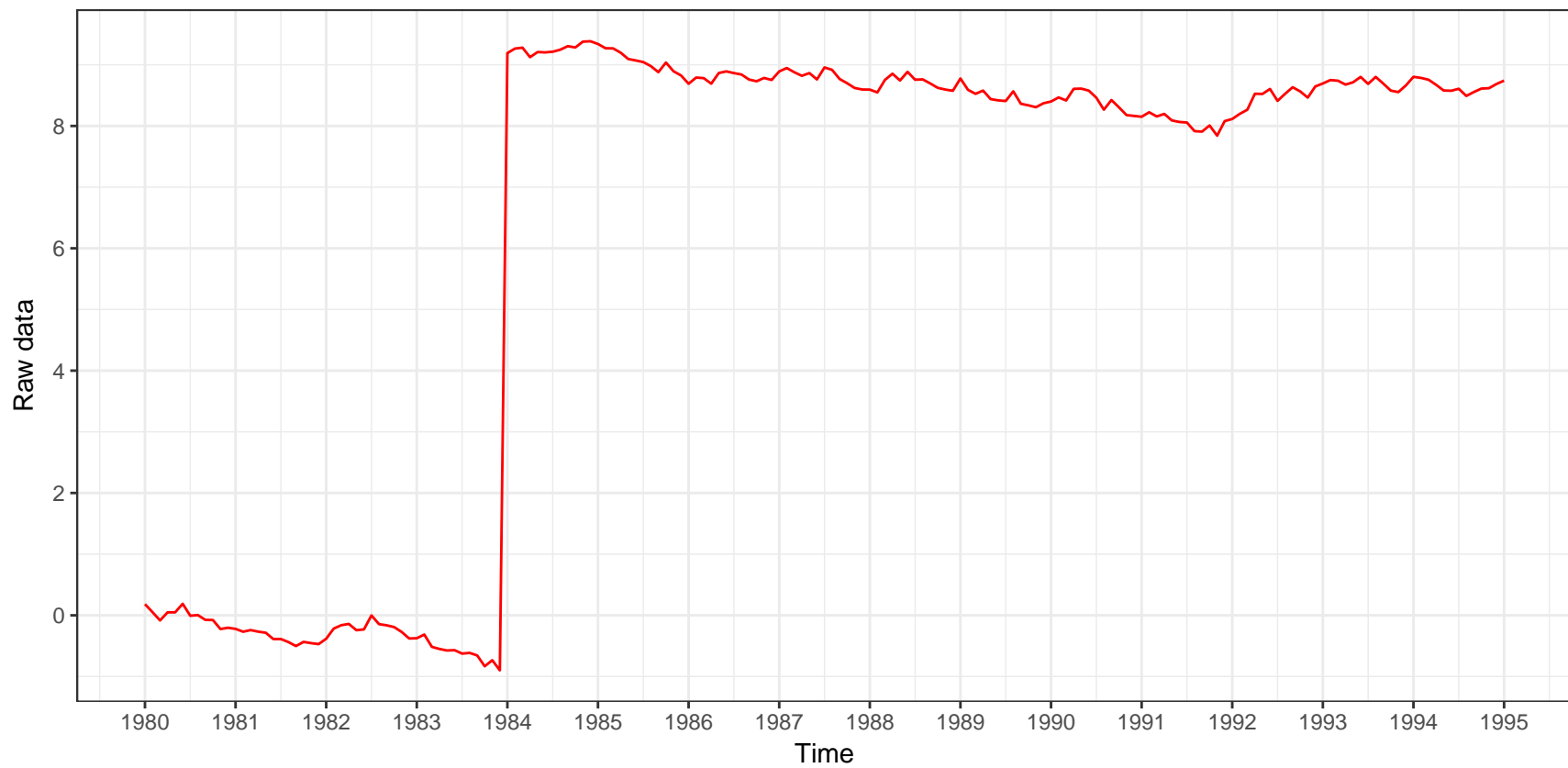


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.3B)a_t$

Estimation of the outlier

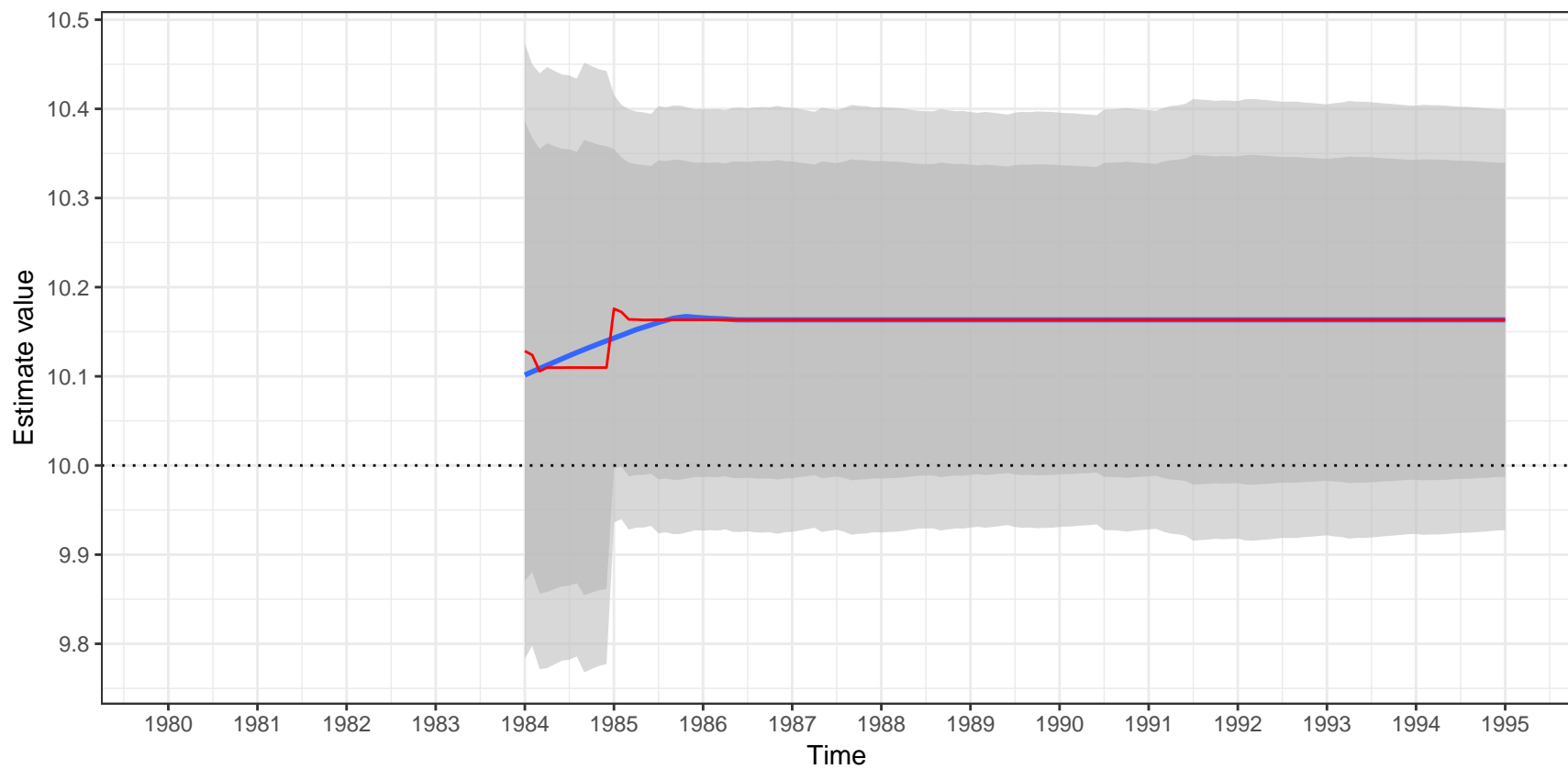


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.3B)a_t$

Estimation of the outlier

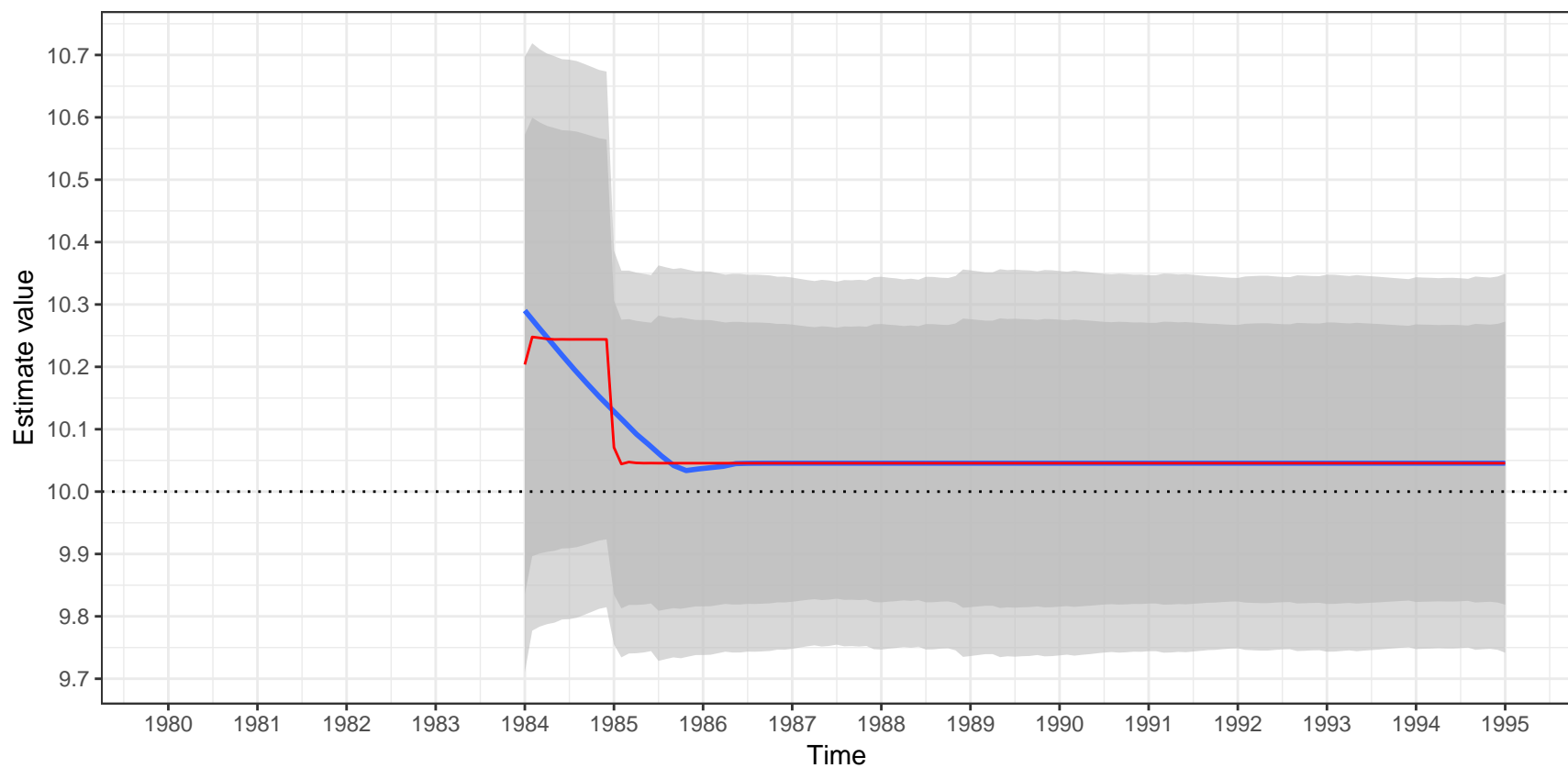


Raw data

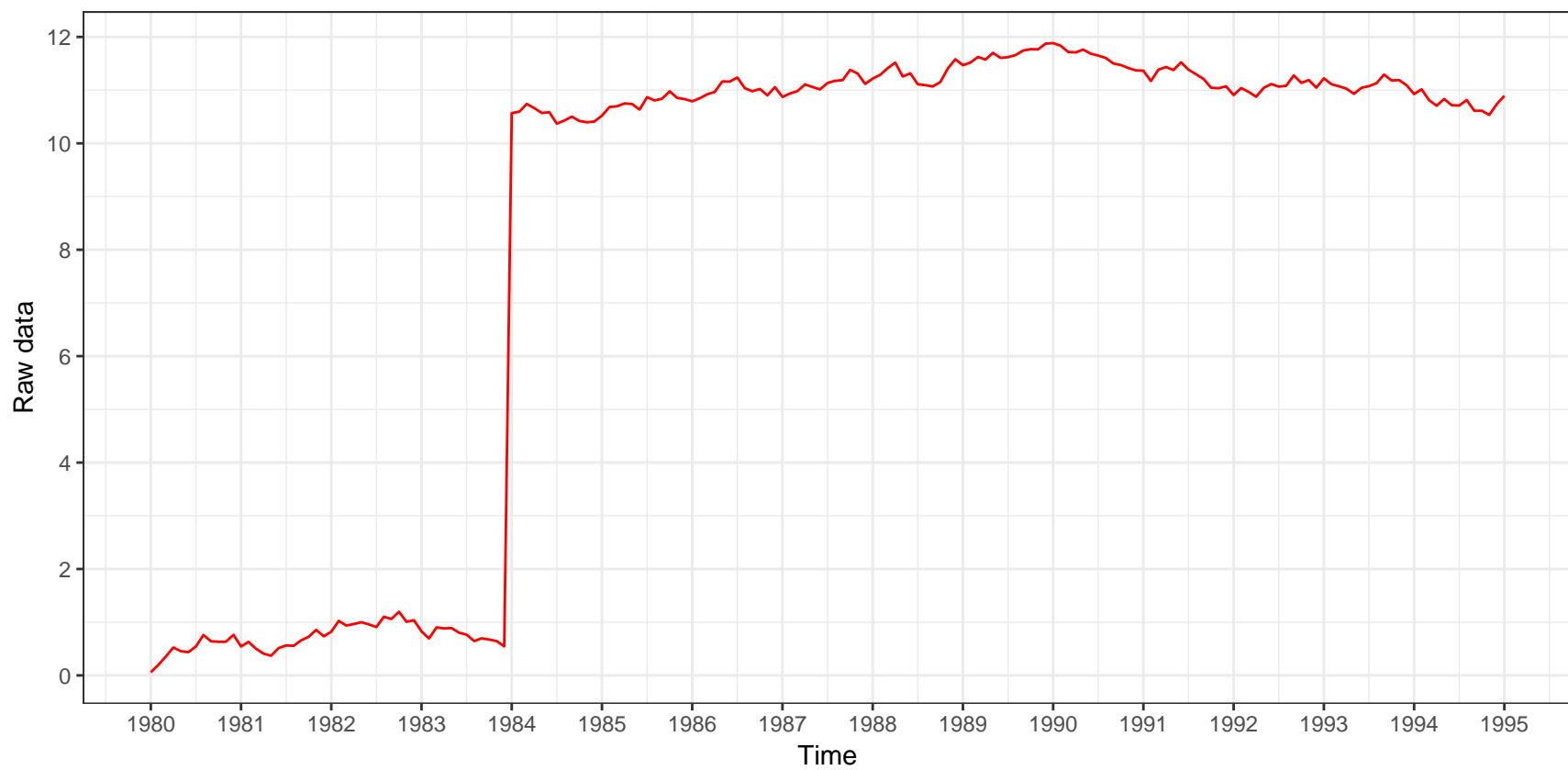


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
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Estimation of the outlier

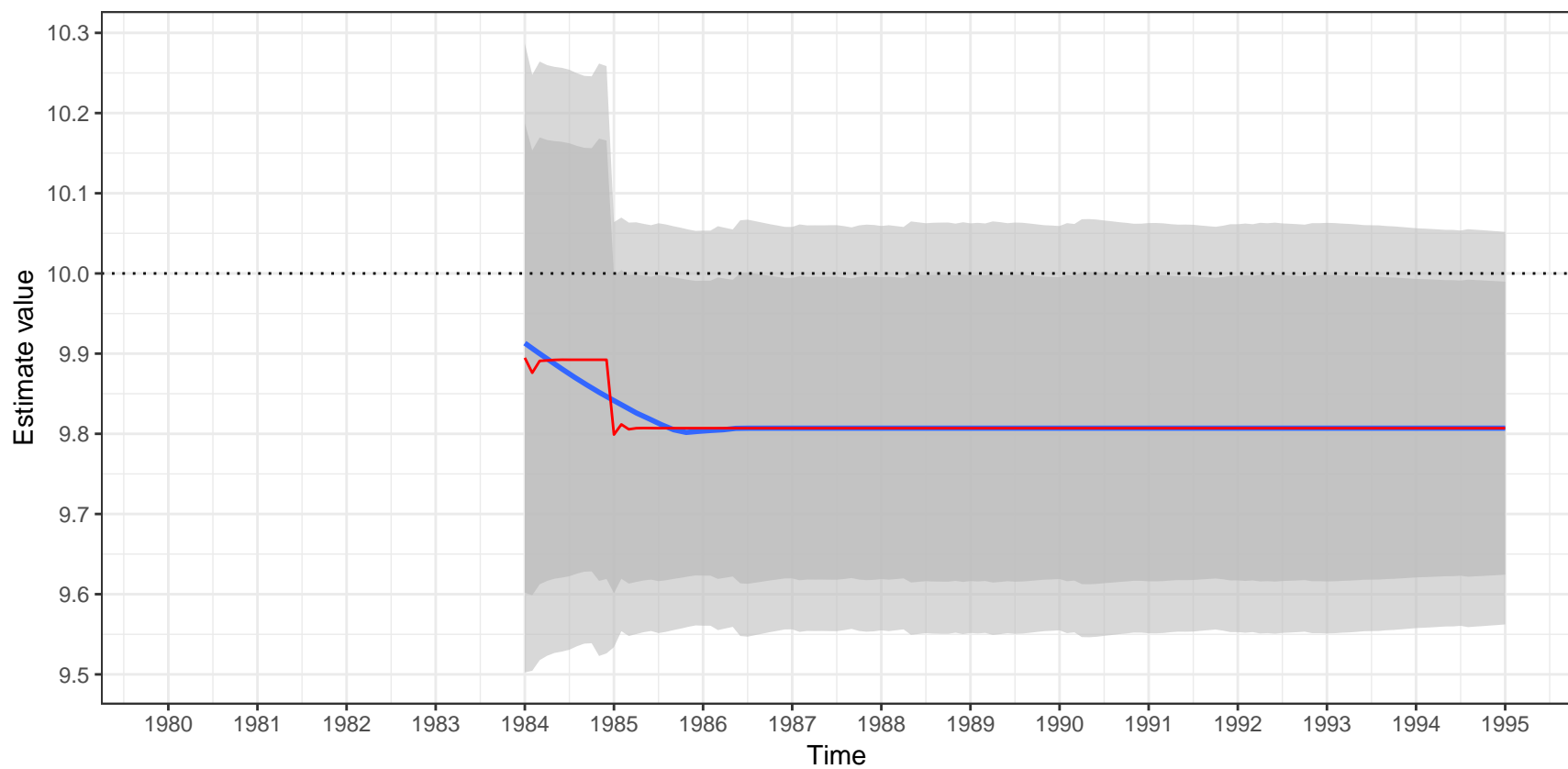


Raw data

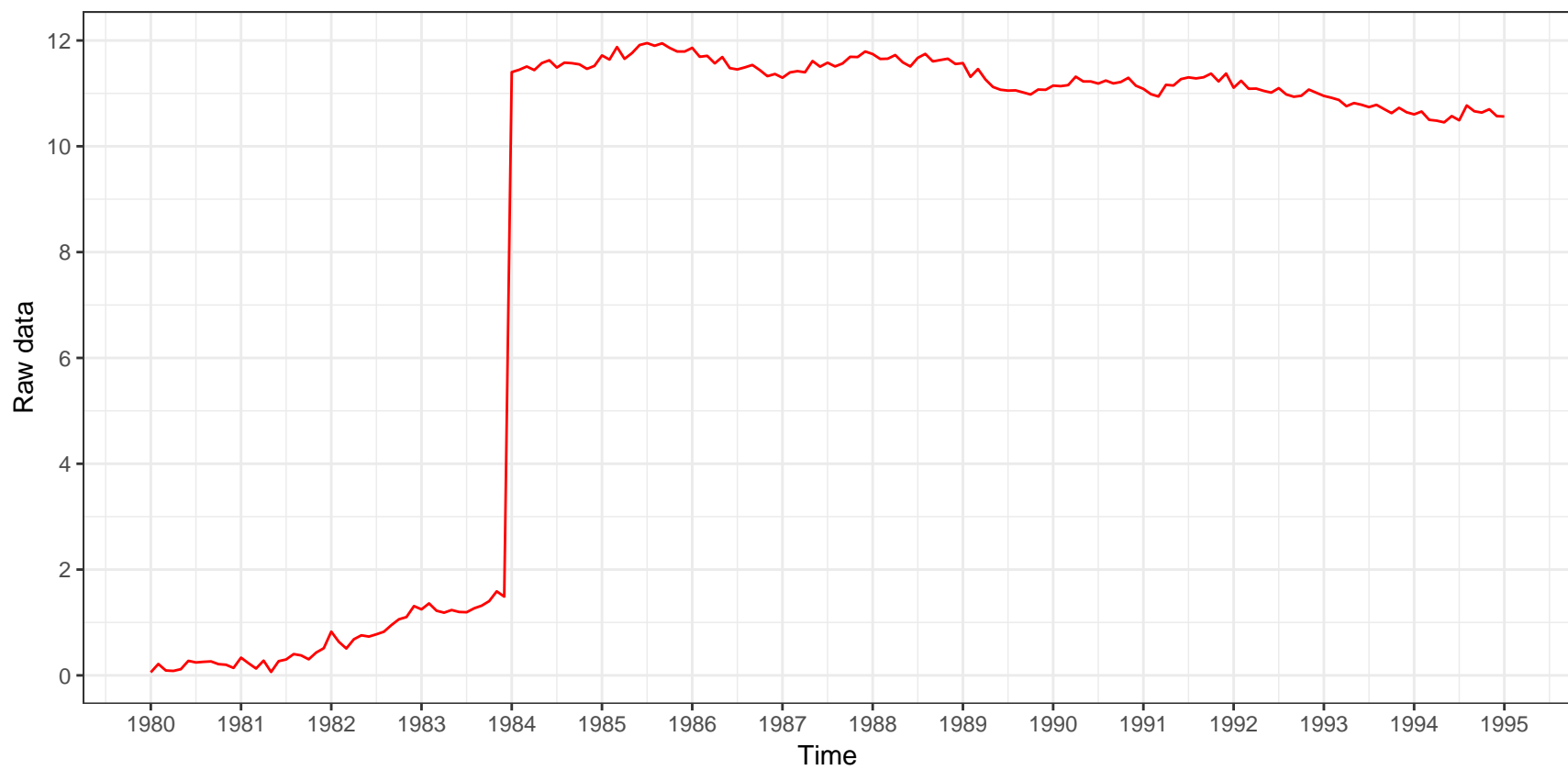


Estimate value of a LS(1984-01)
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 $(1-B)X_t=(1-0.3B)a_t$

Estimation of the outlier

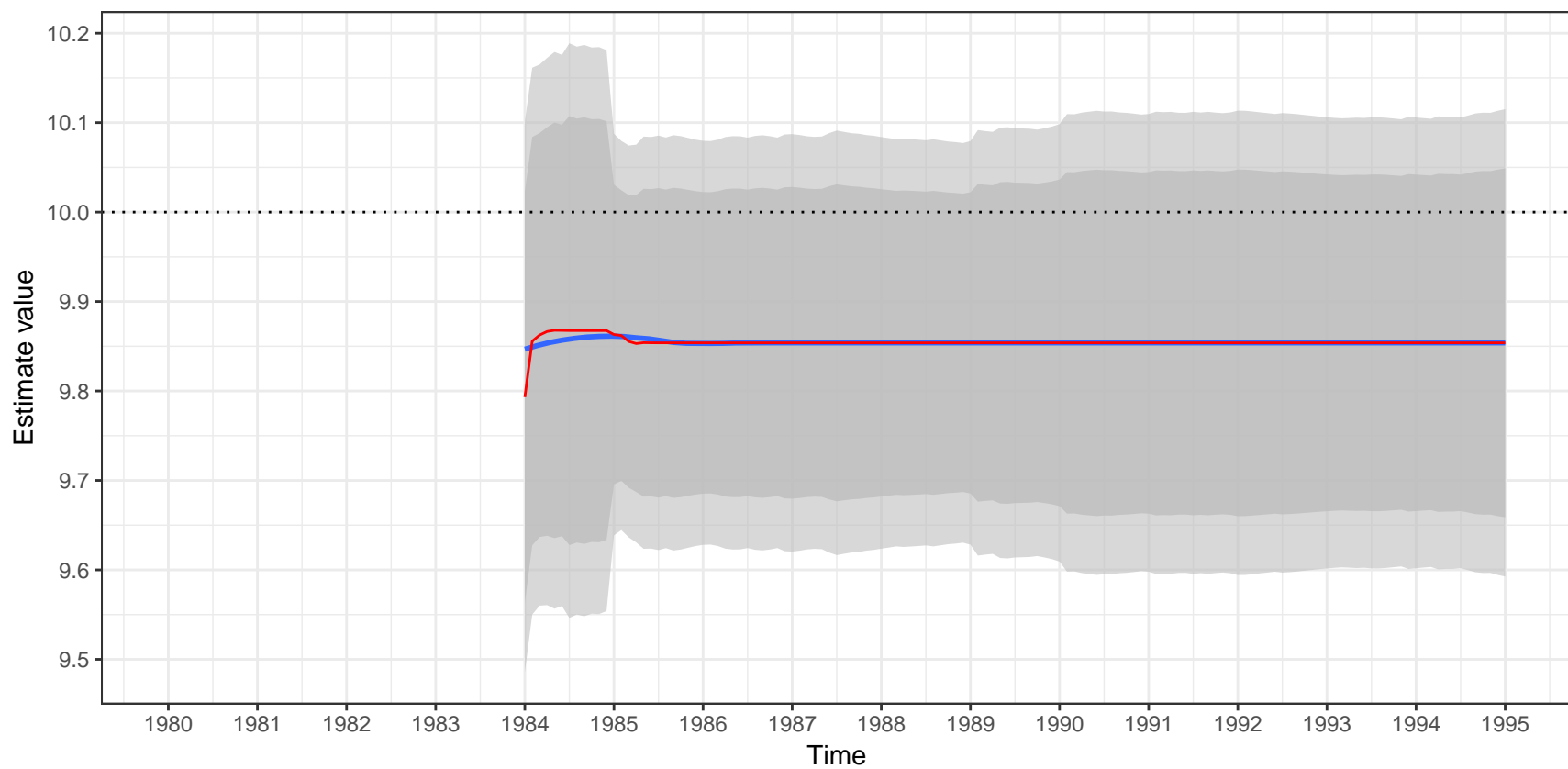


Raw data

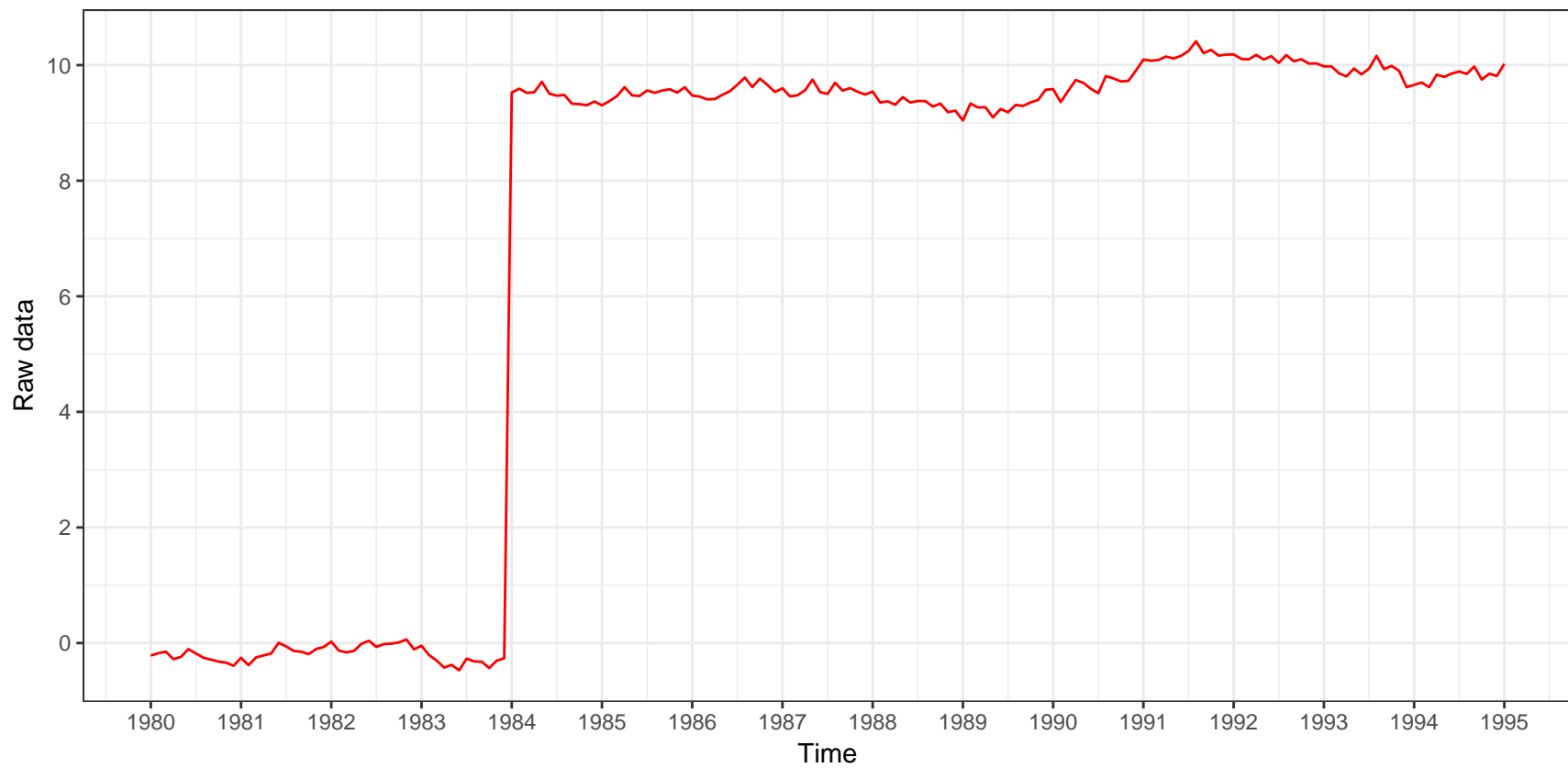


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.3B)a_t$

Estimation of the outlier

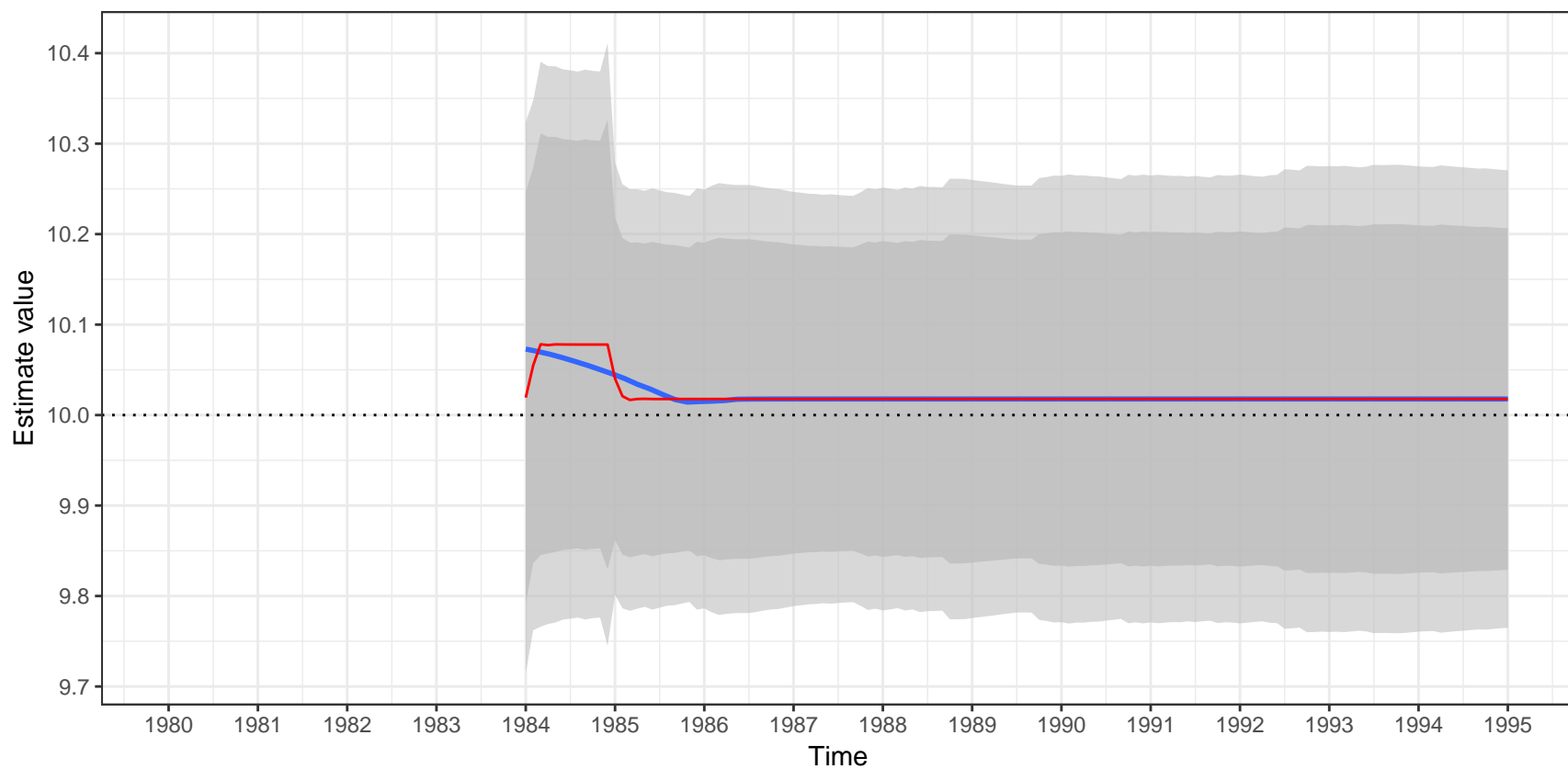


Raw data

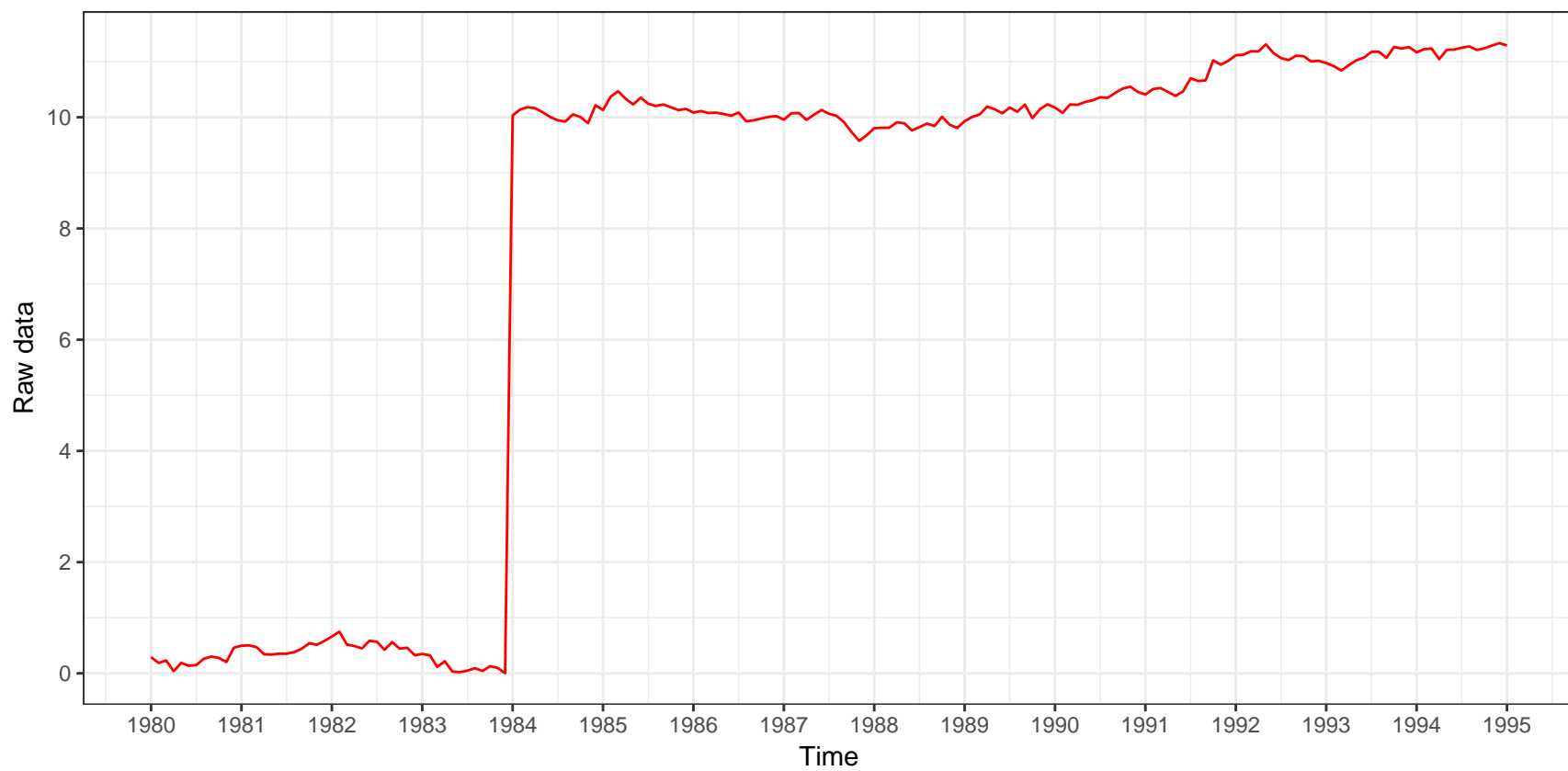


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
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Estimation of the outlier

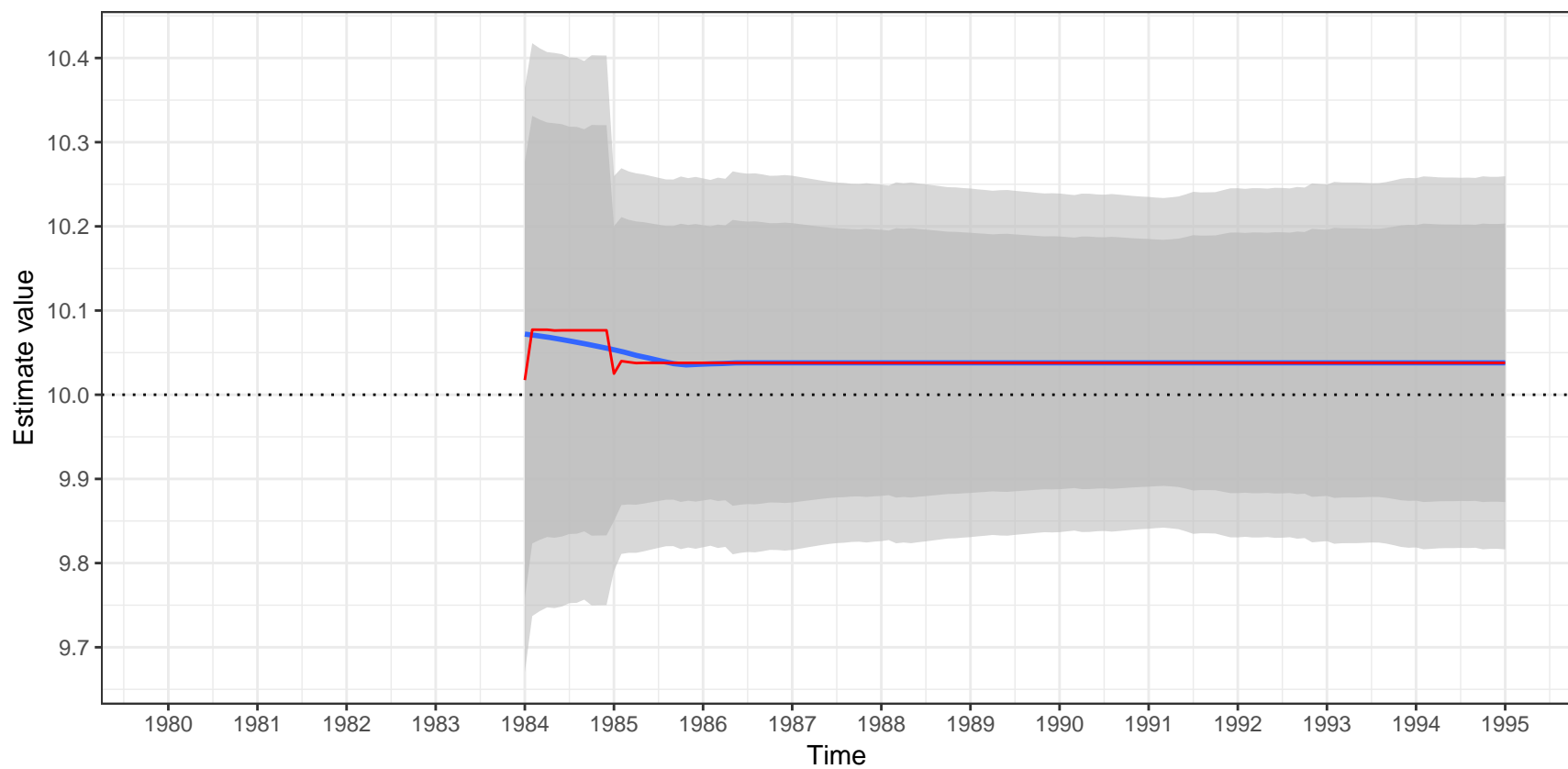


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
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Estimation of the outlier

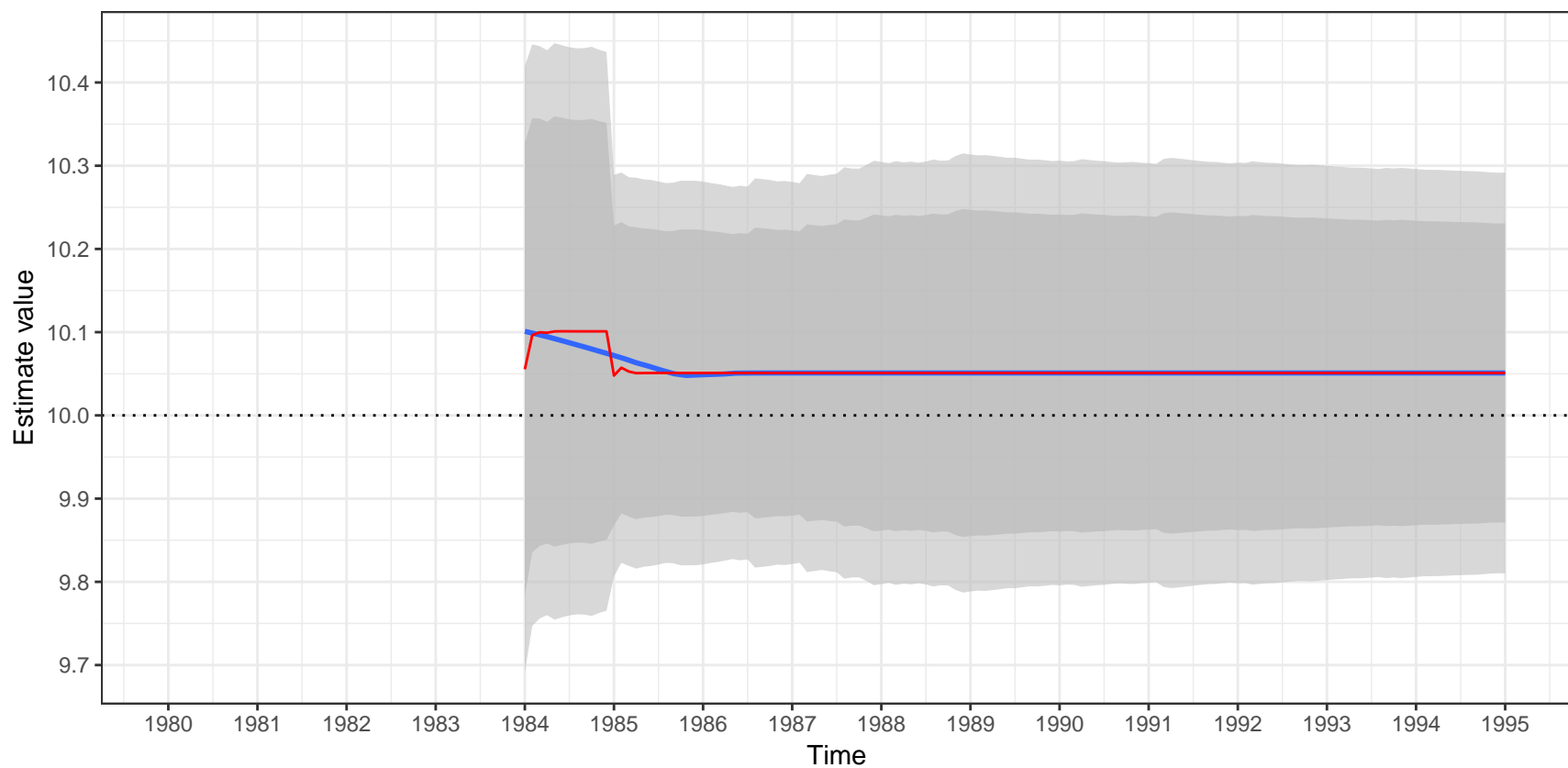


Raw data

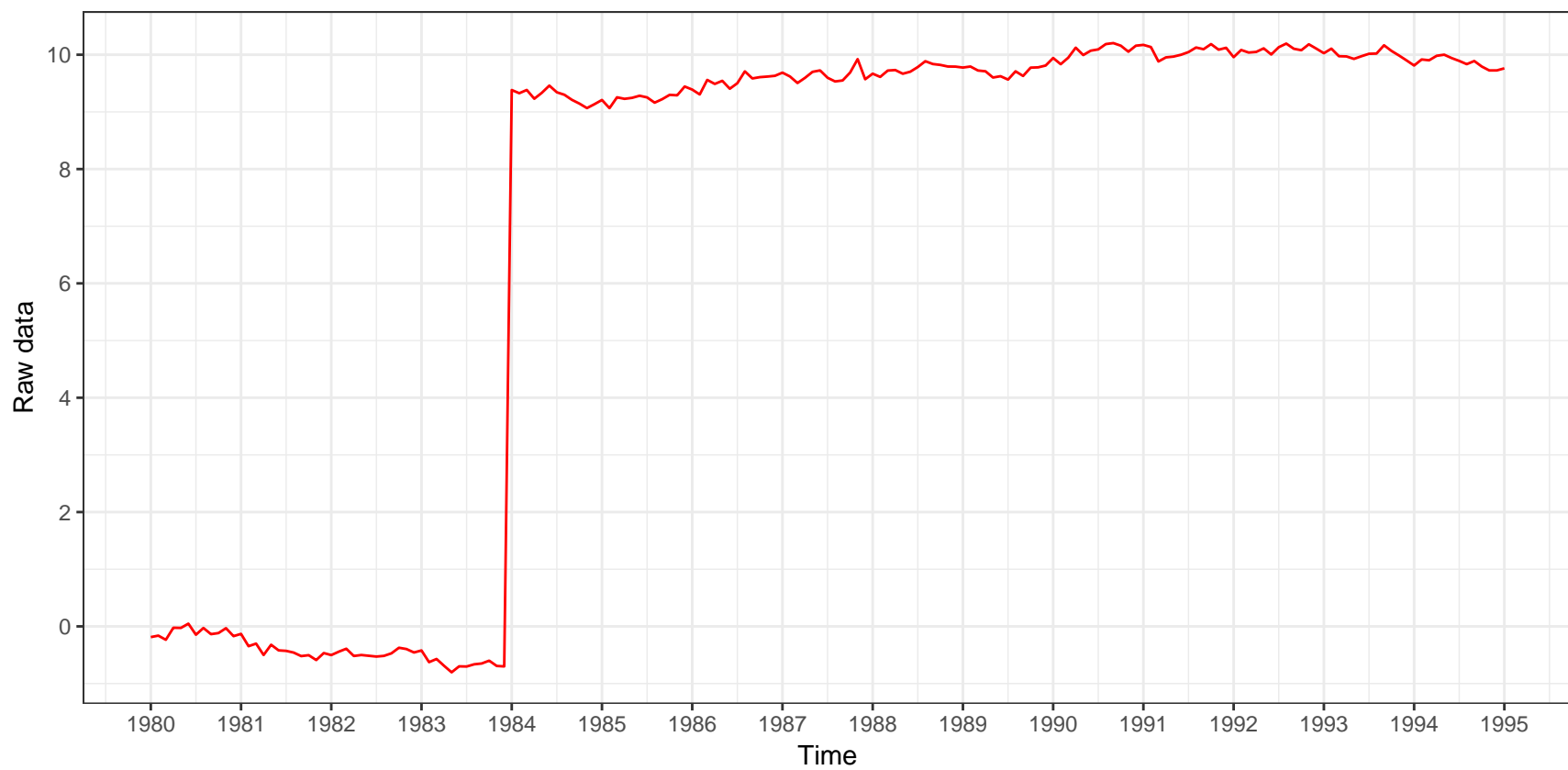


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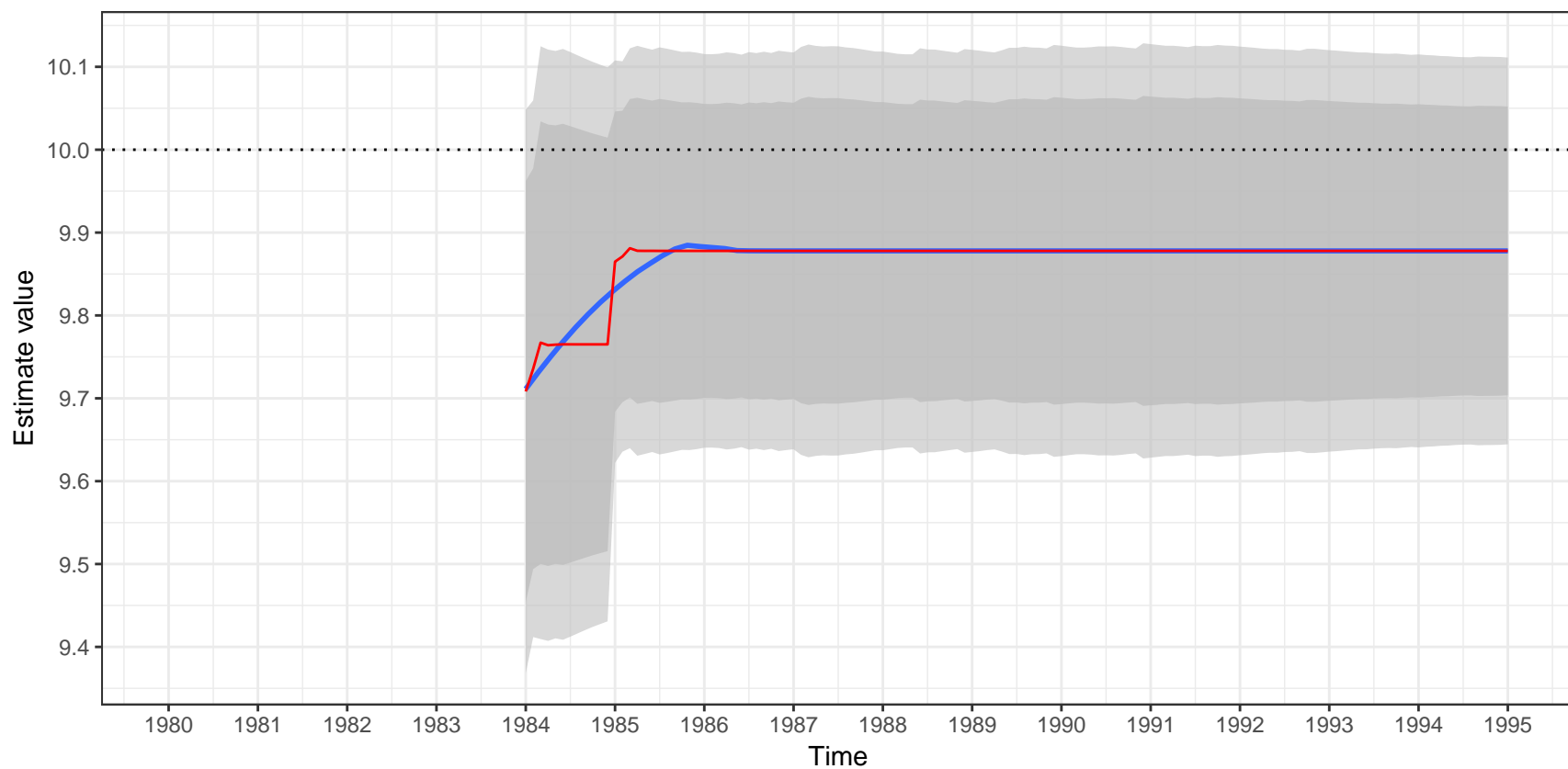


Raw data

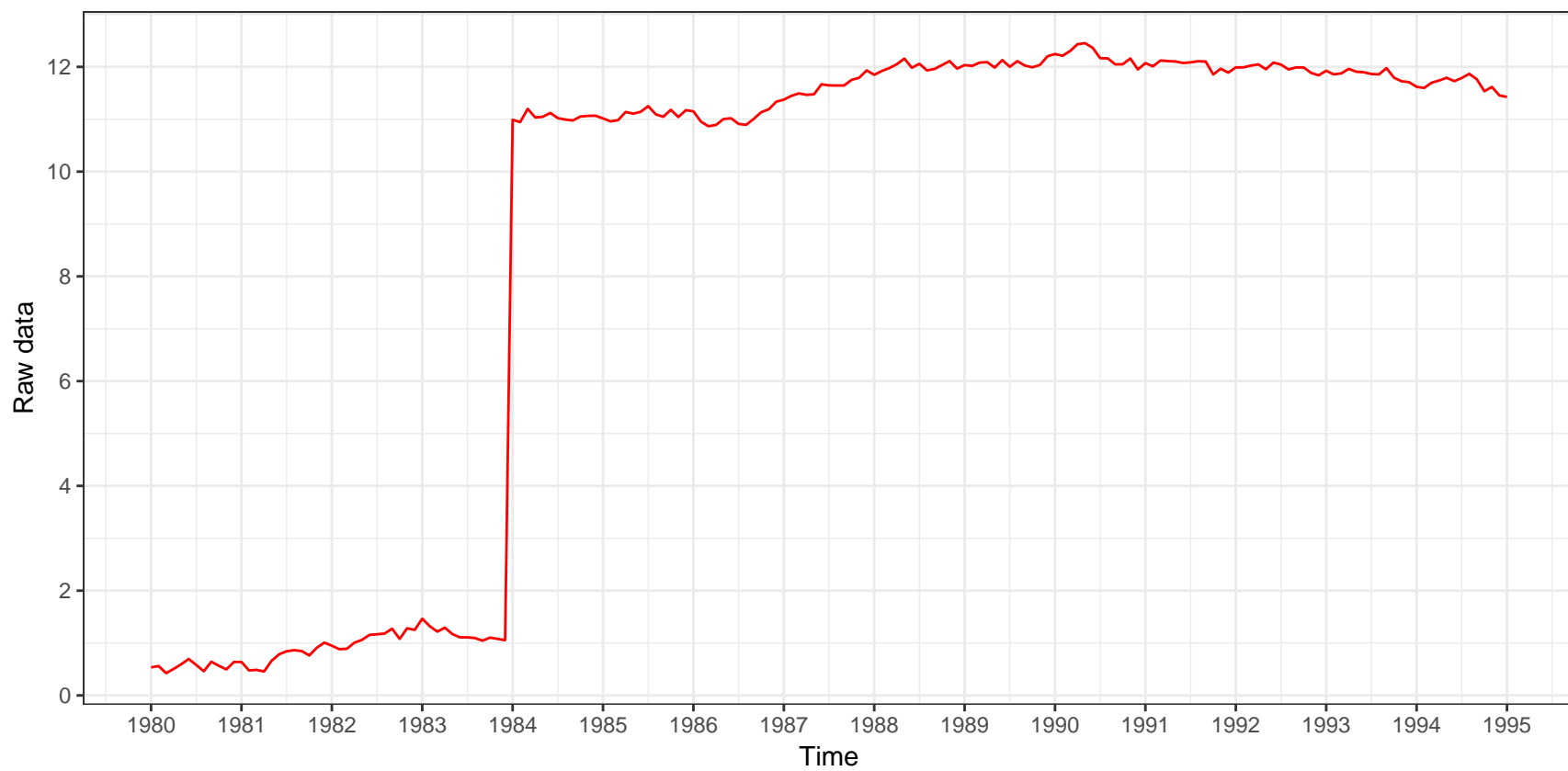


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.3B)a_t$

Estimation of the outlier

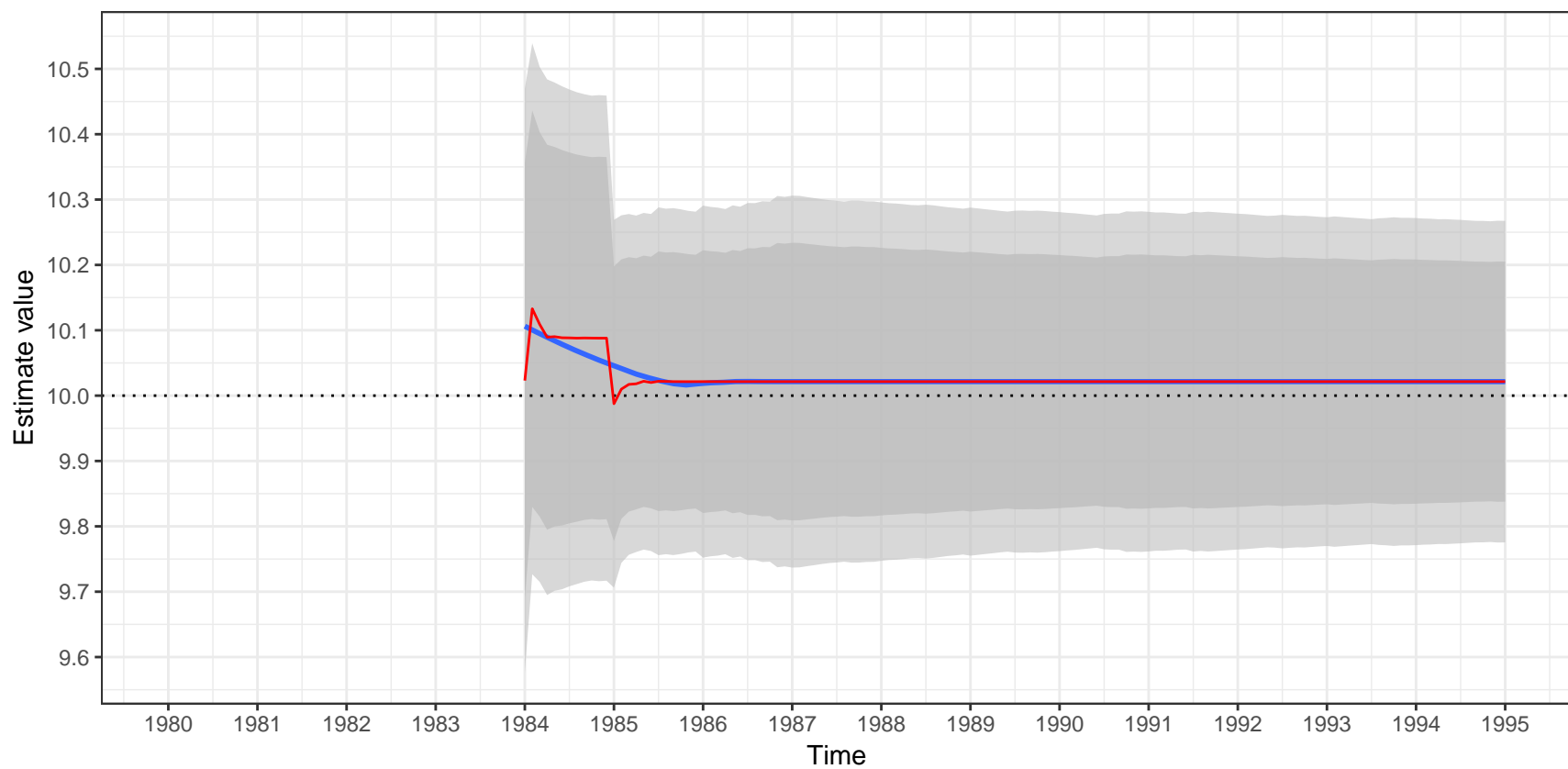


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.5B)a_t$

Estimation of the outlier

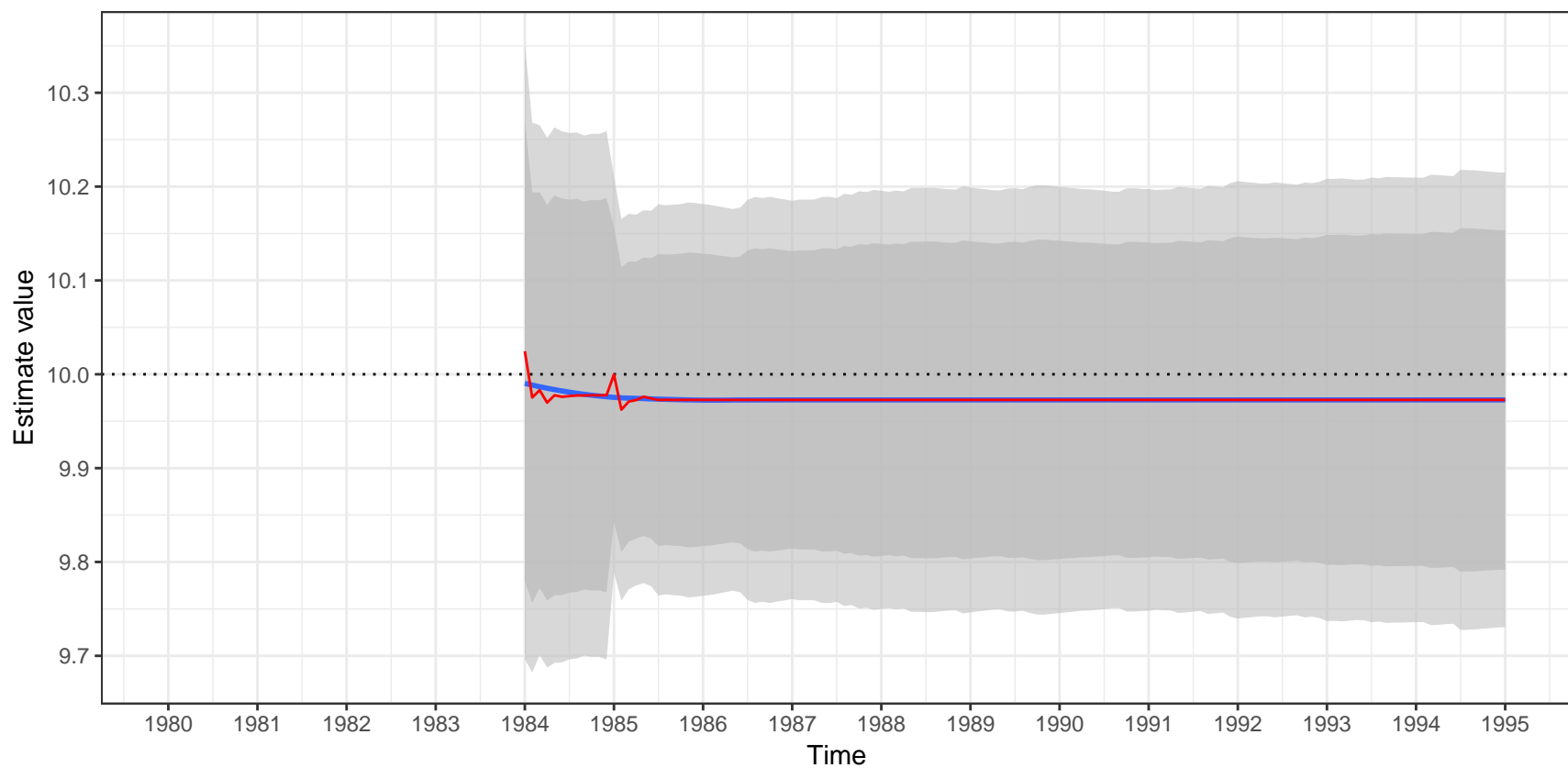


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.5B)a_t$

Estimation of the outlier

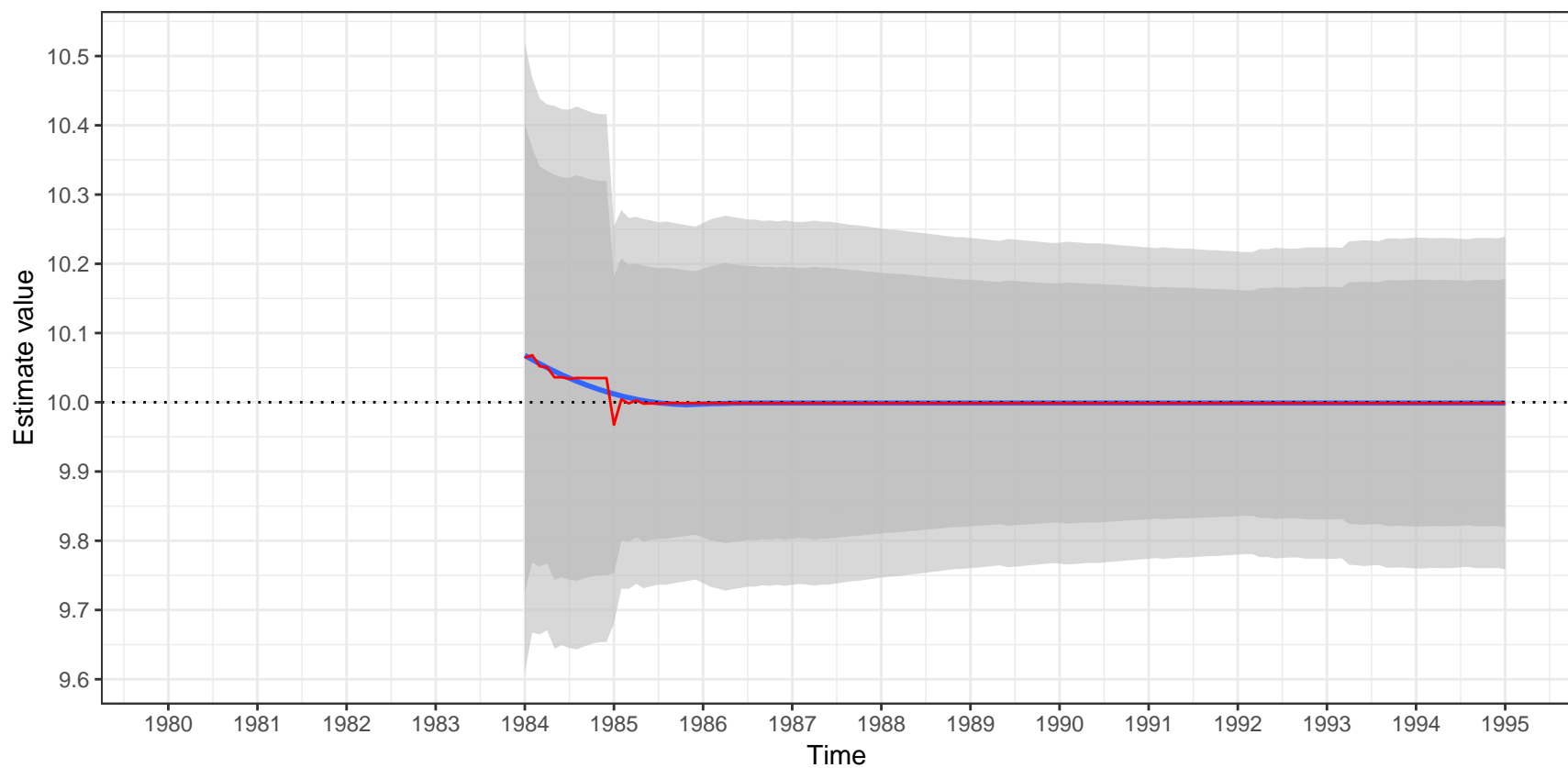


Raw data

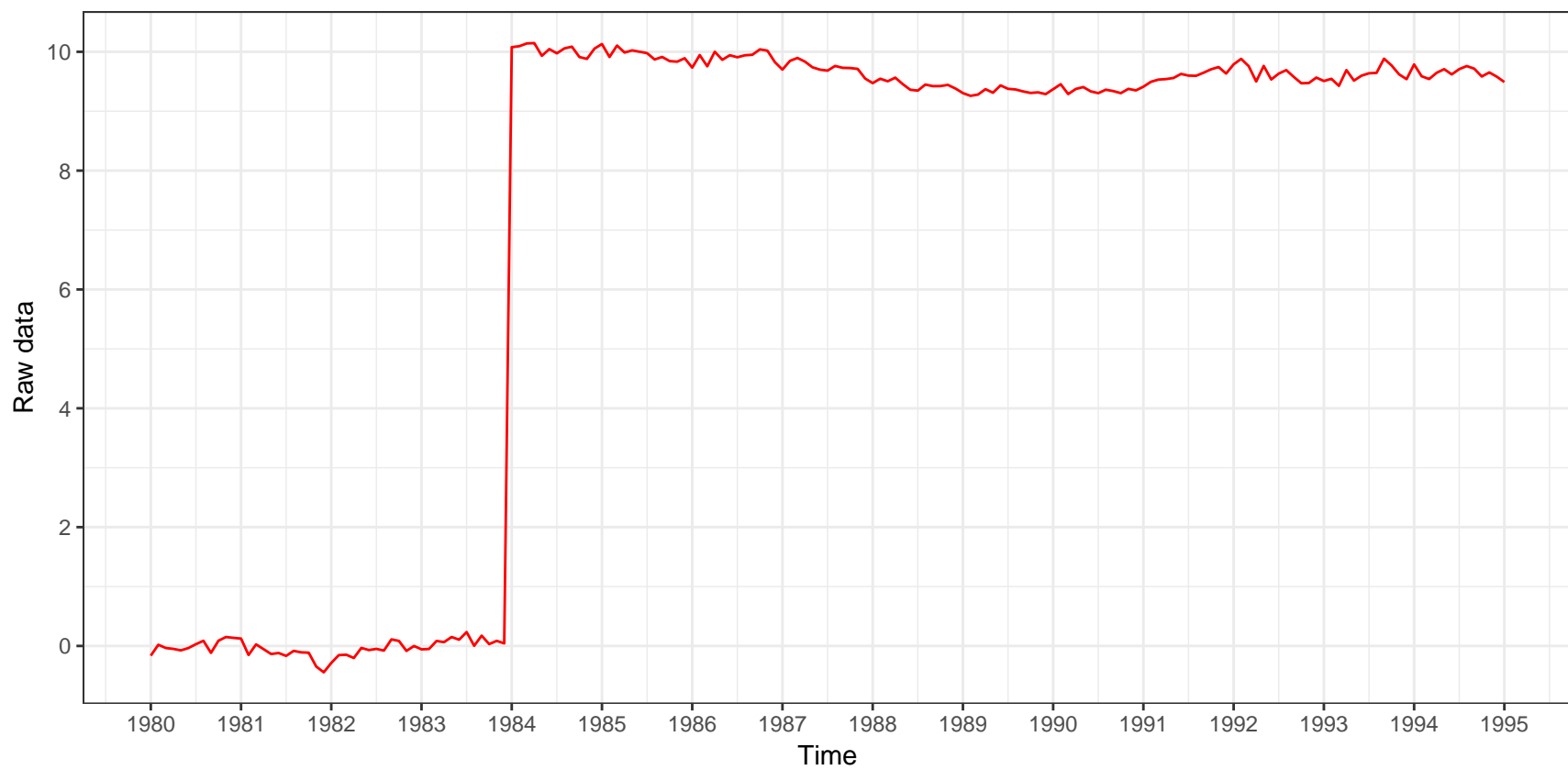


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.5B)a_t$

Estimation of the outlier

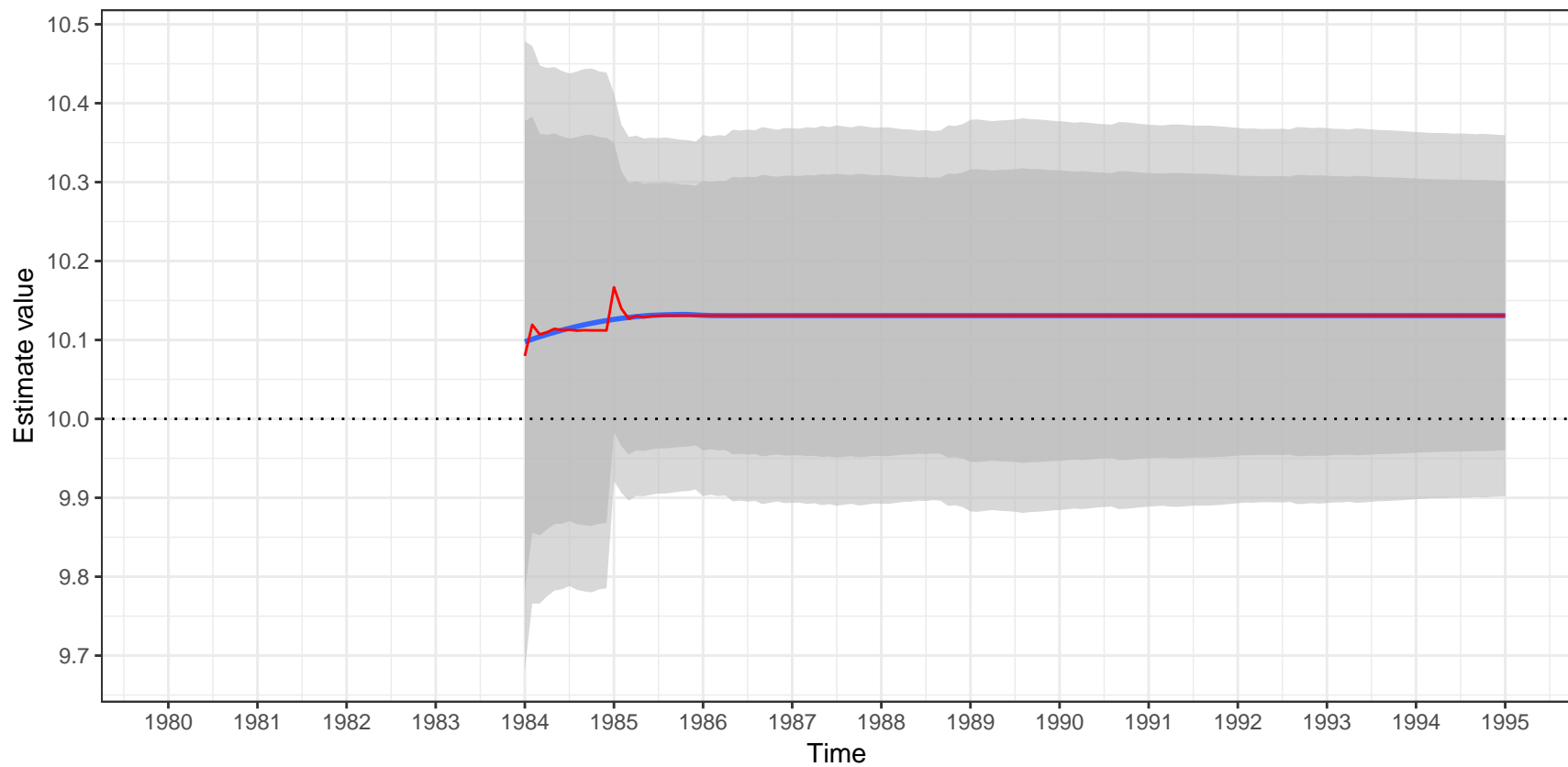


Raw data



Estimate value of a LS(1984-01)
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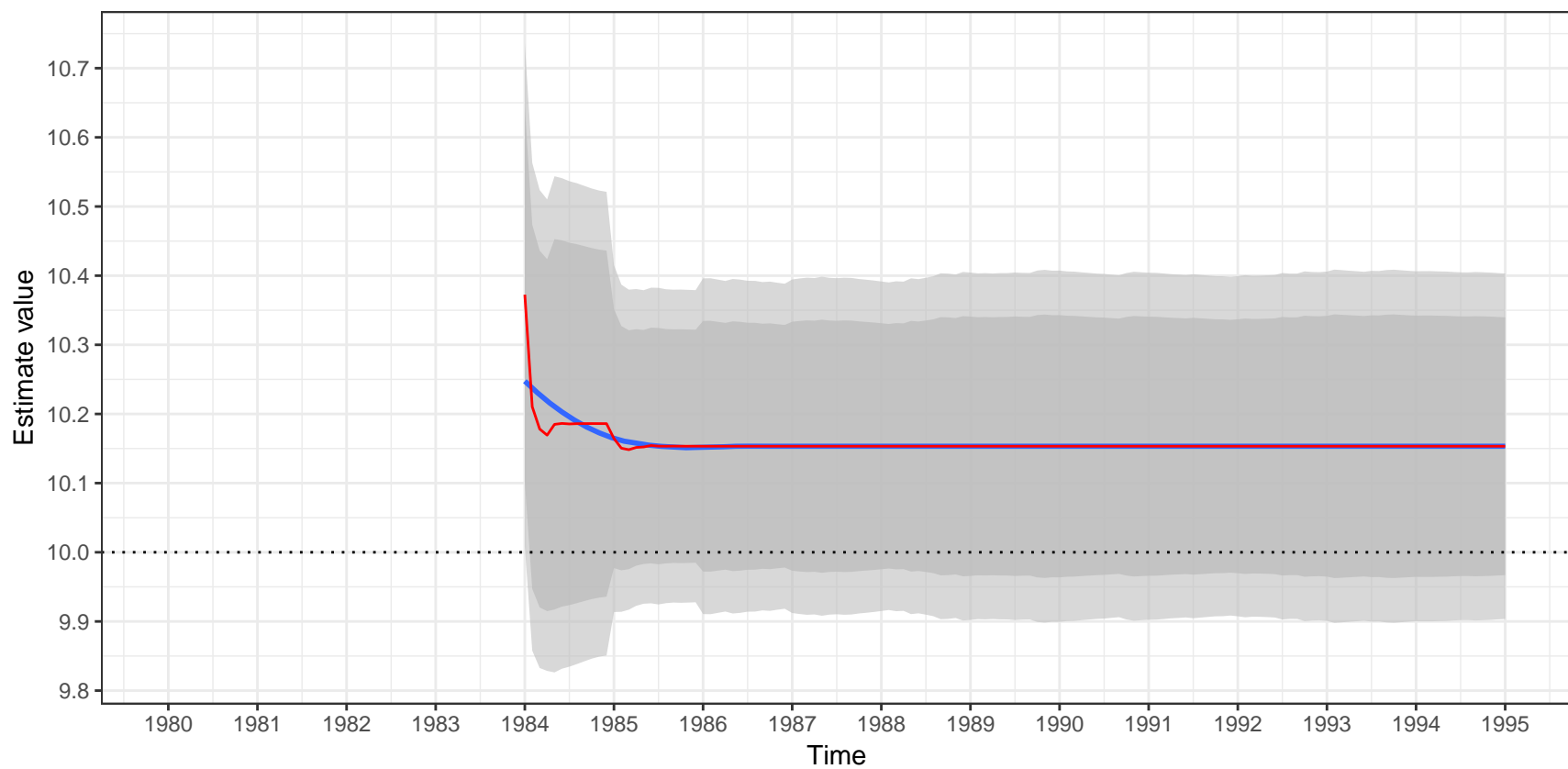


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
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Estimation of the outlier

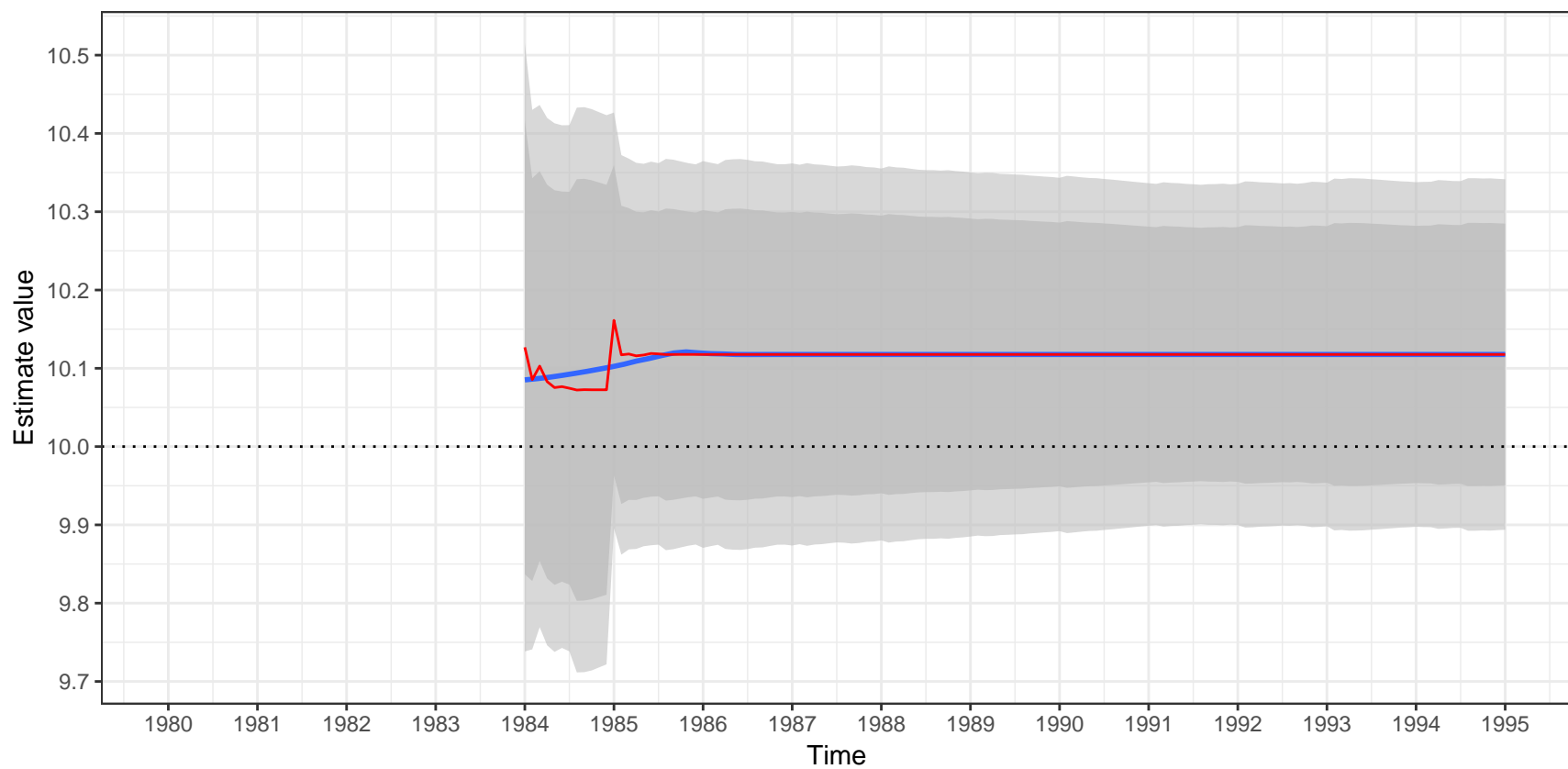


Raw data



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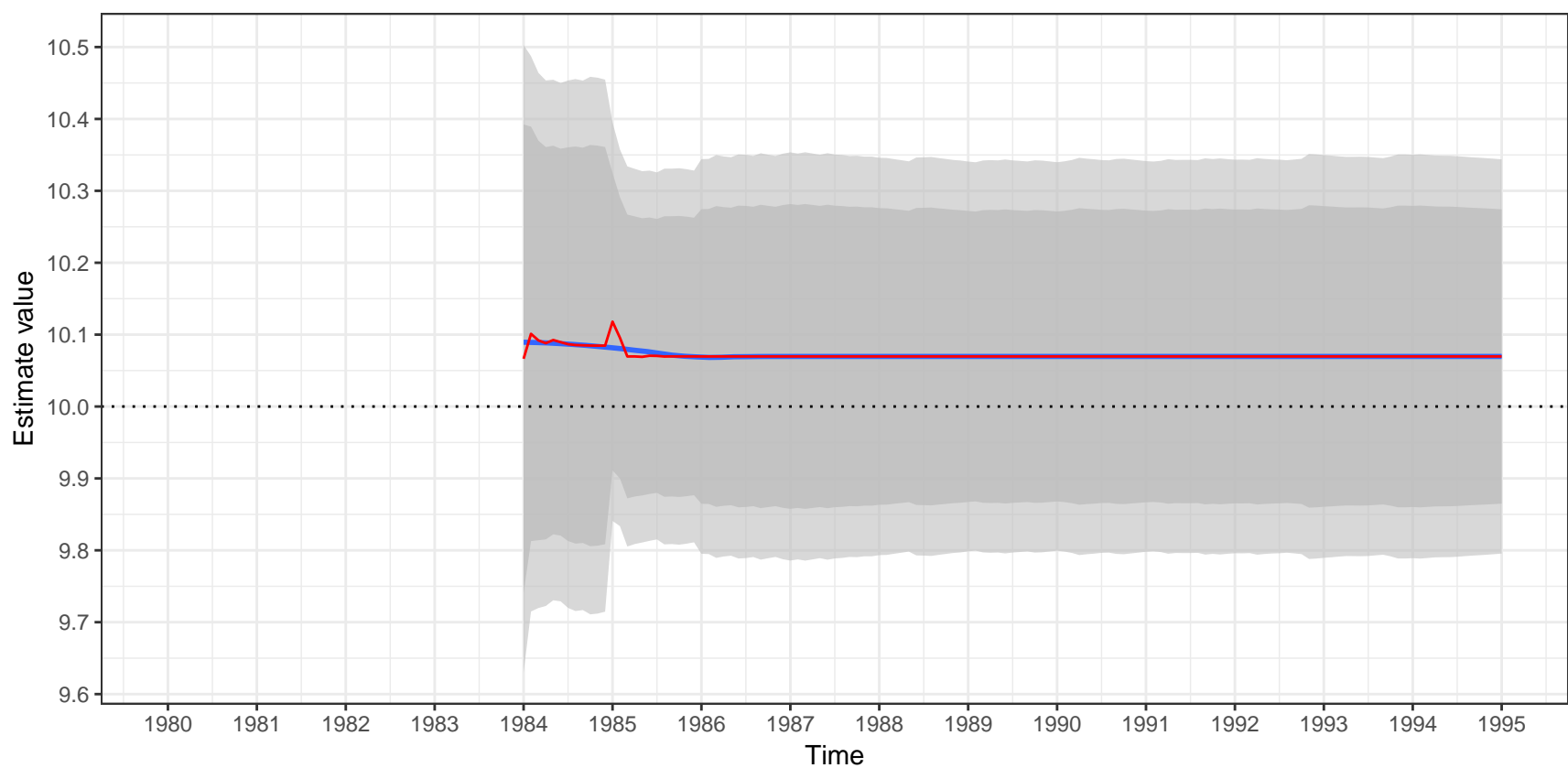


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.5B)a_t$

Estimation of the outlier

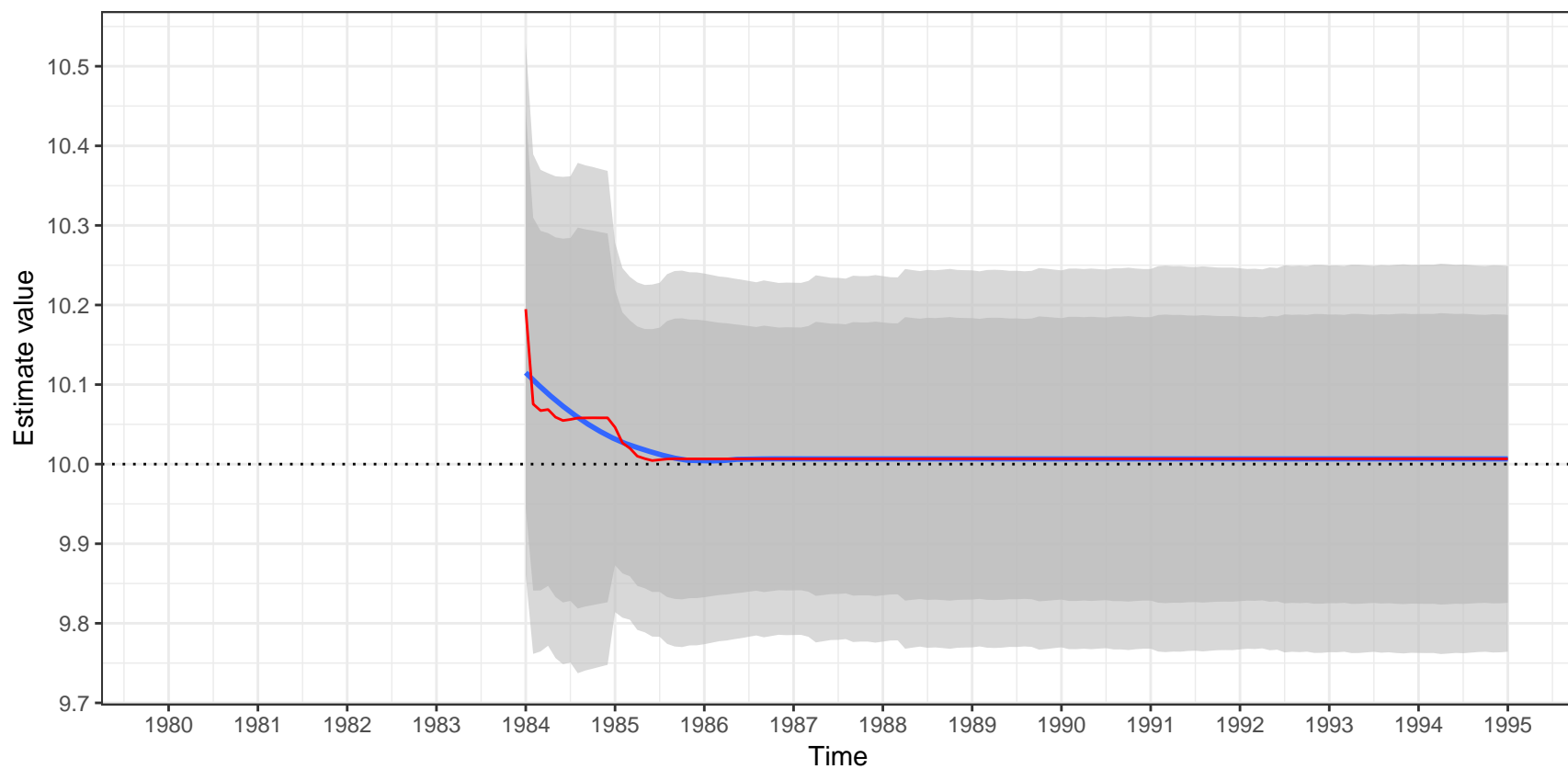


Raw data

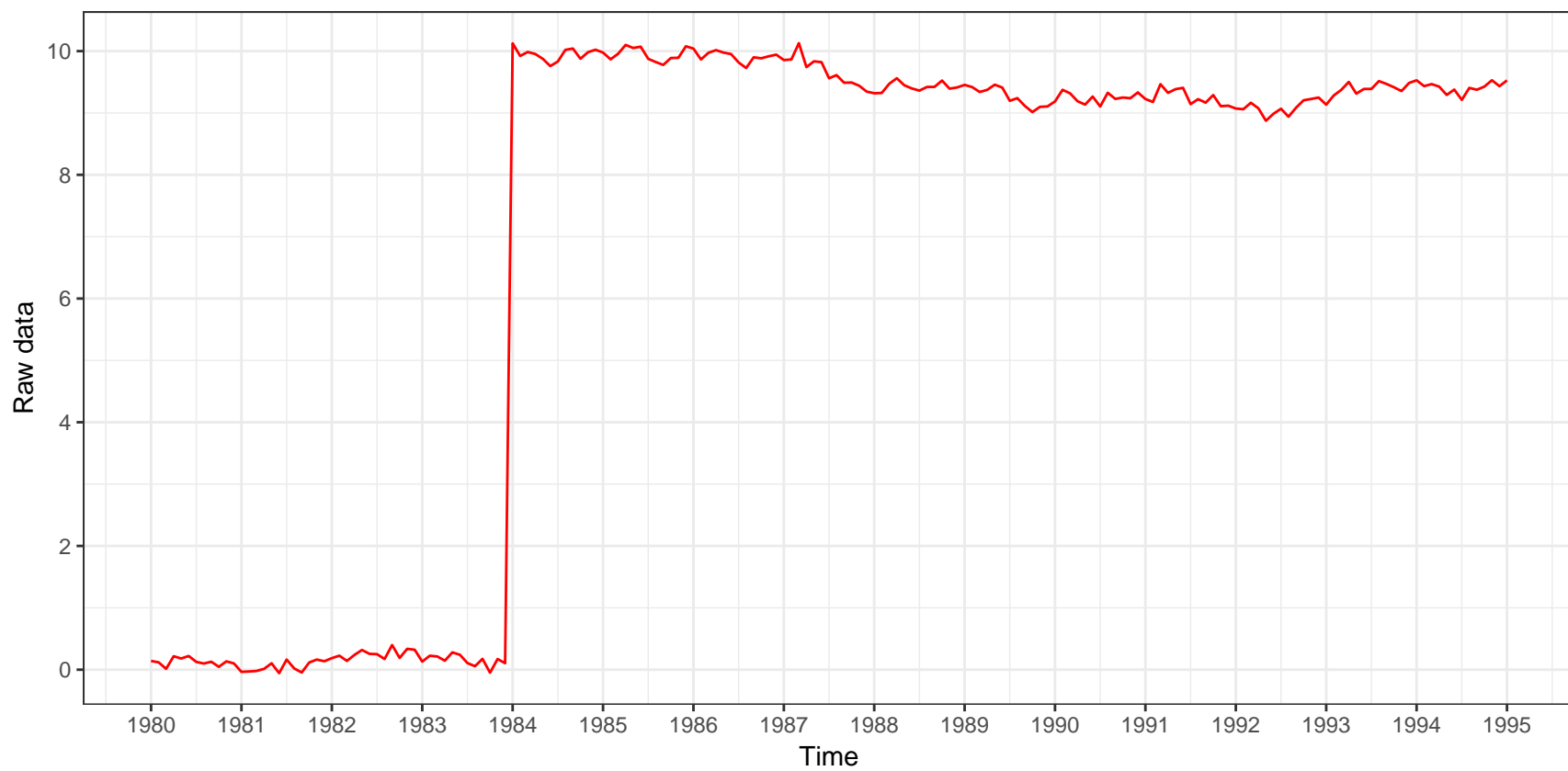


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.5B)a_t$

Estimation of the outlier

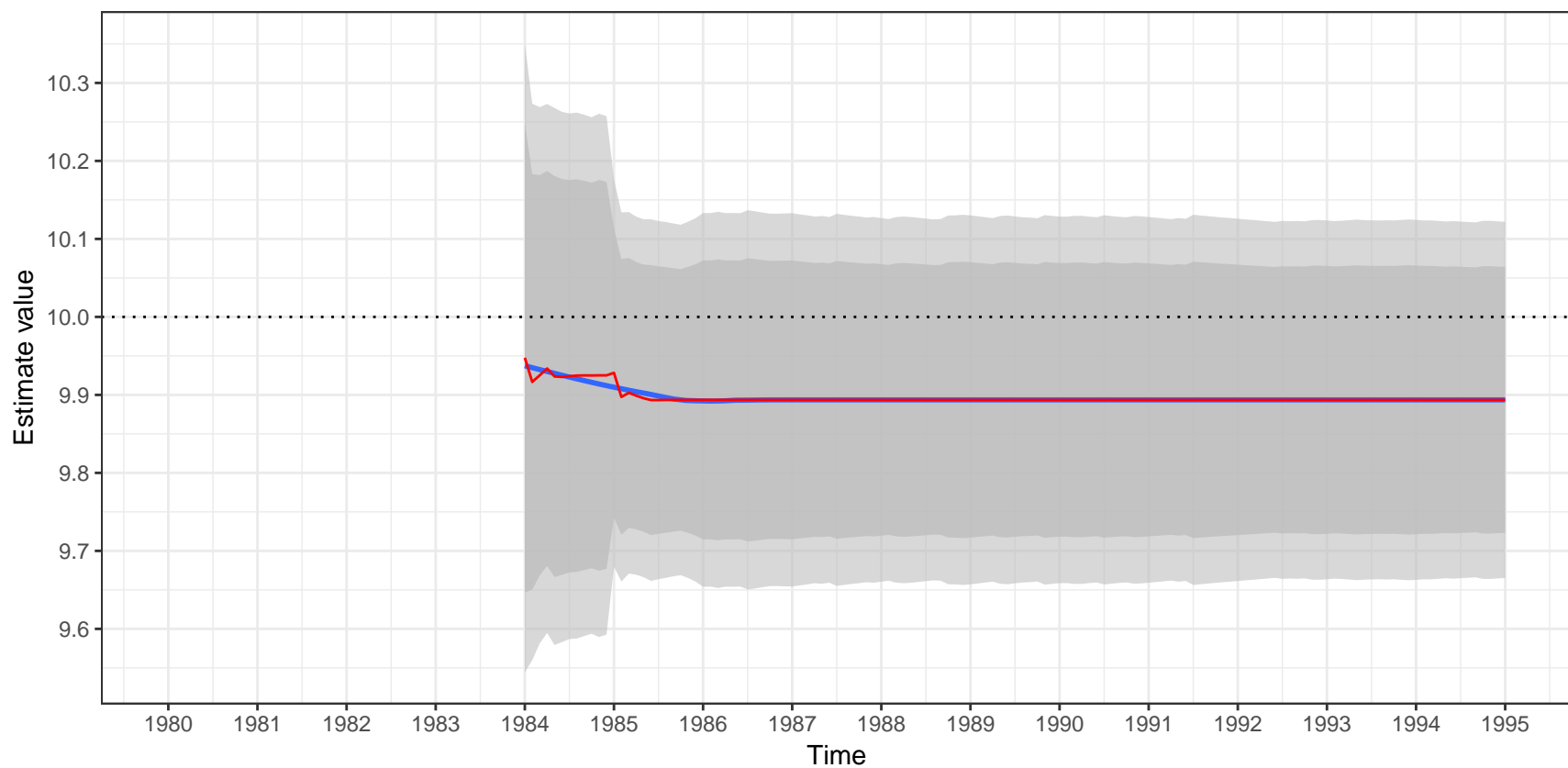


Raw data

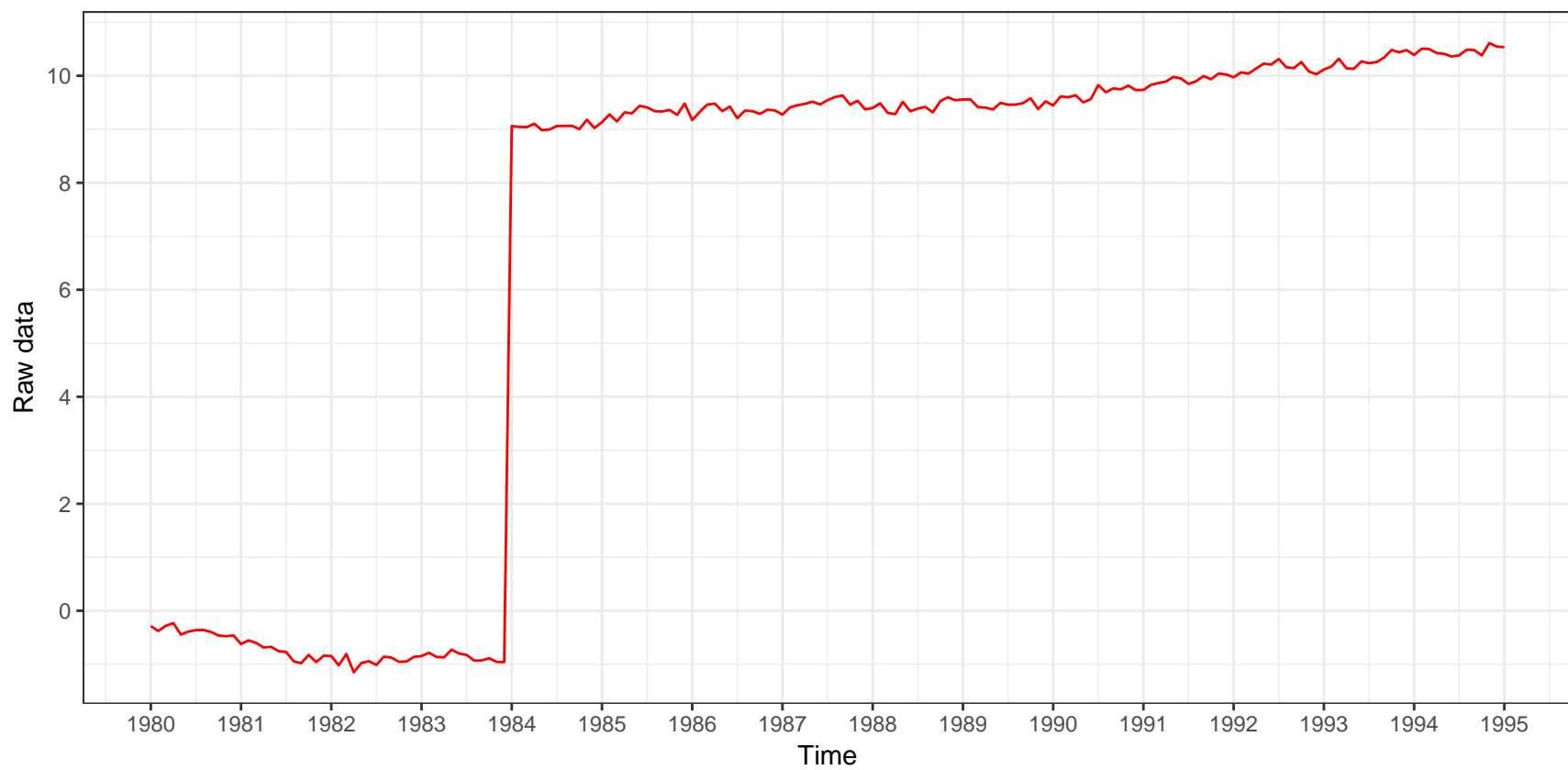


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Estimation of the outlier

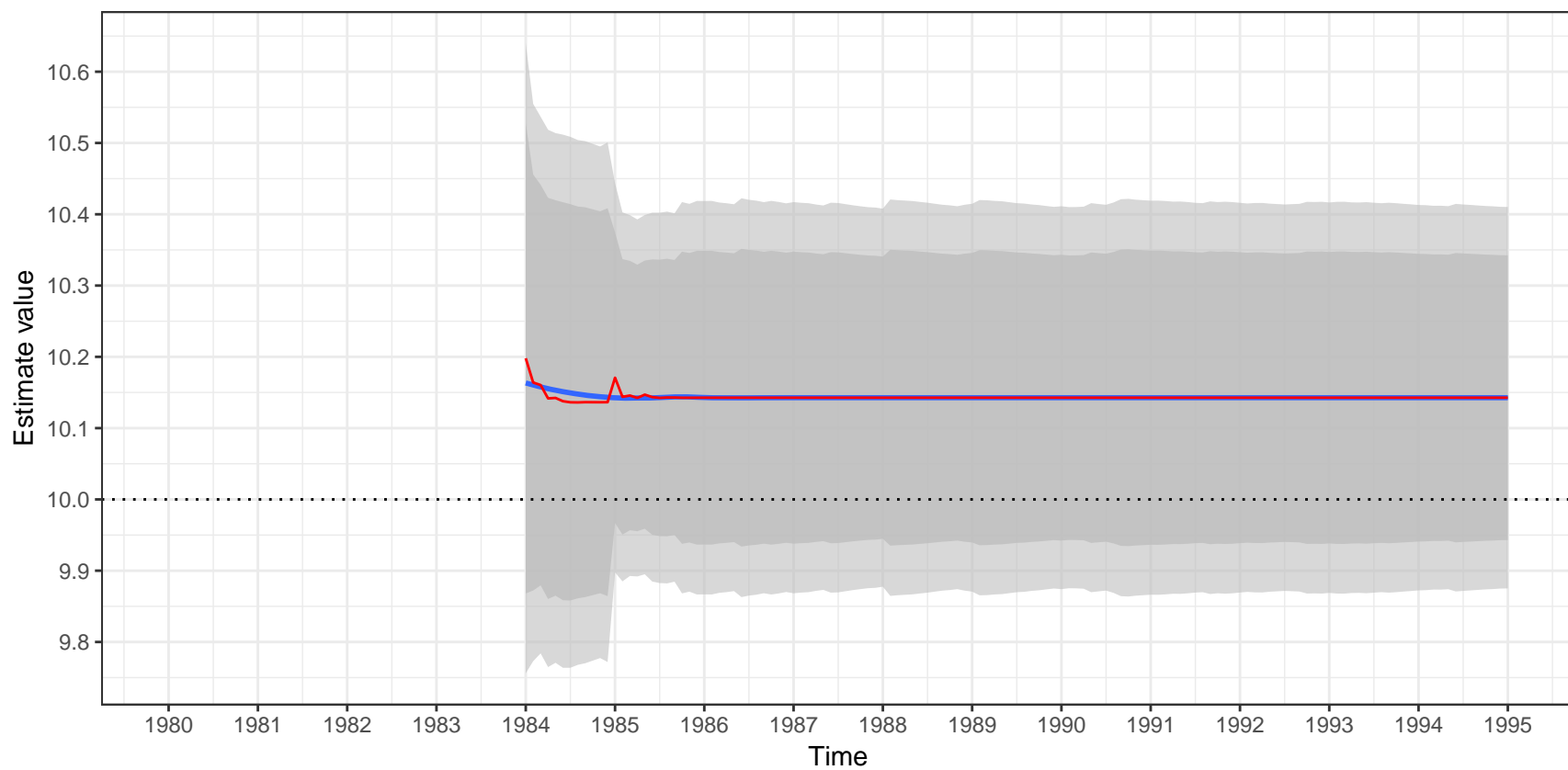


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.5B)a_t$

Estimation of the outlier

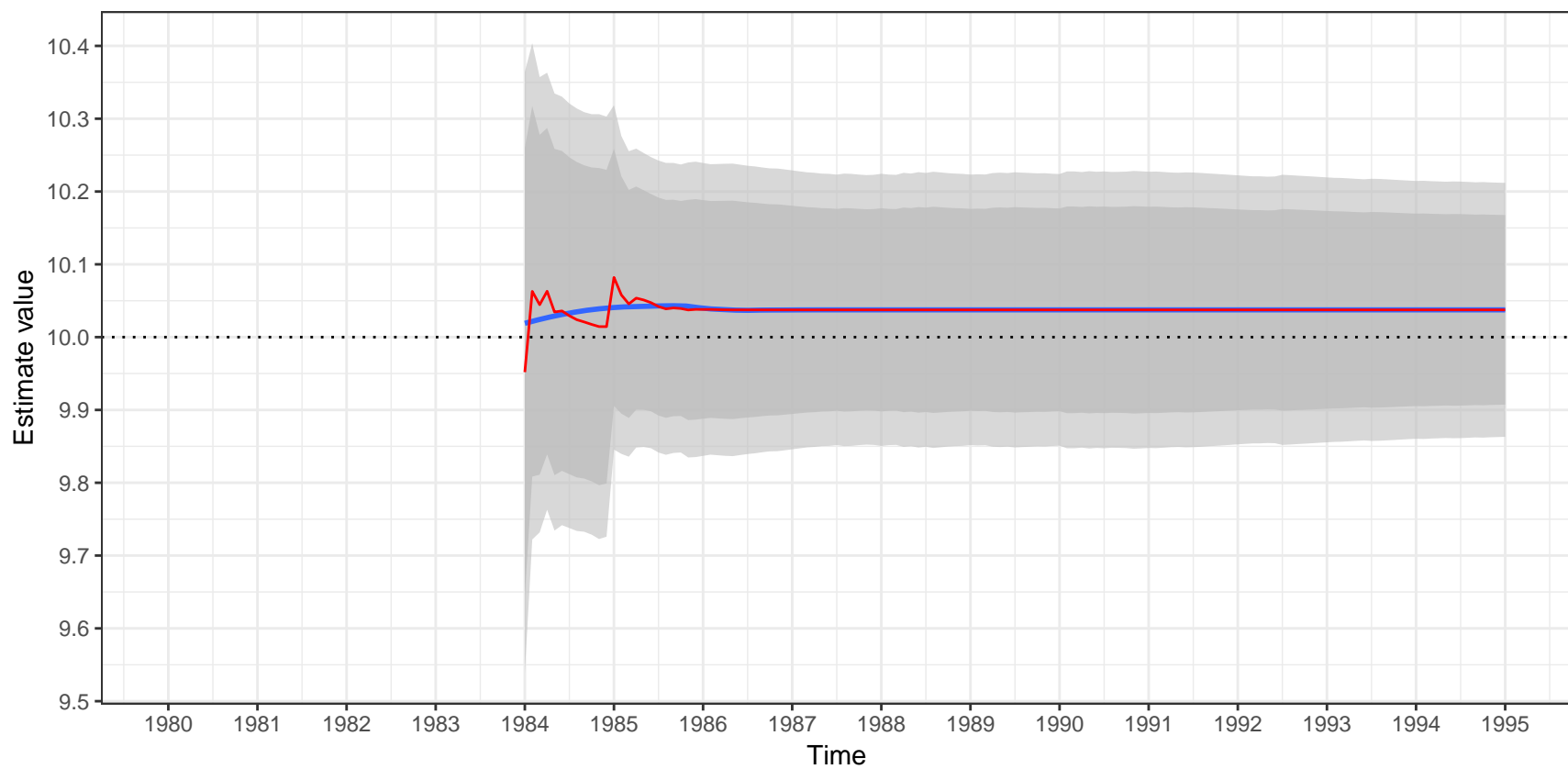


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

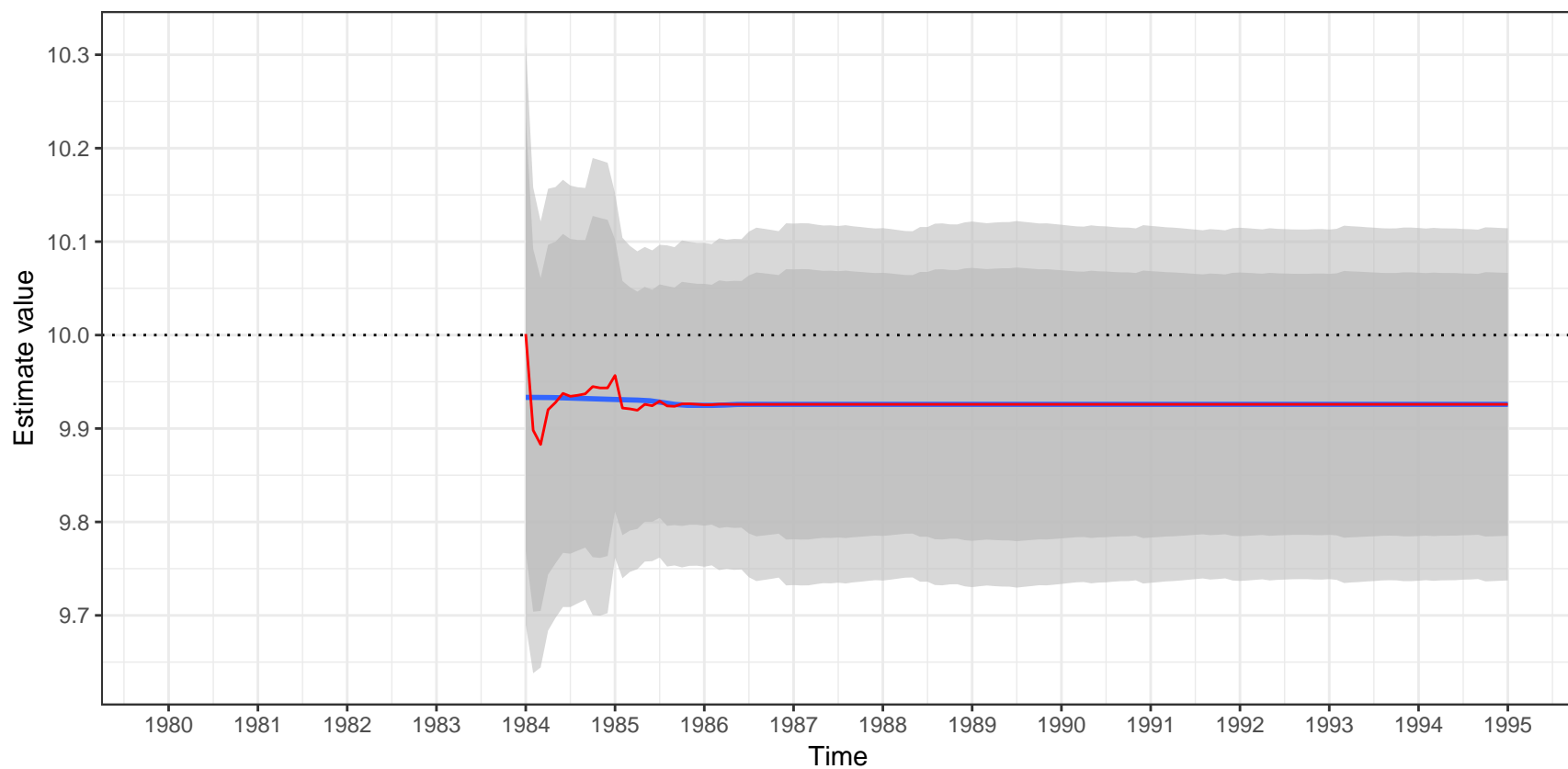


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t = (1-0.7B)a_t$

Estimation of the outlier

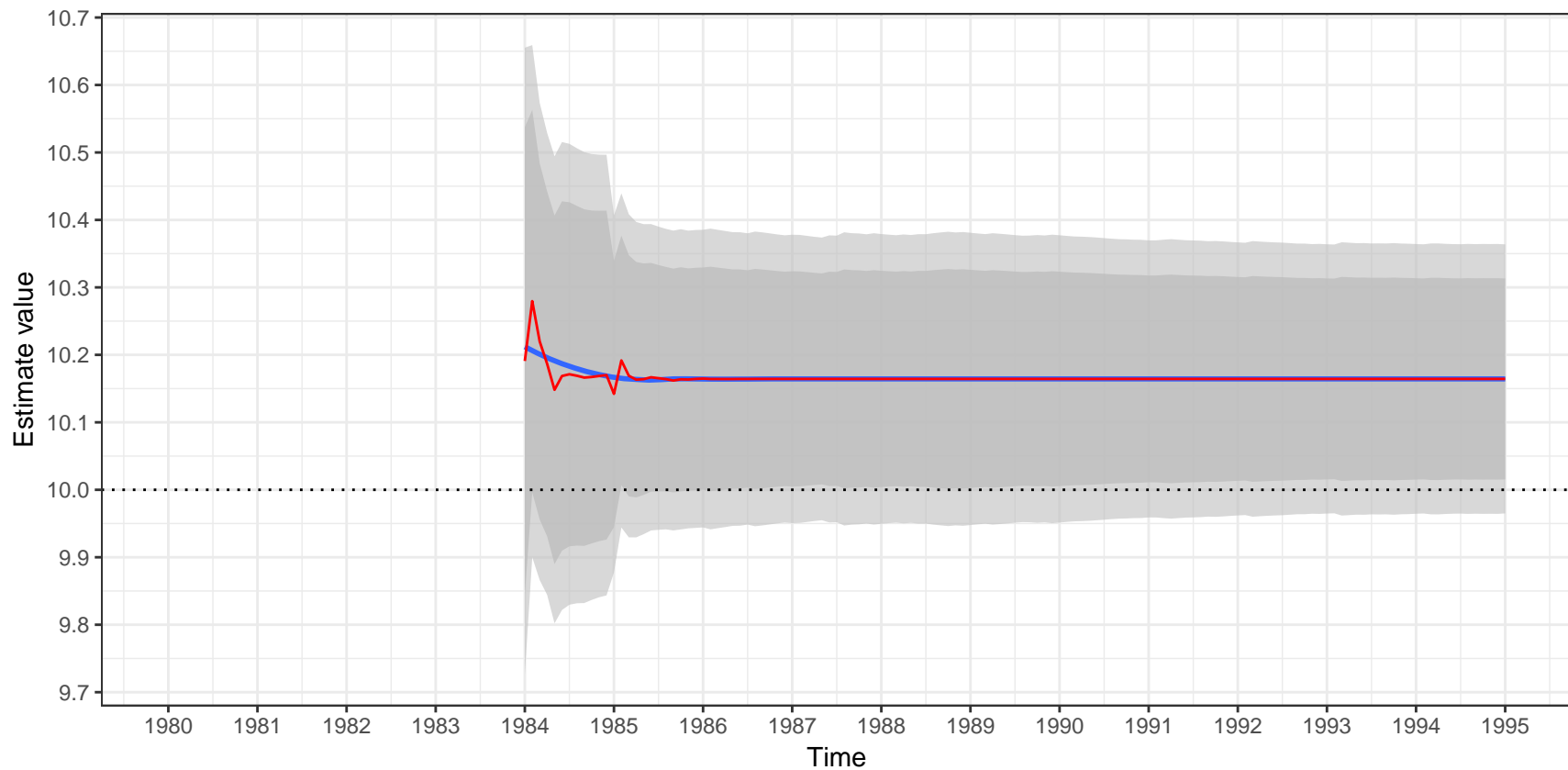


Raw data



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ARIMA (0,1,1)(0,0,0) – additive decomposition
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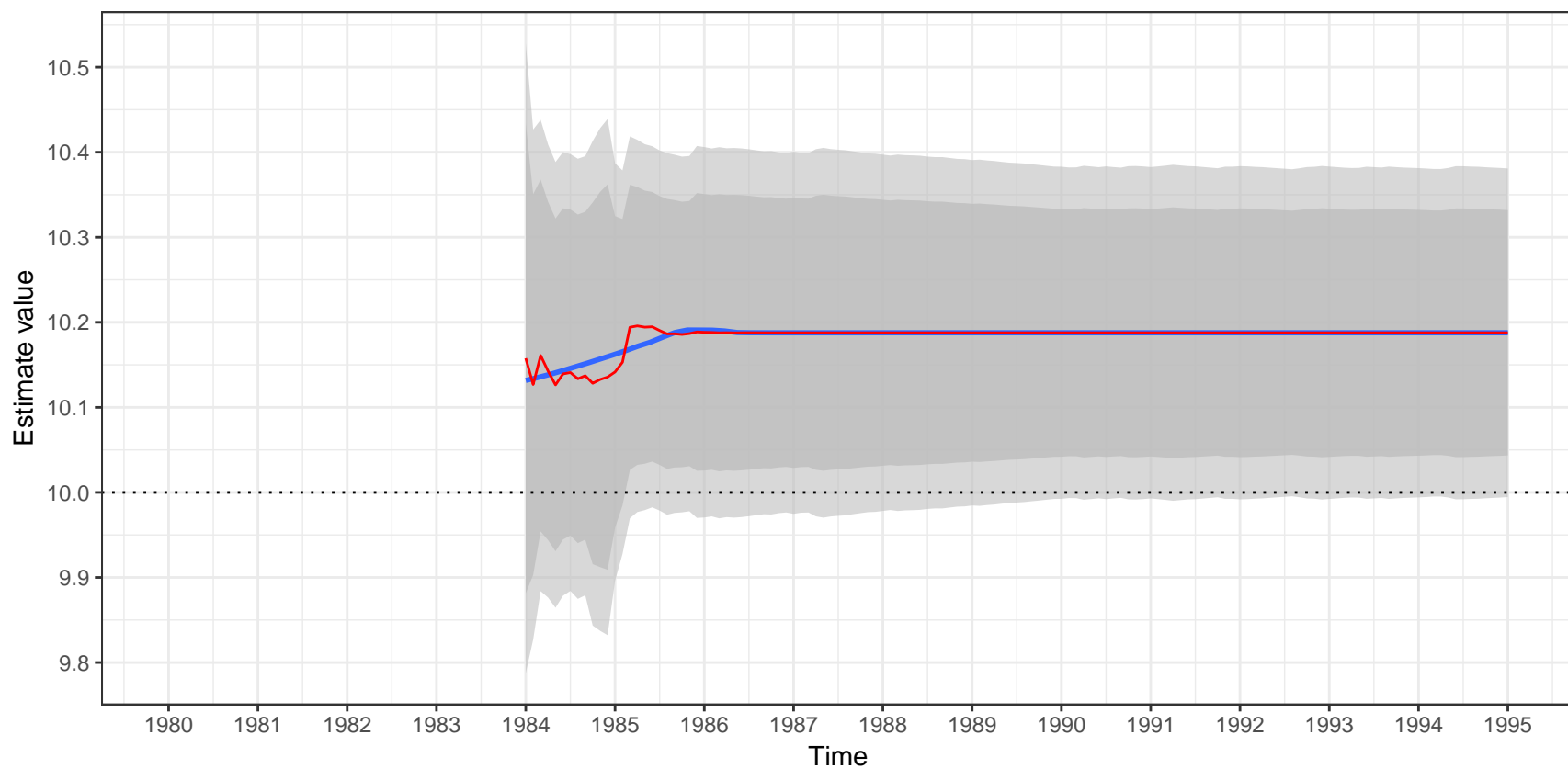


Raw data



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ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

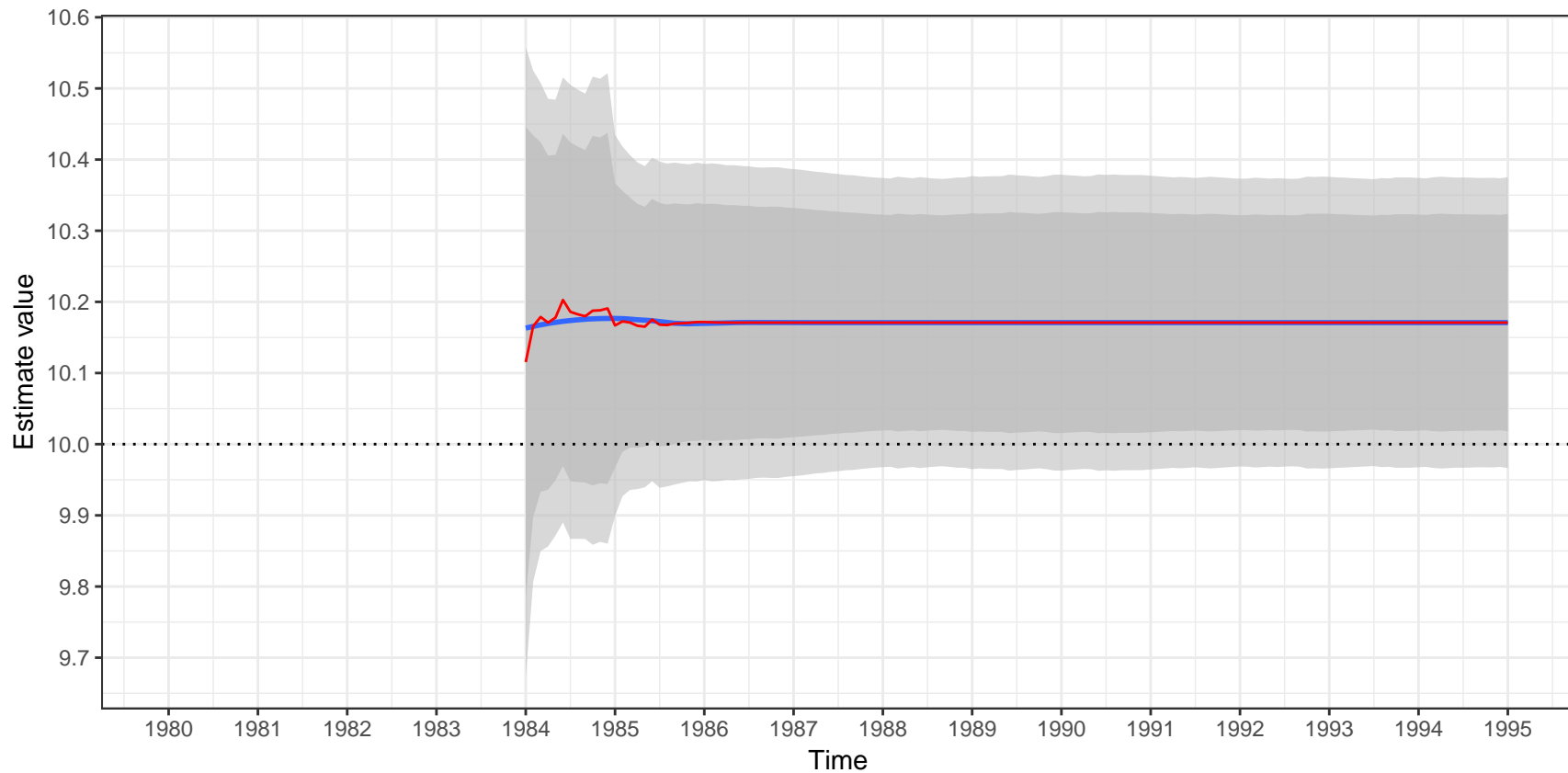


Raw data

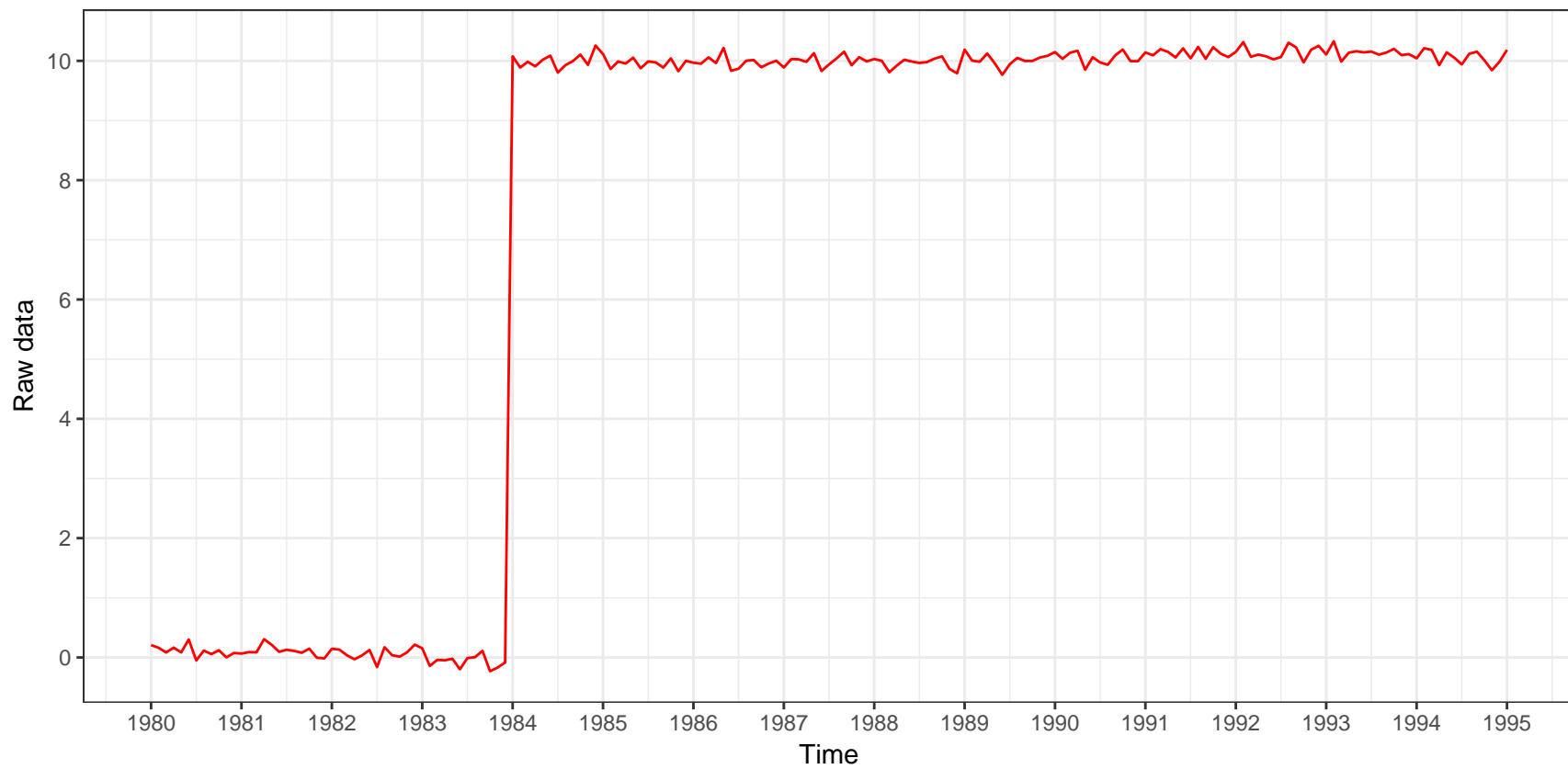


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

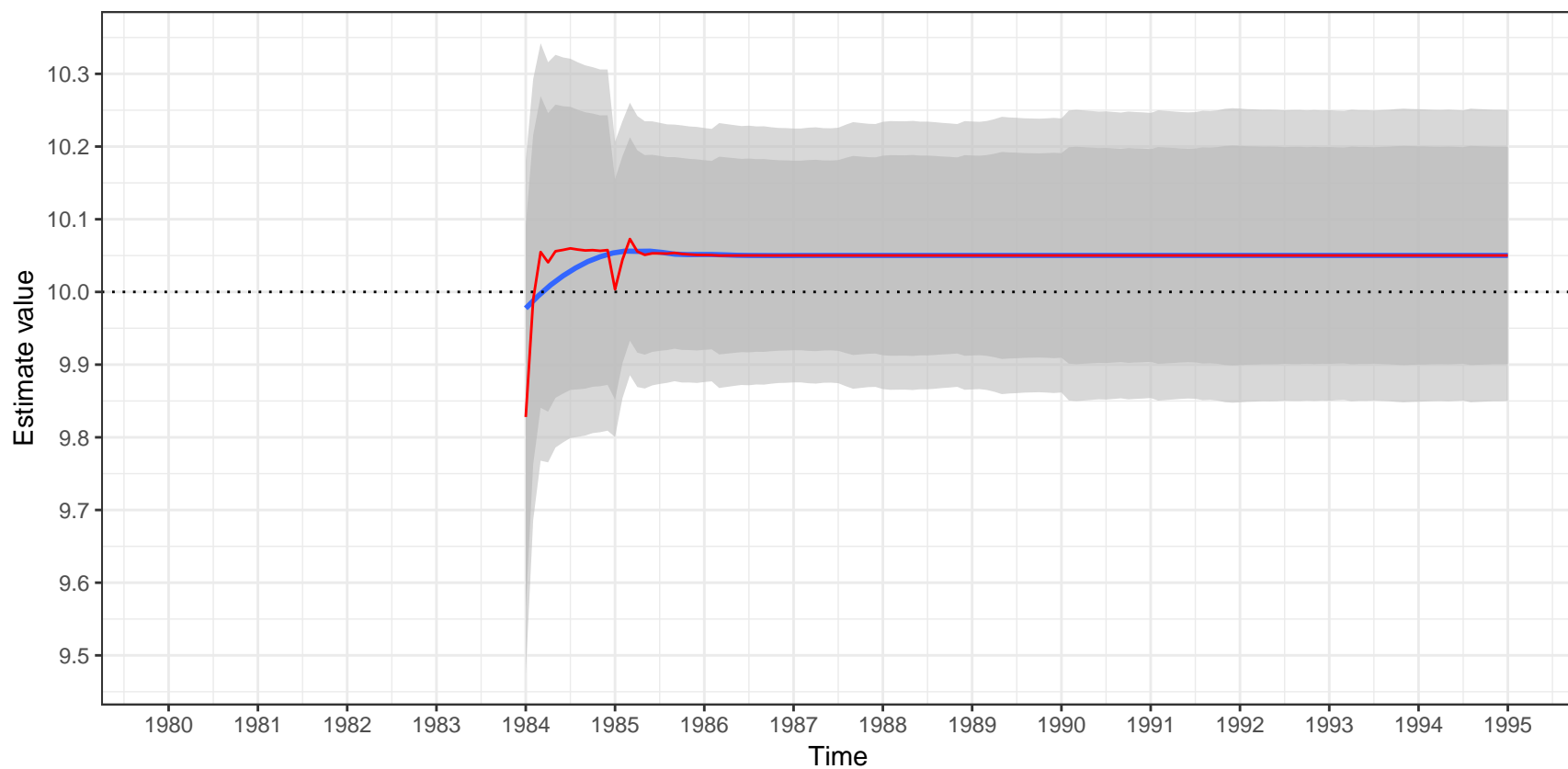


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

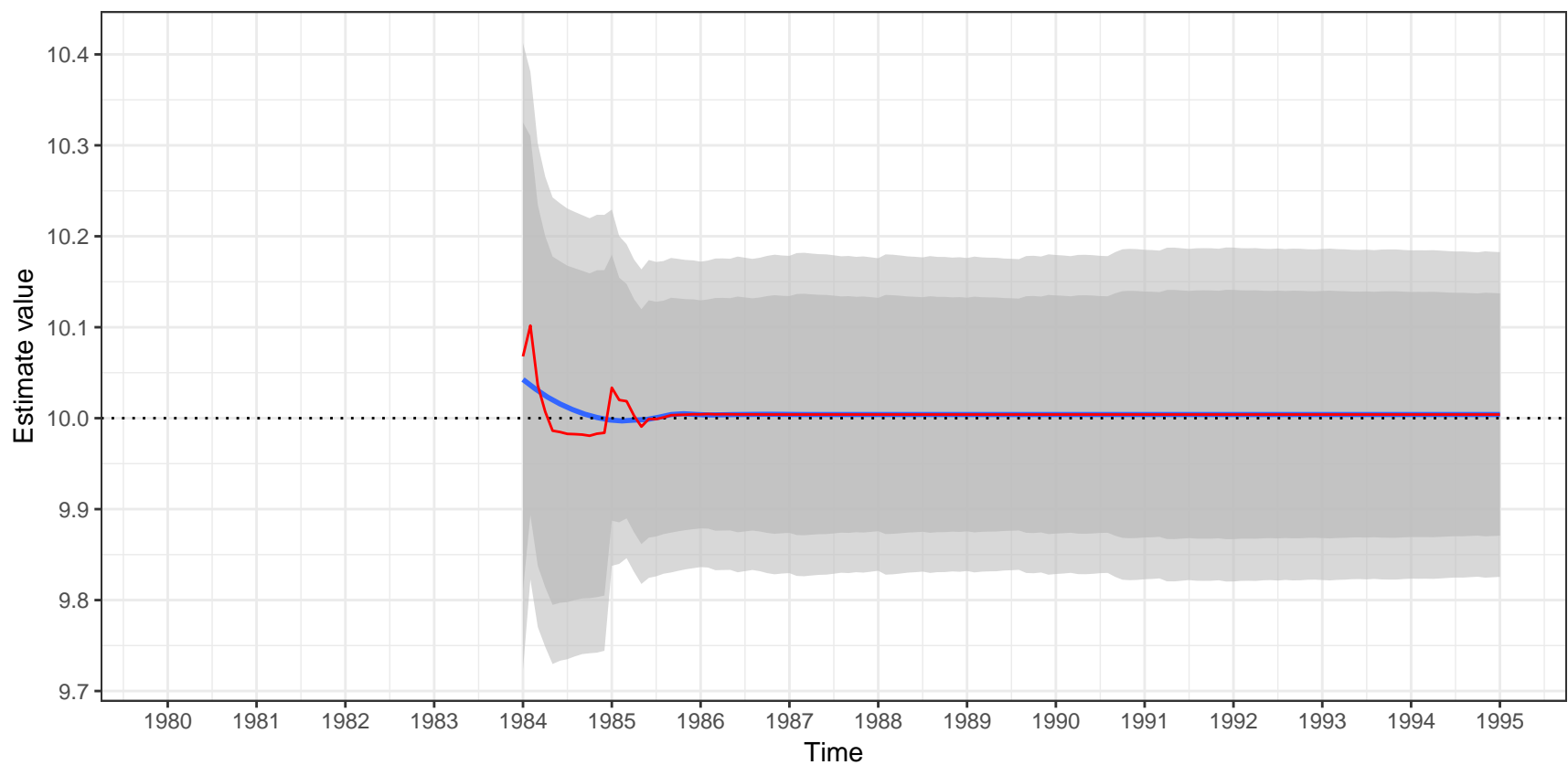


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

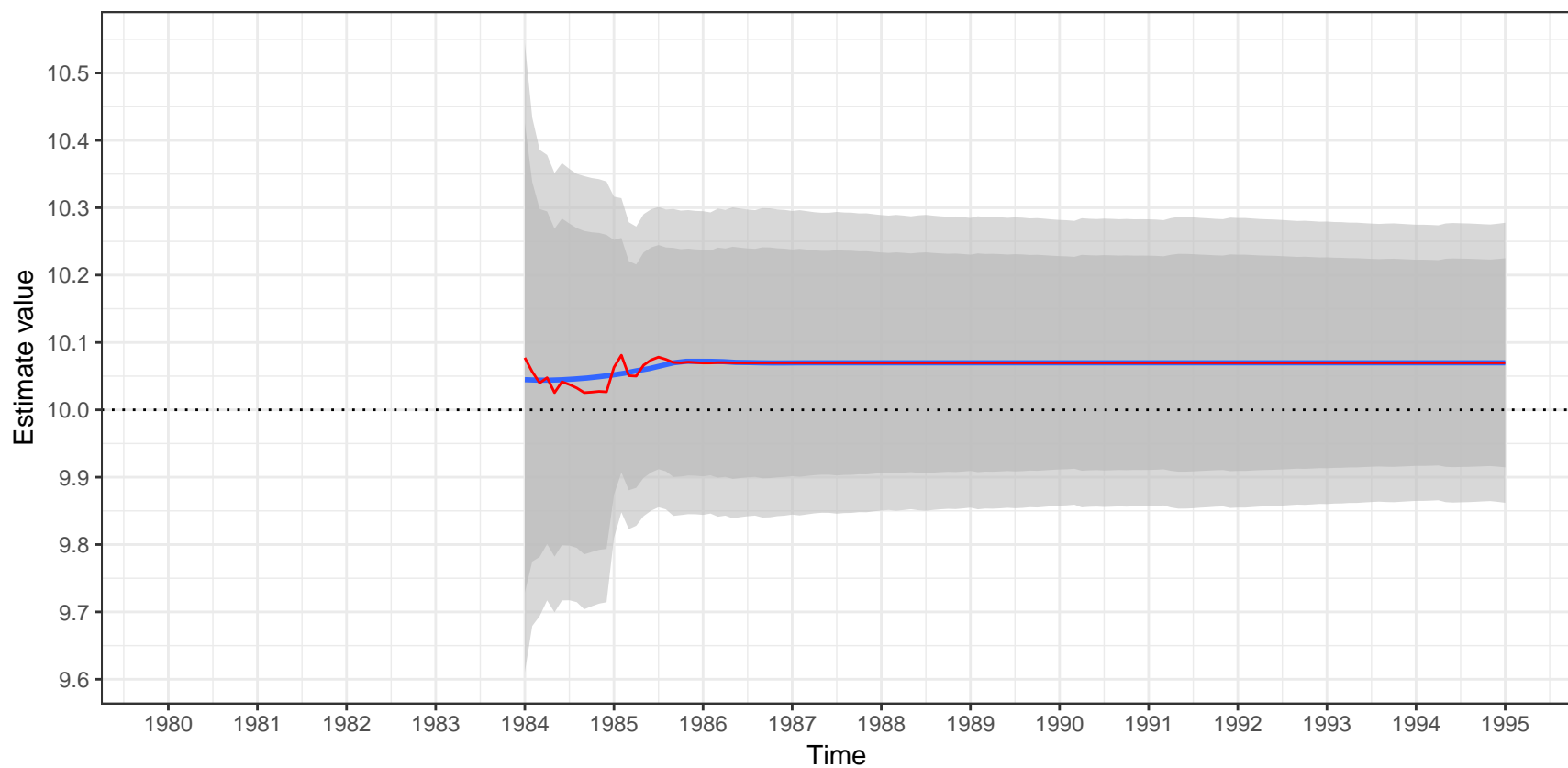


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

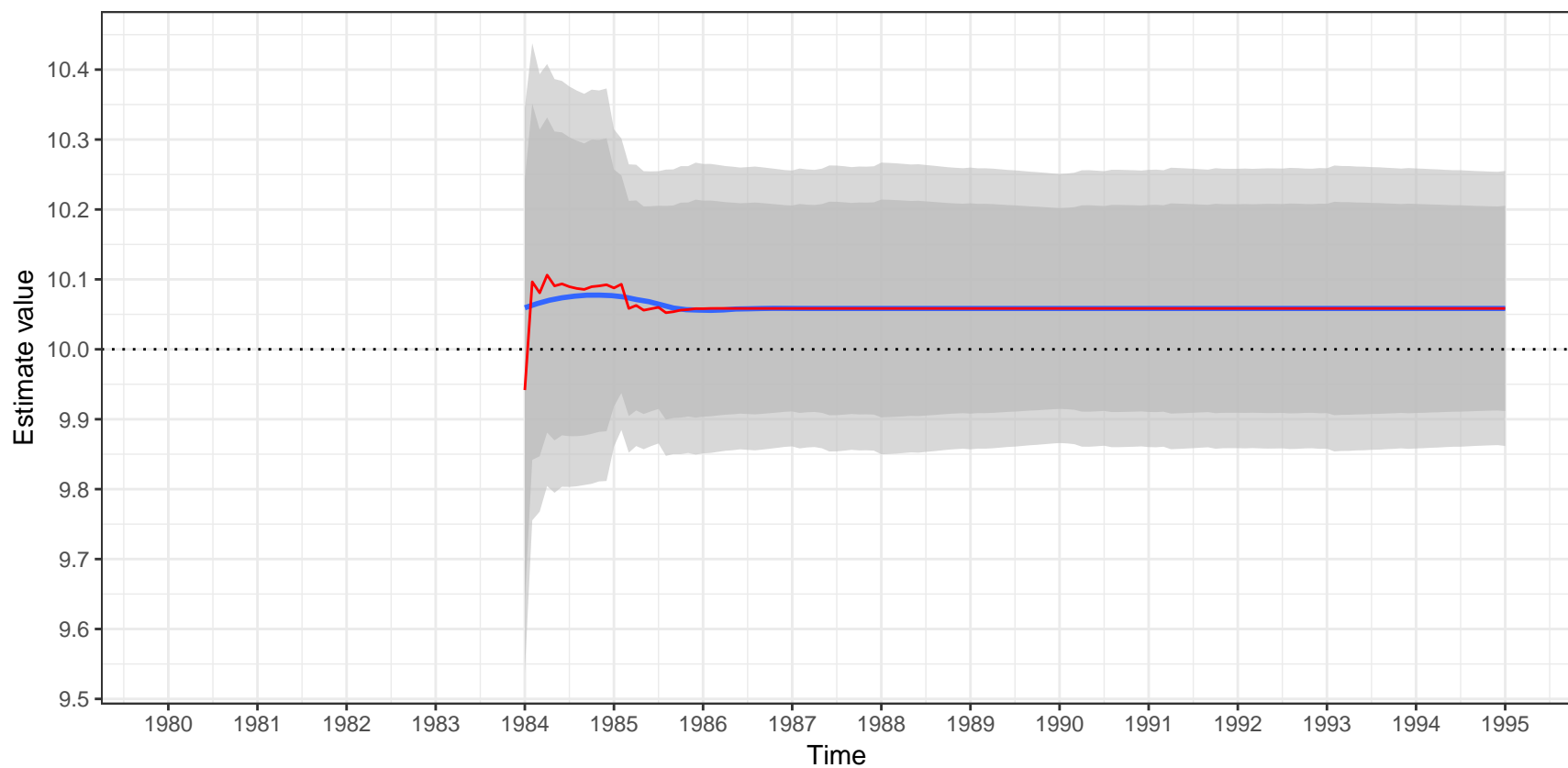


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

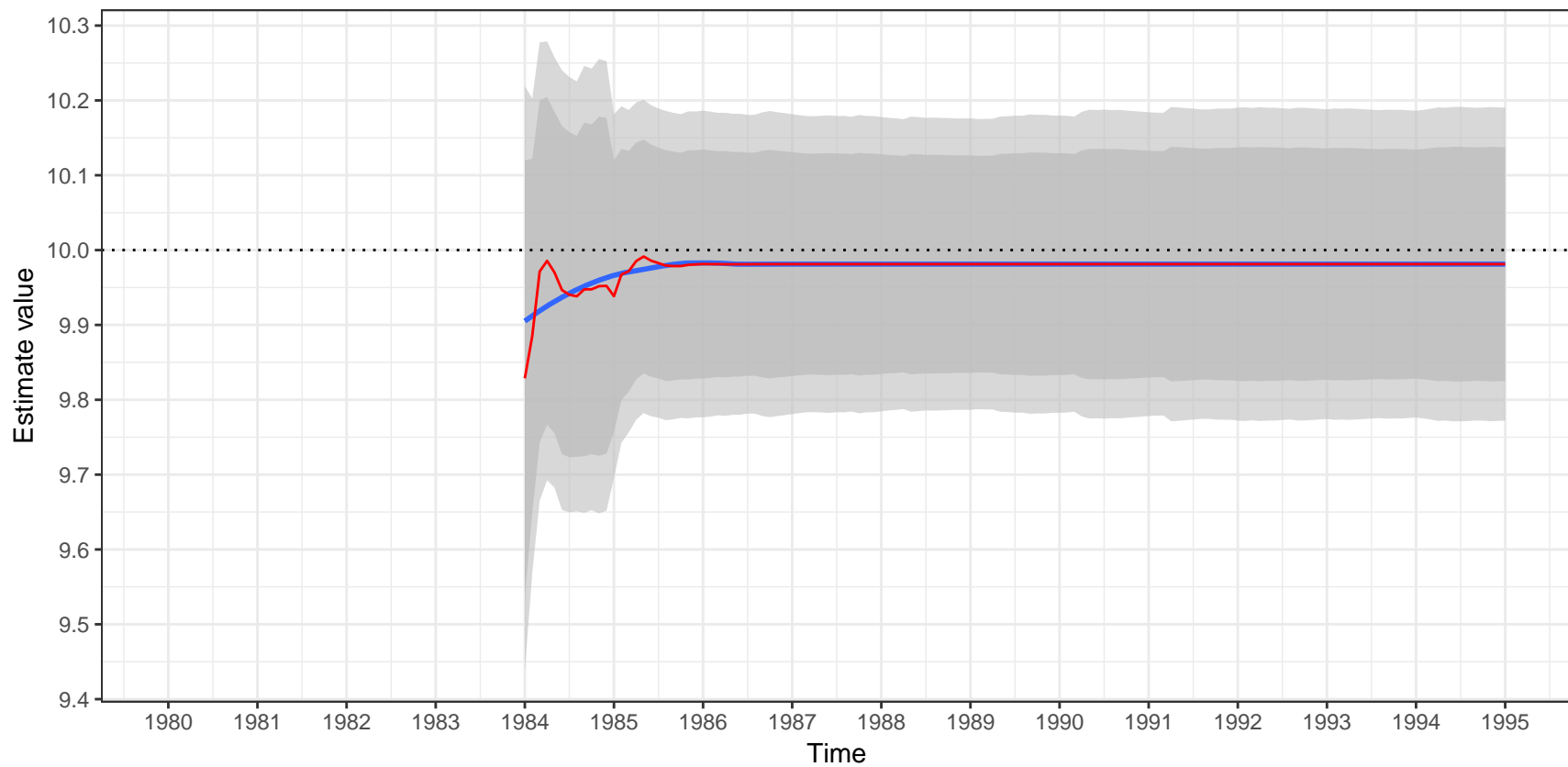


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,0,0) – additive decomposition
 $(1-B)X_t=(1-0.7B)a_t$

Estimation of the outlier

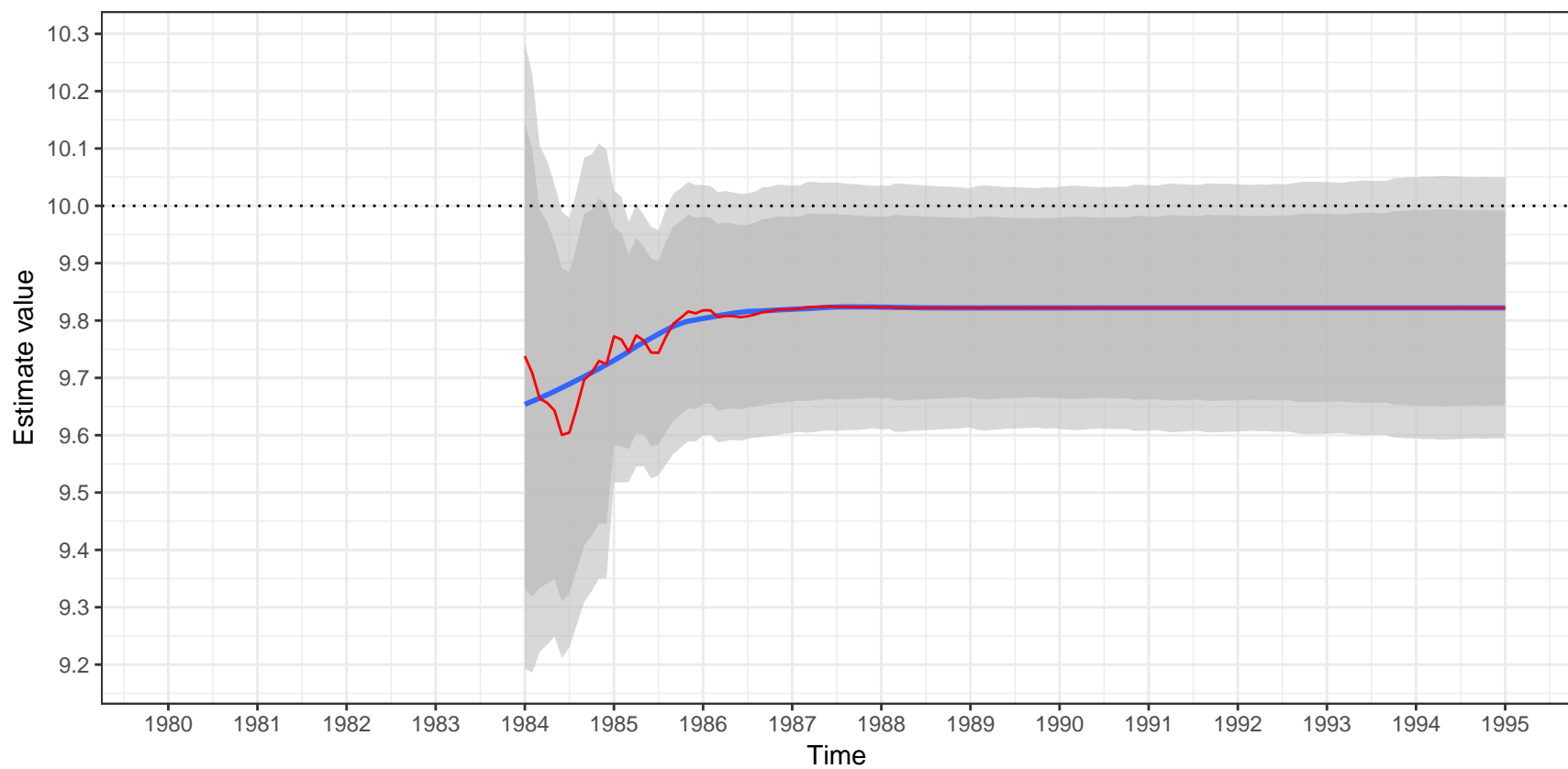


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

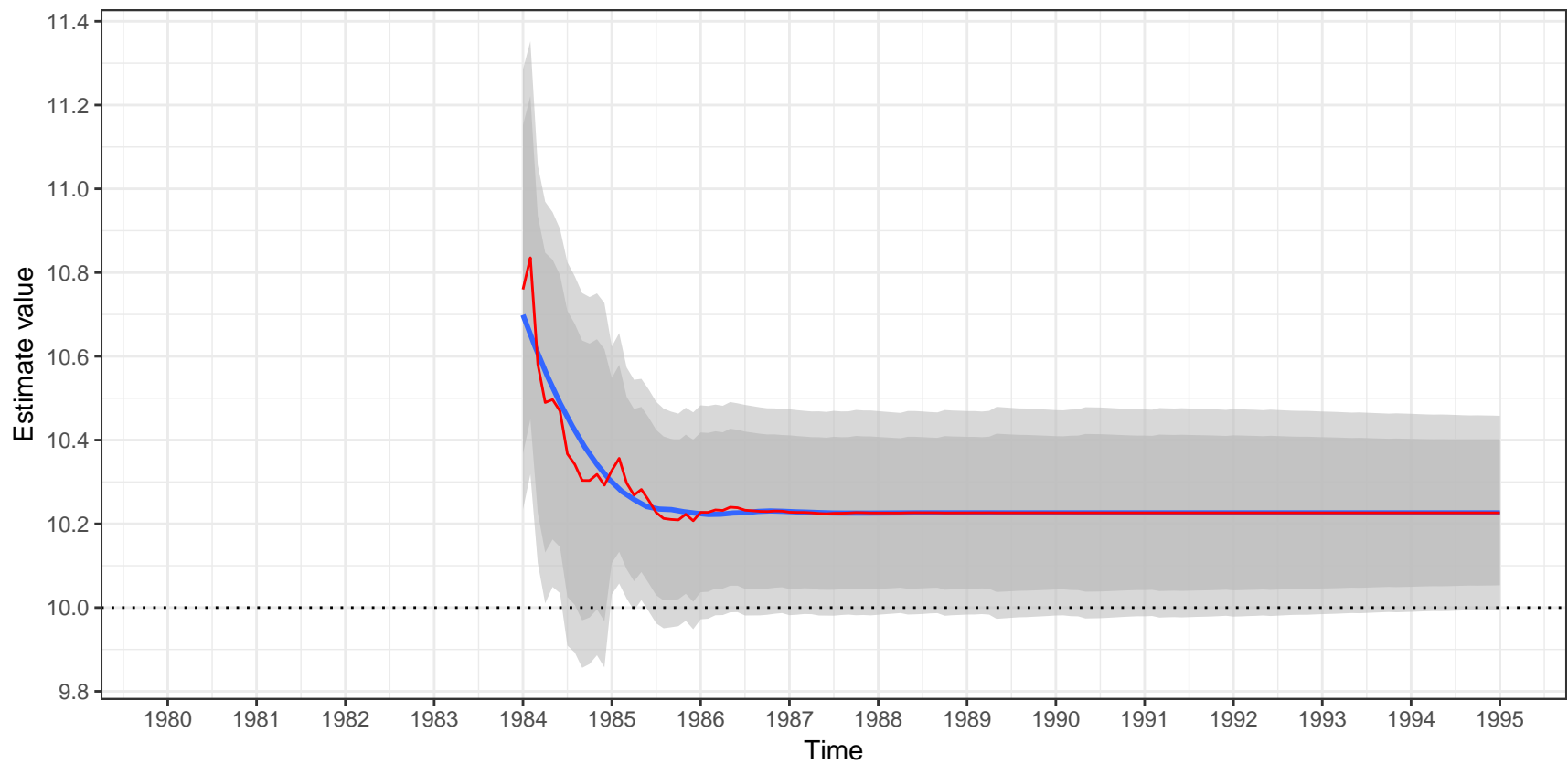


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

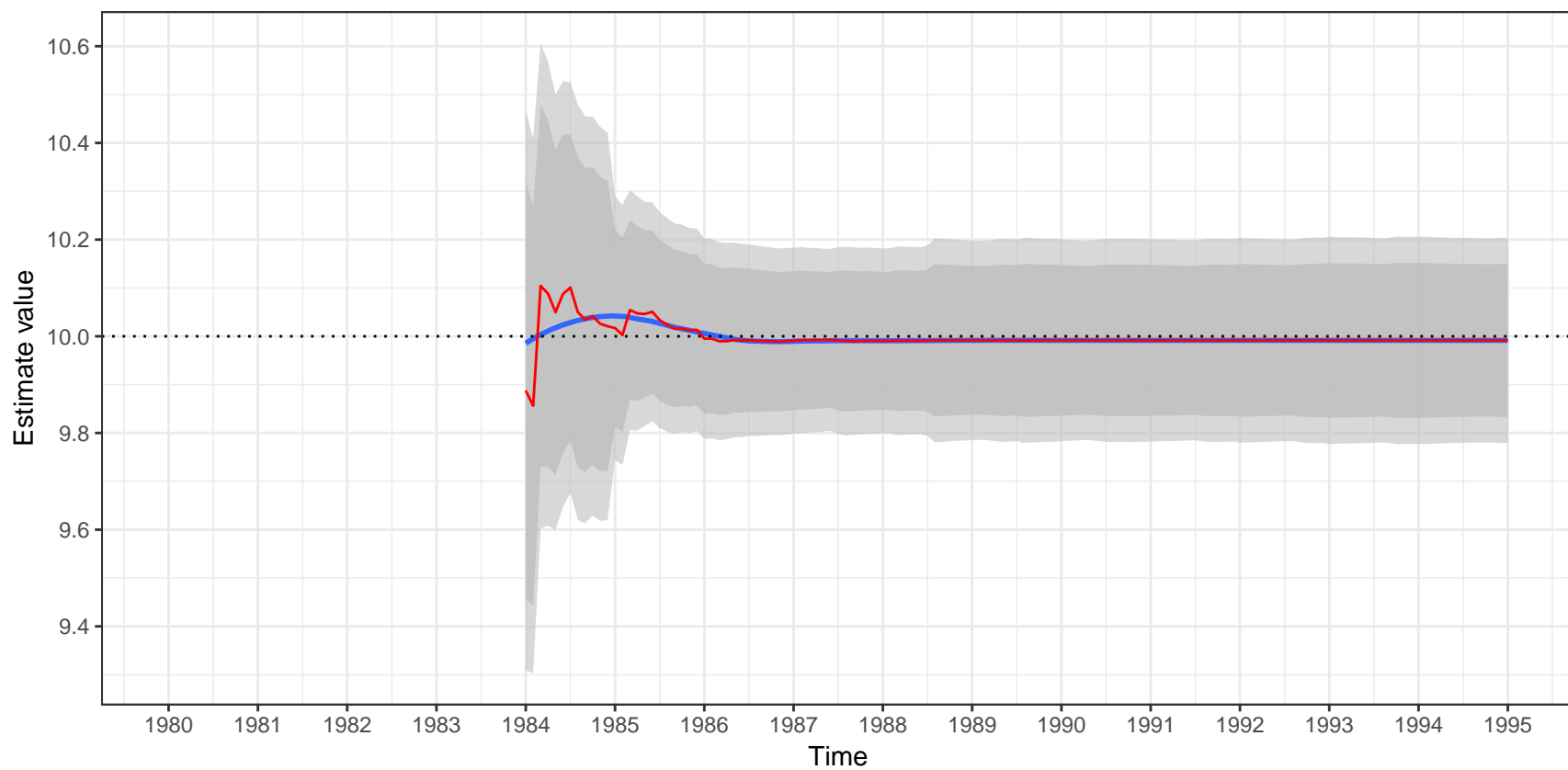


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

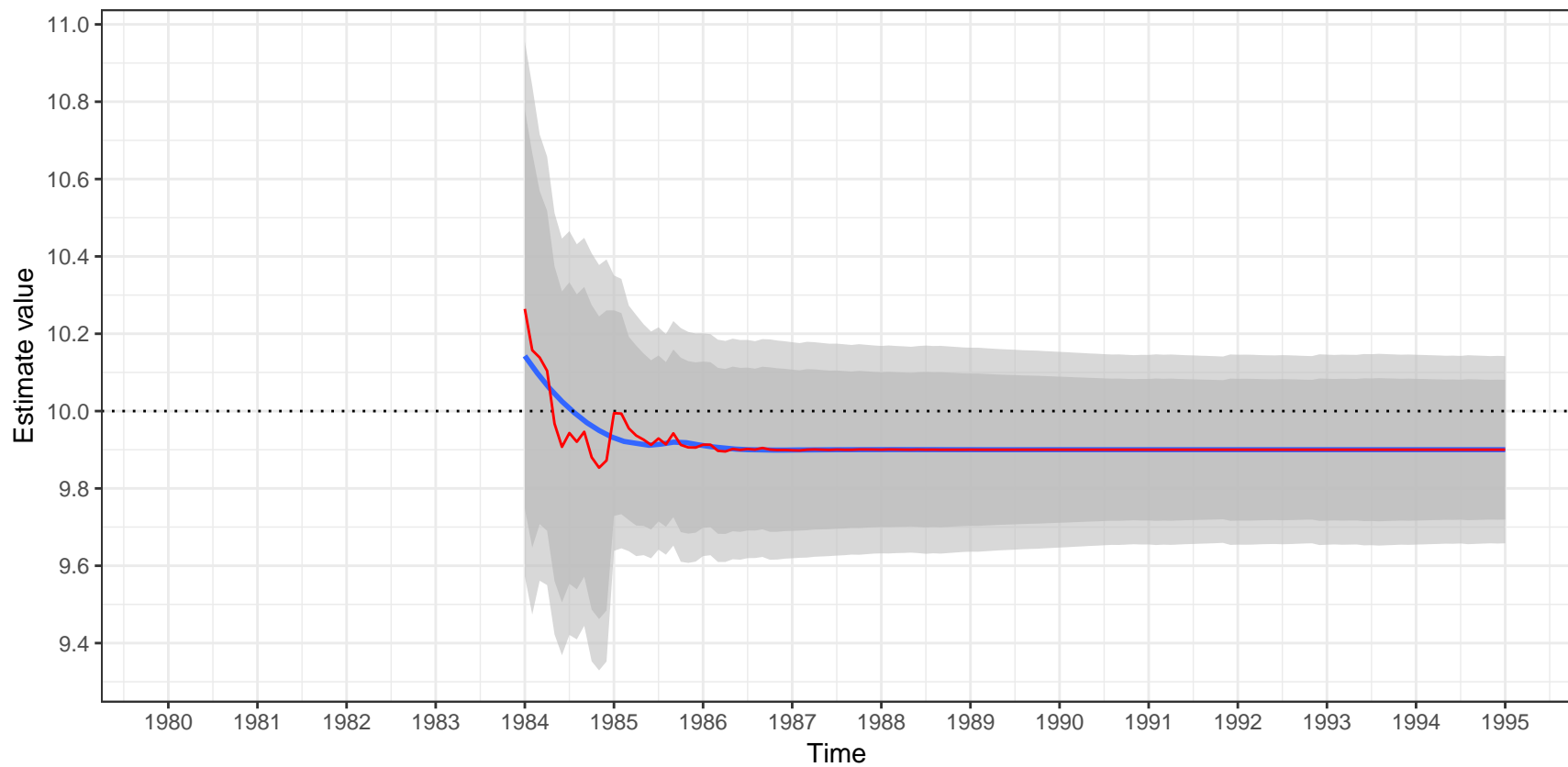


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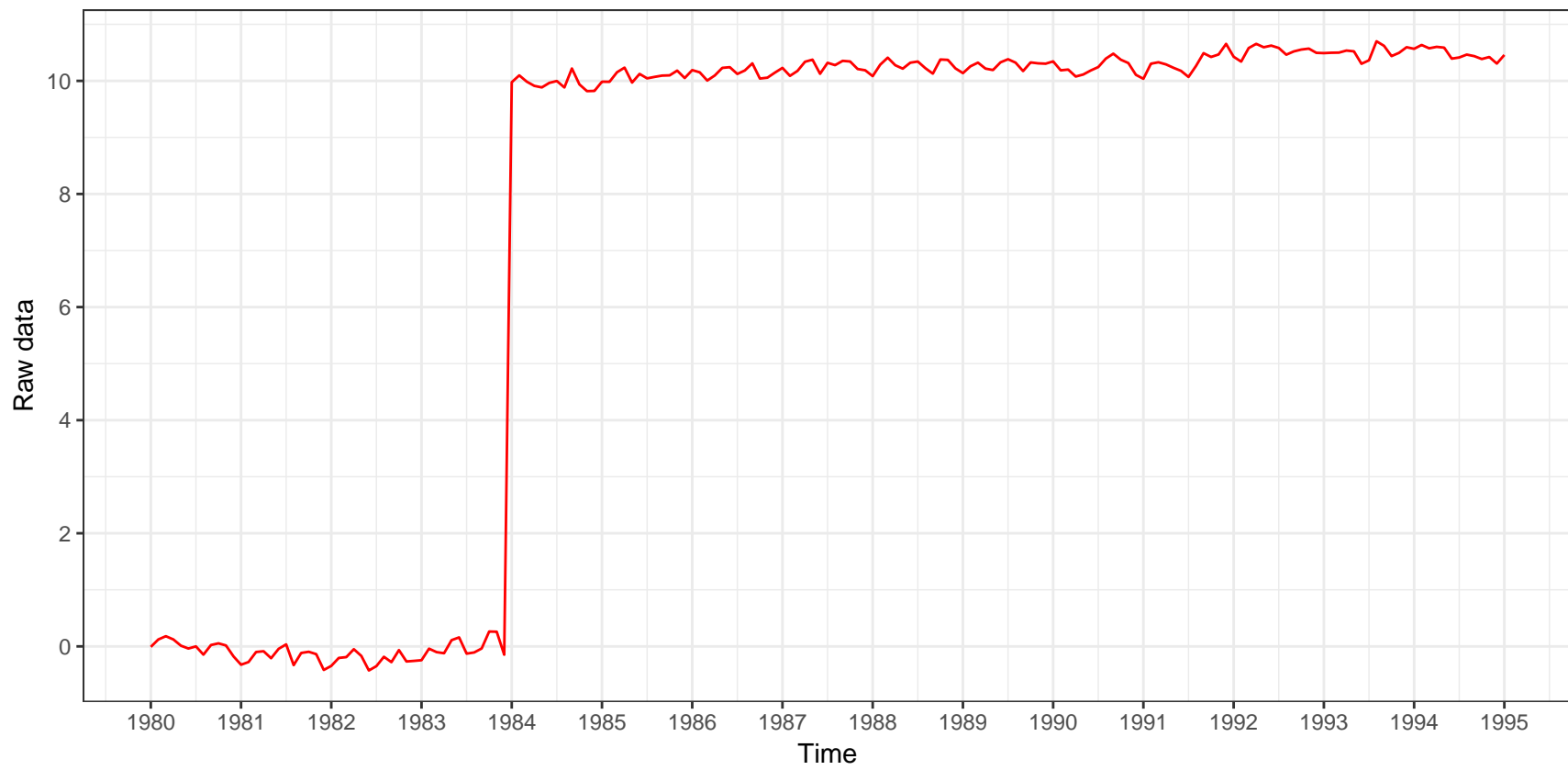


Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

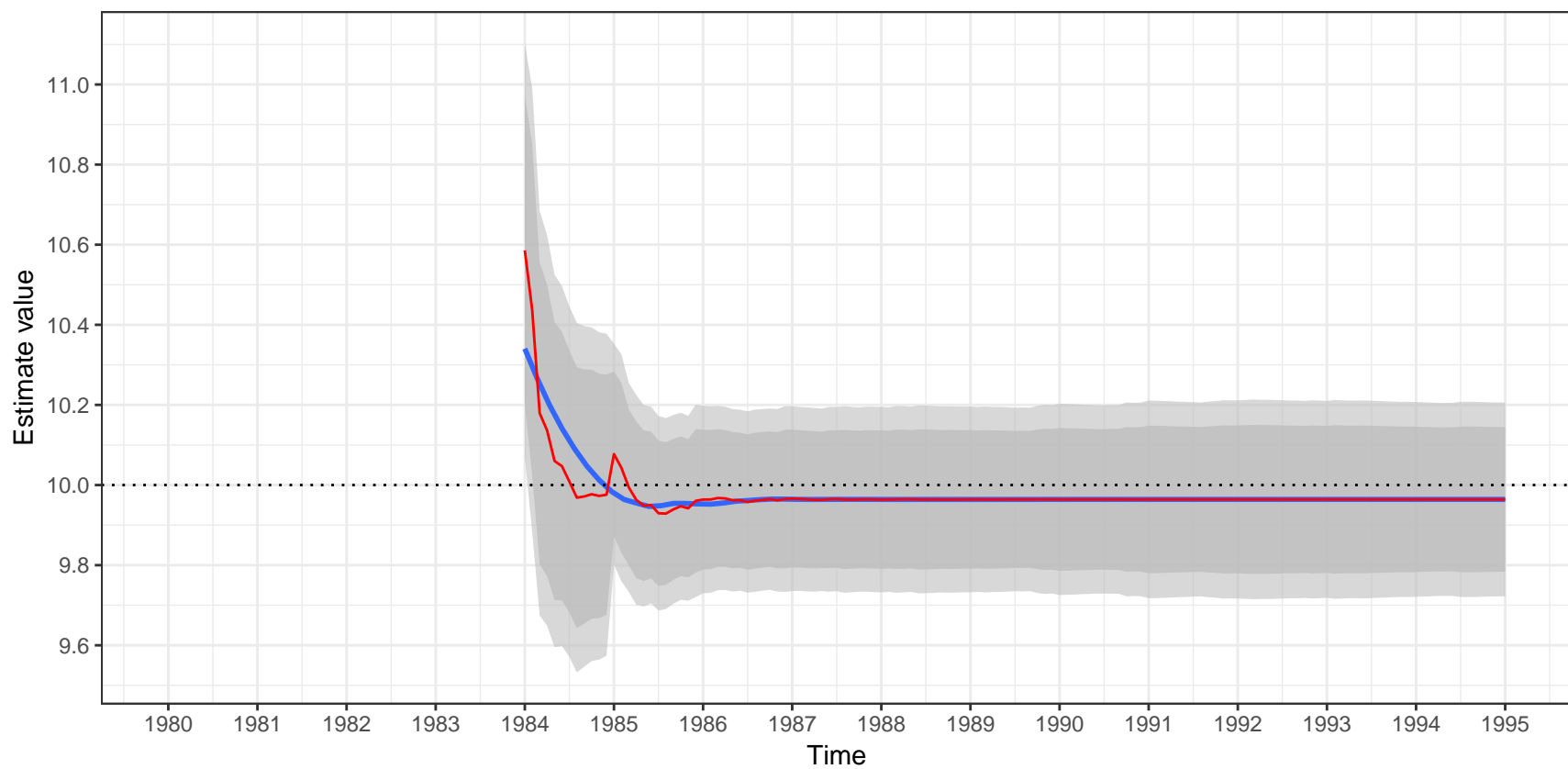


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

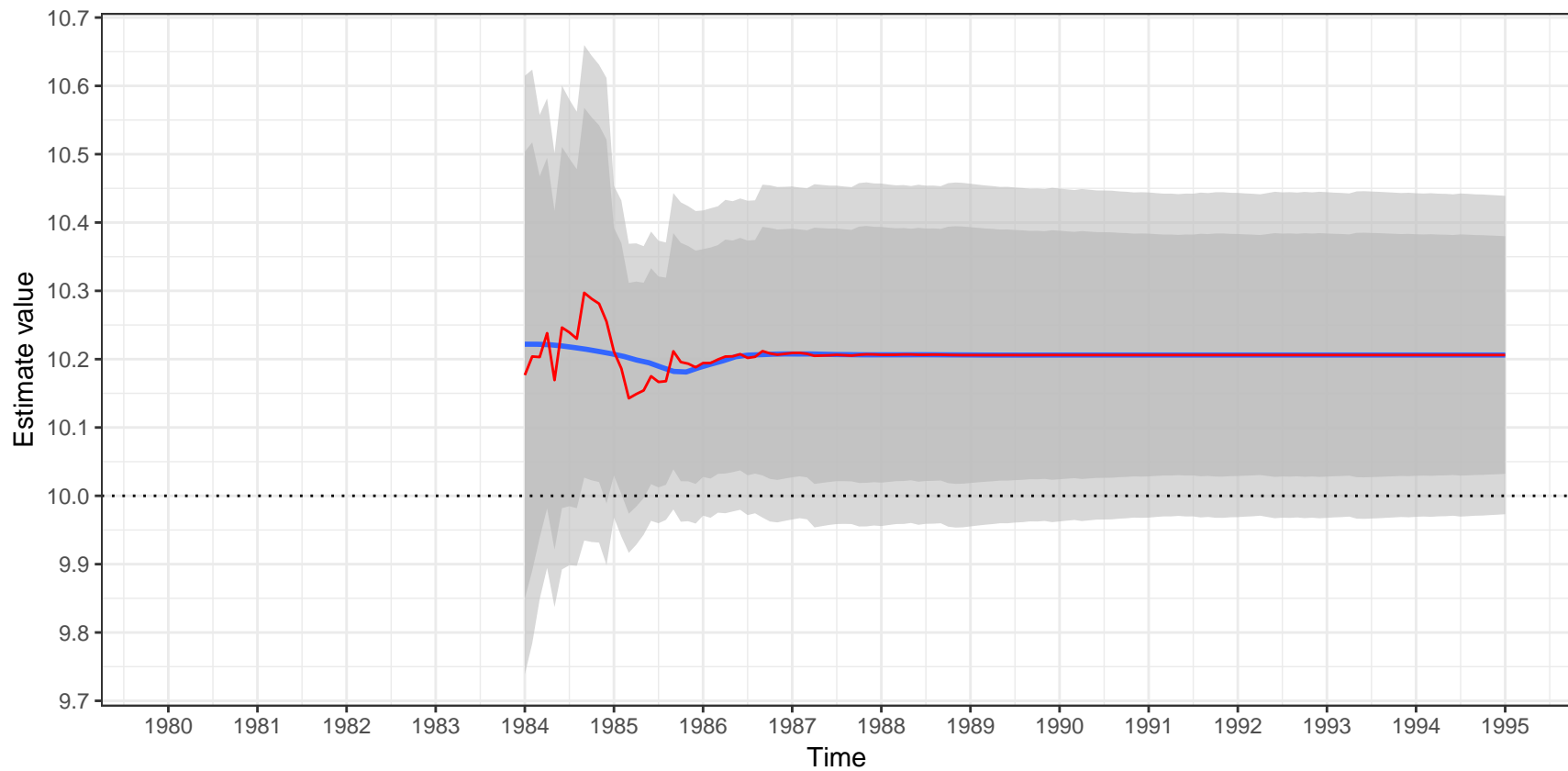


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

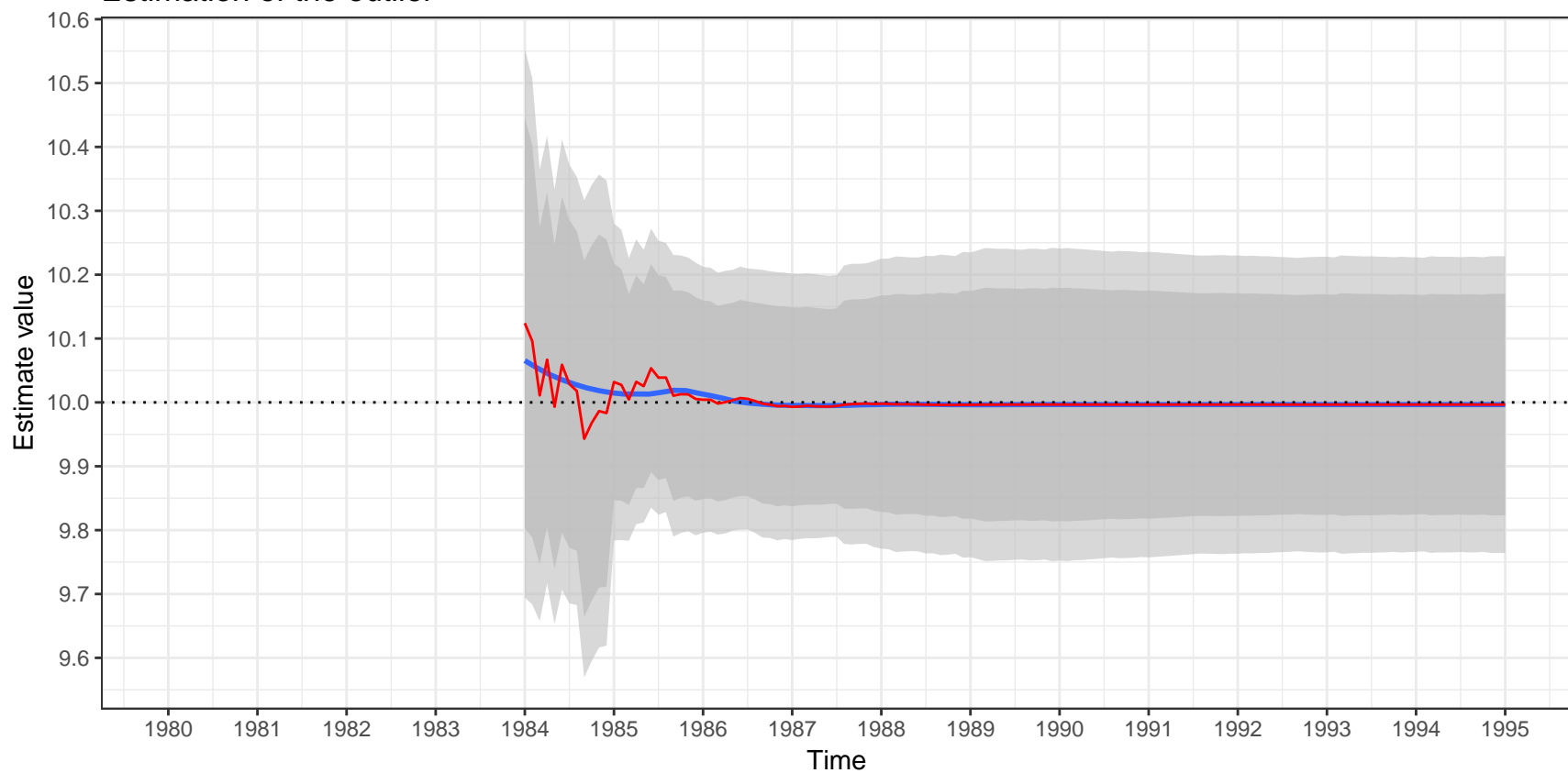


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

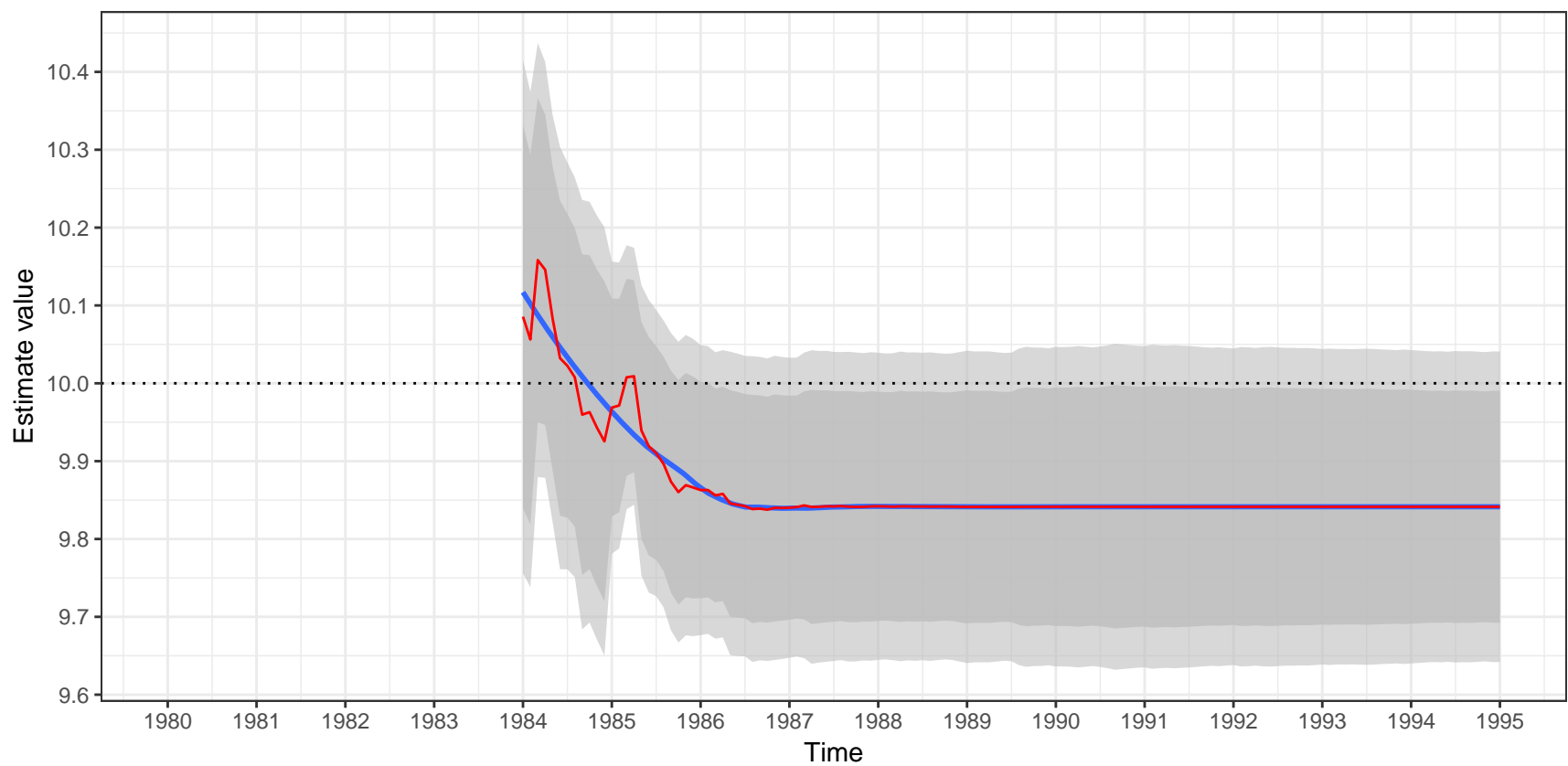


Raw data

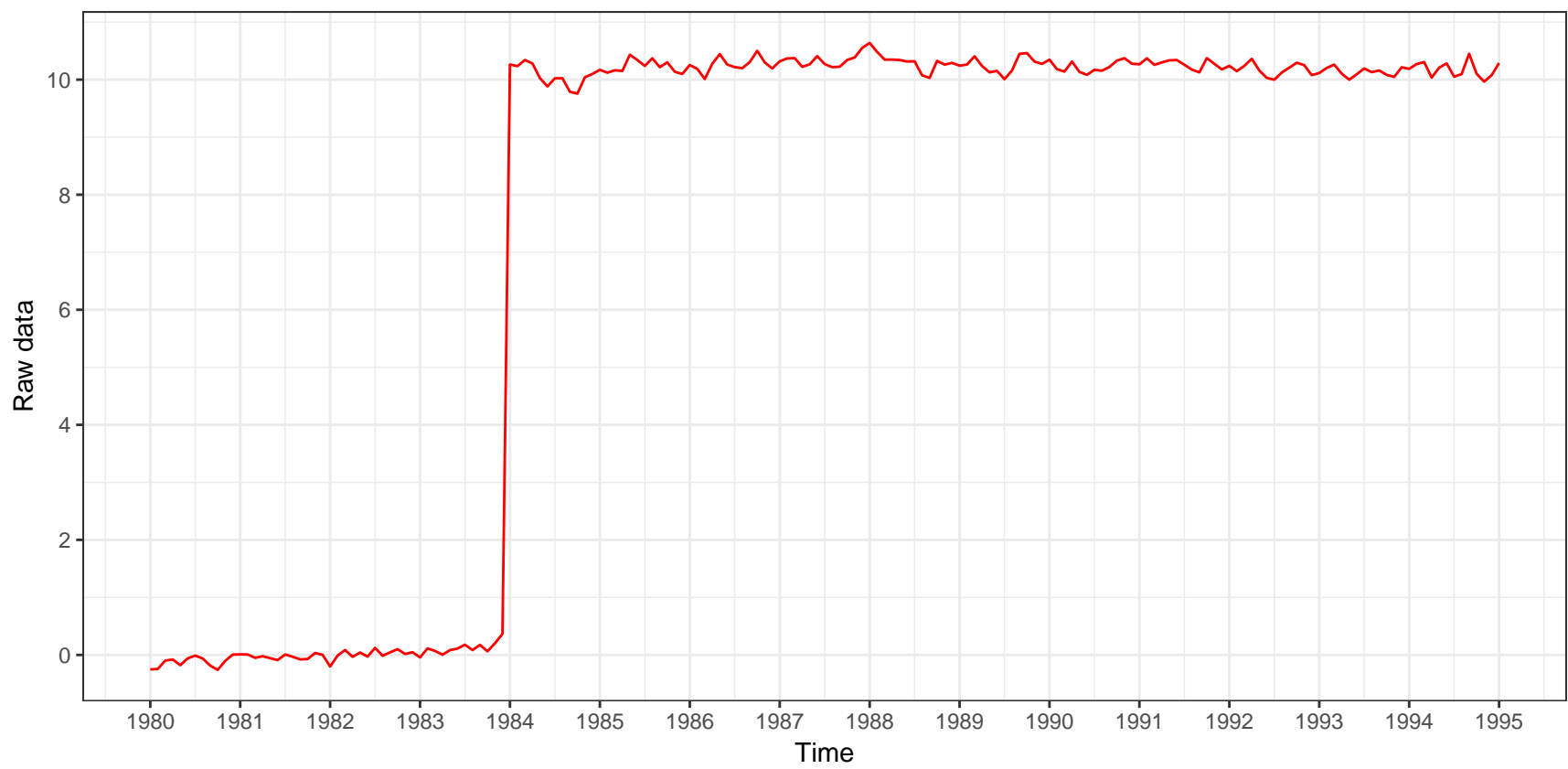


Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

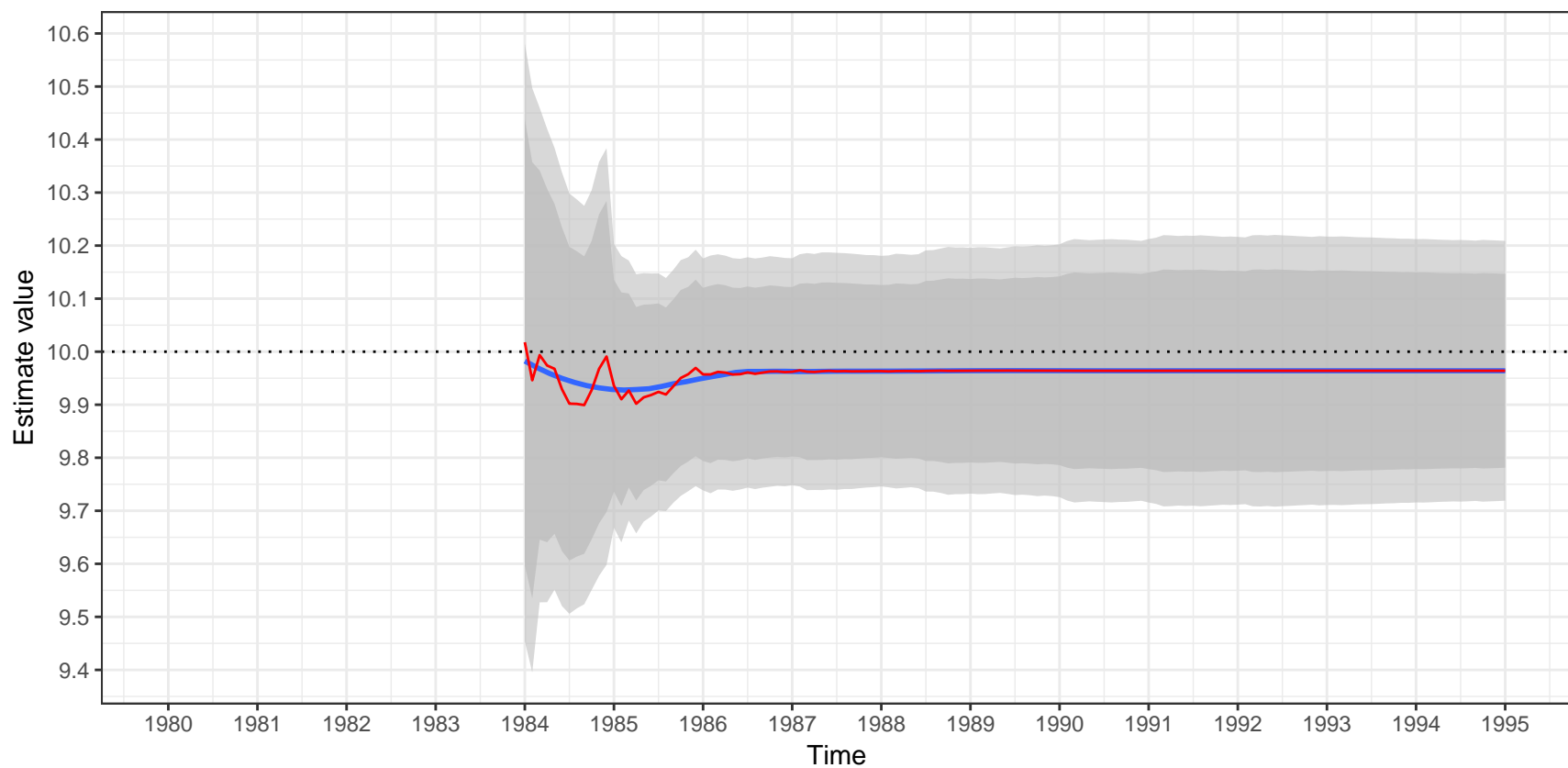


Raw data

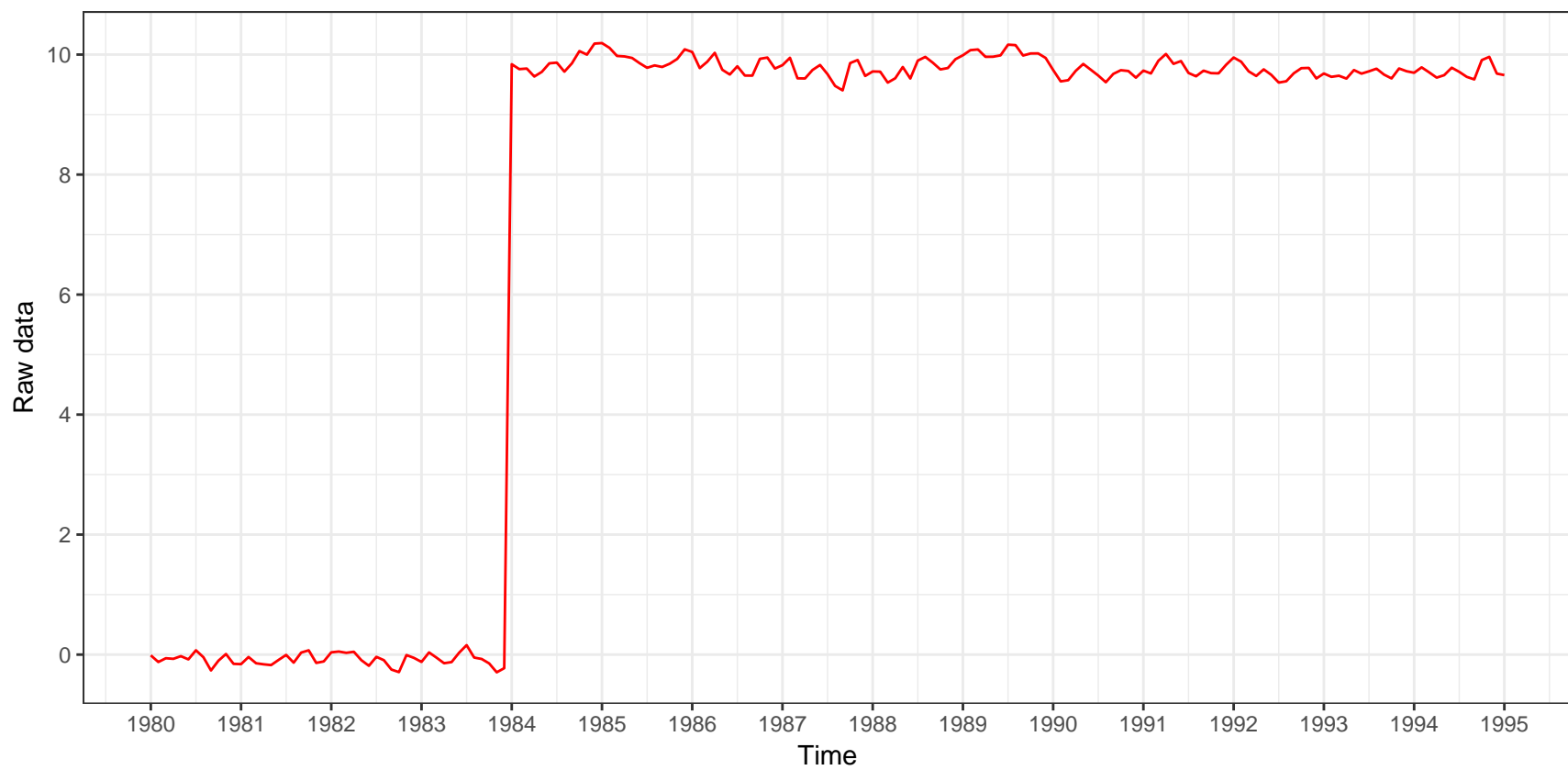


Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

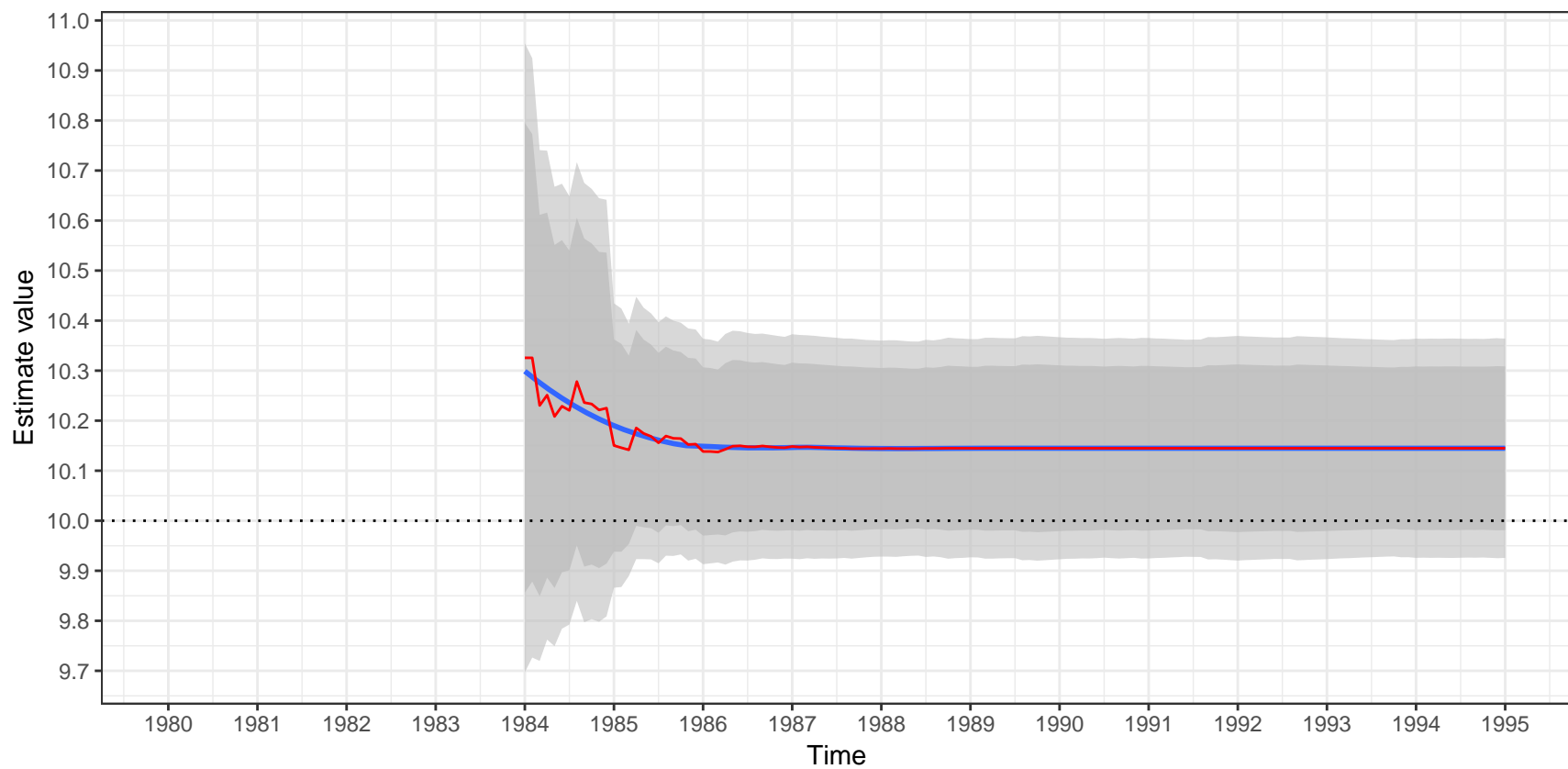


Raw data

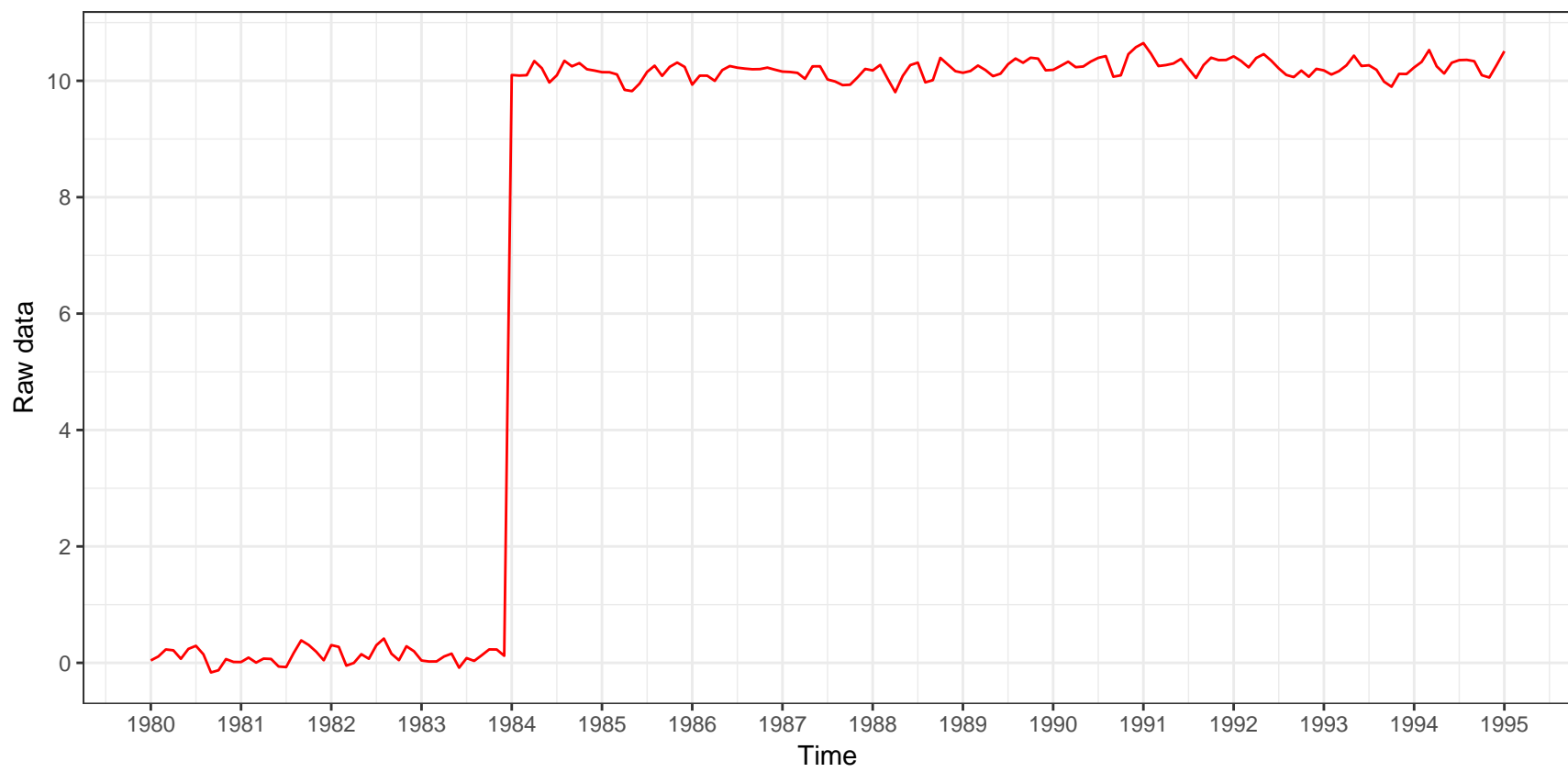


Estimate value of a LS(1984-01)
ARIMA (0,1,2)(1,0,0) – additive decomposition
 $(1-B)(1-0.7B^{12})X_t=(1-0.4B+0.7B^2)a_t$

Estimation of the outlier

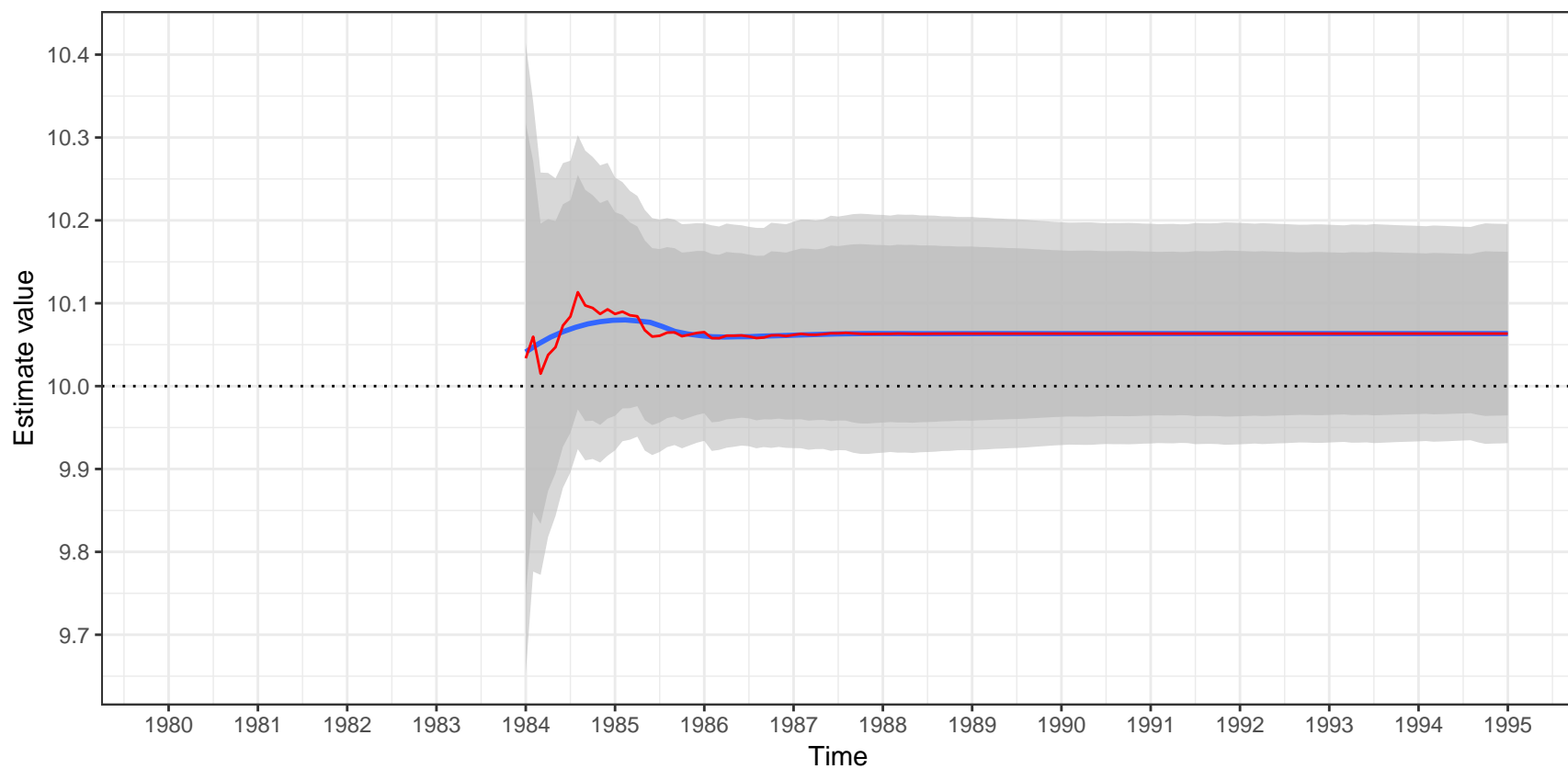


Raw data

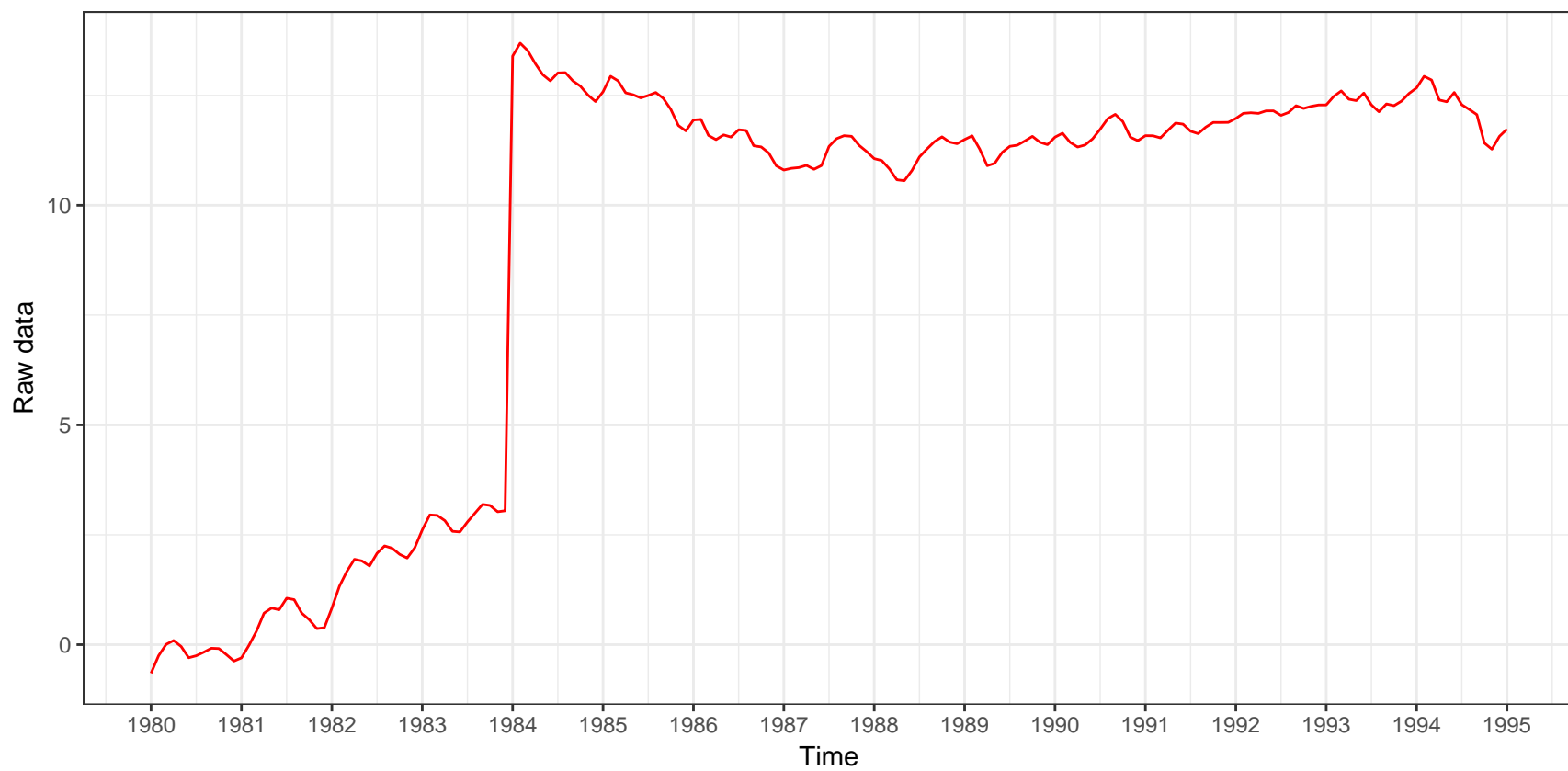


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

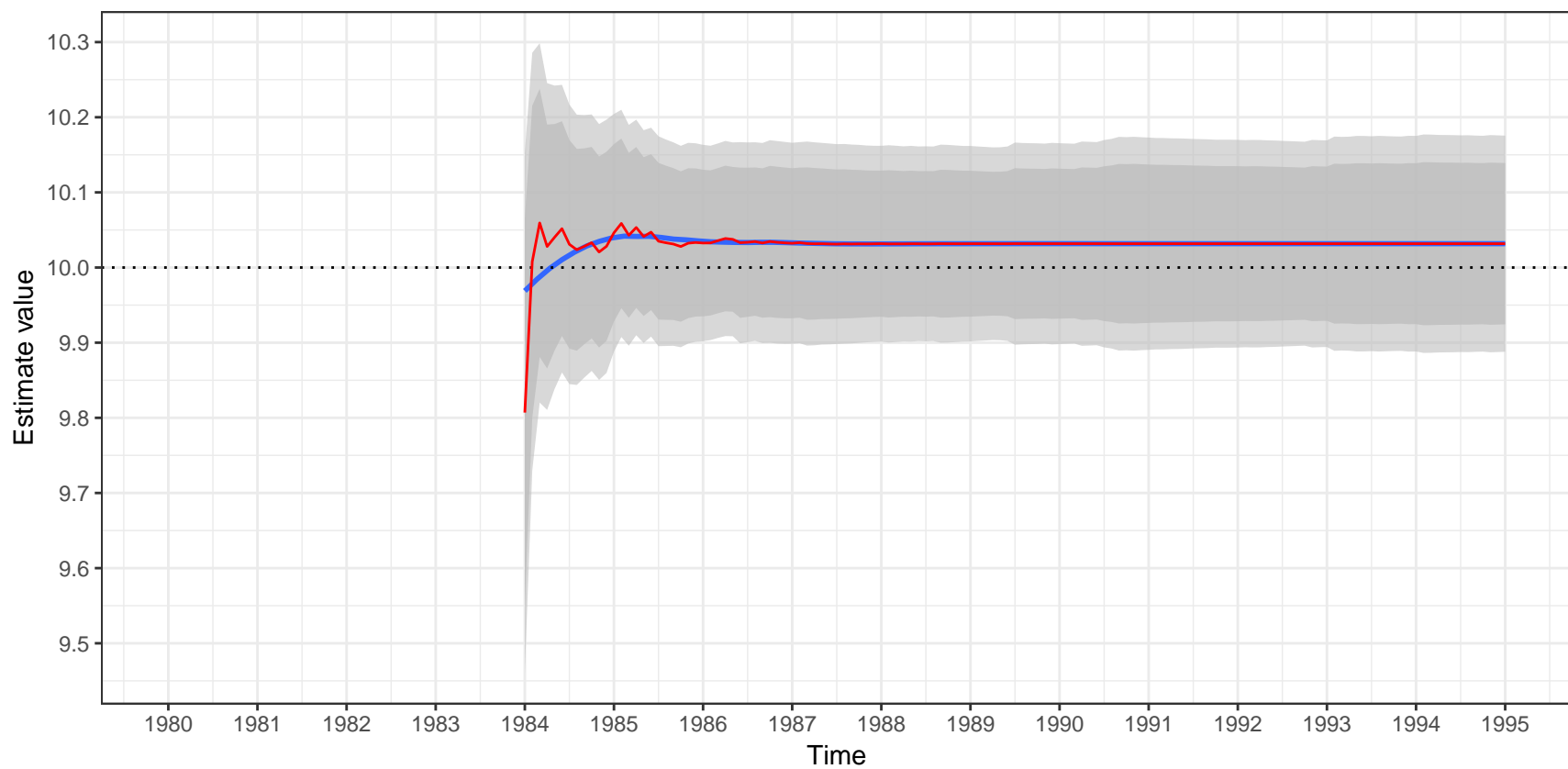


Raw data

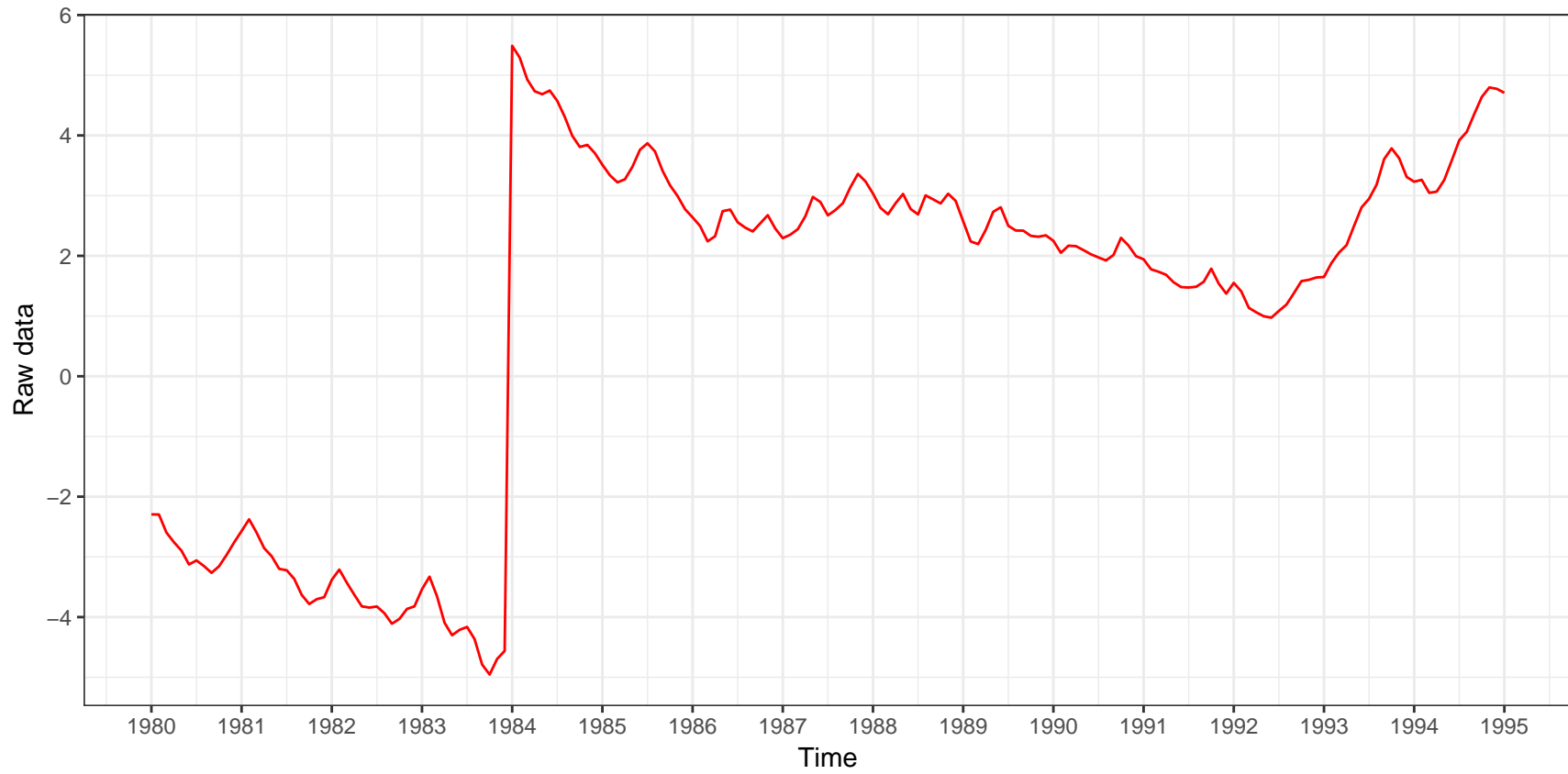


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

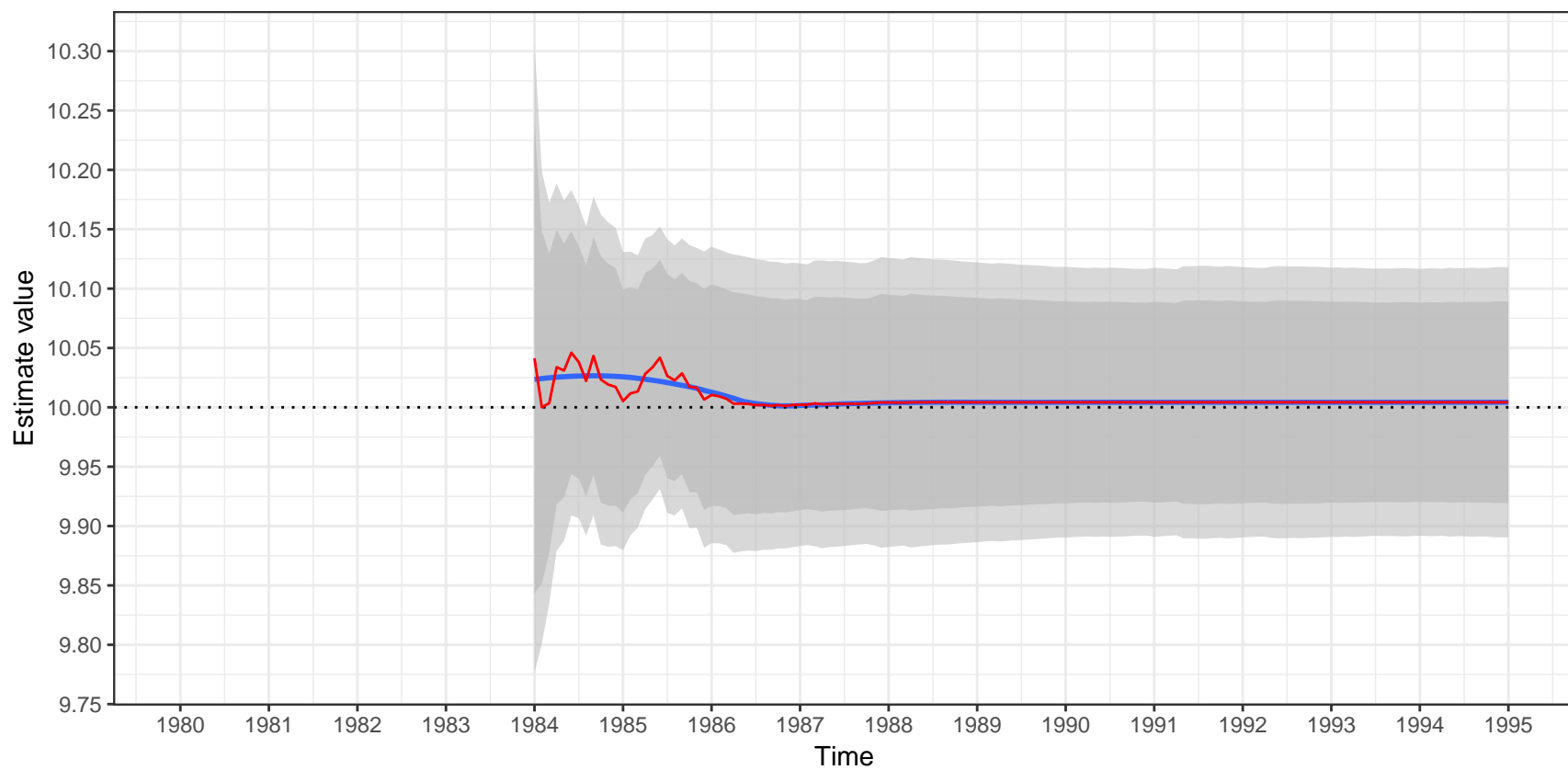


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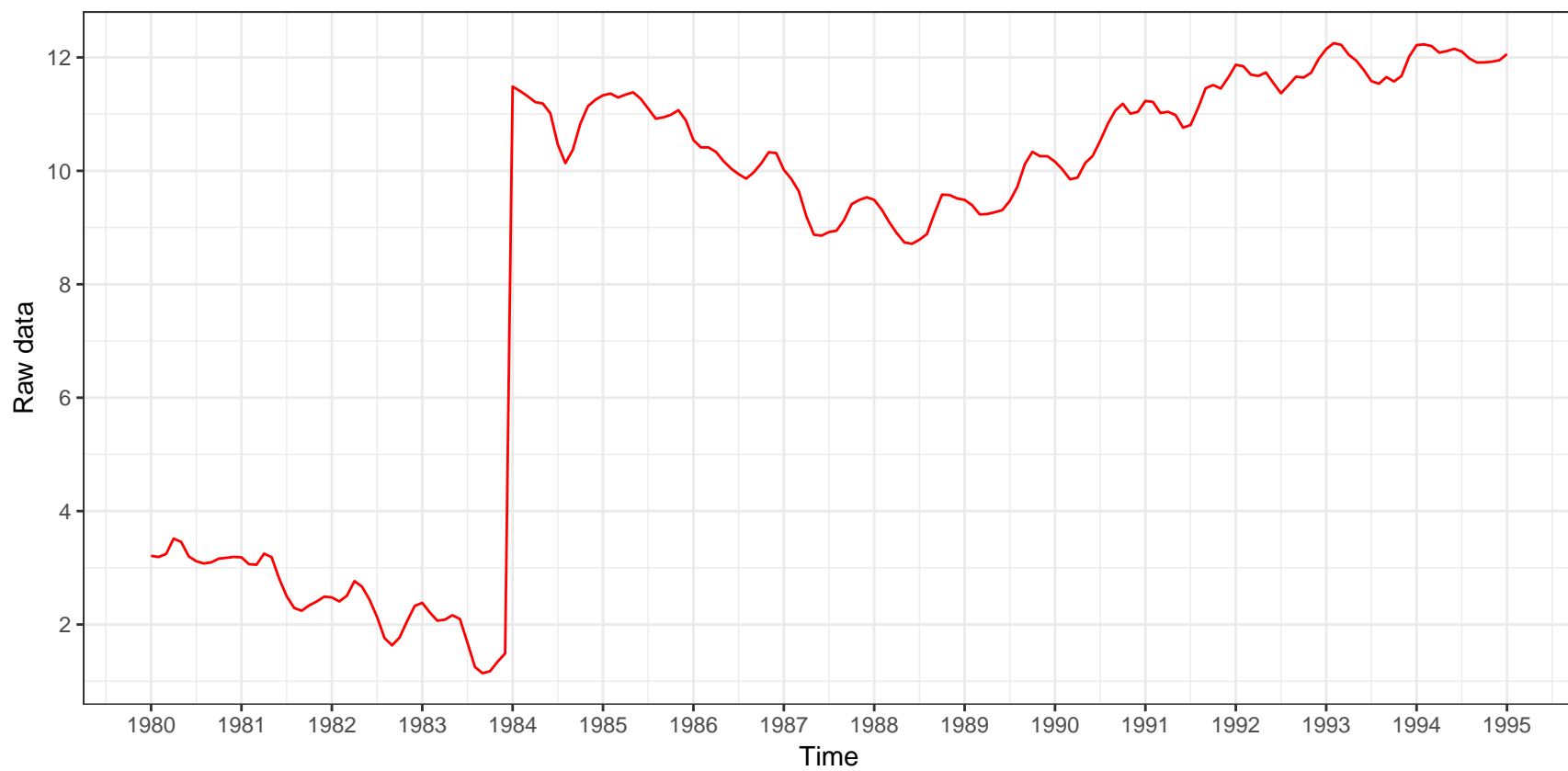


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

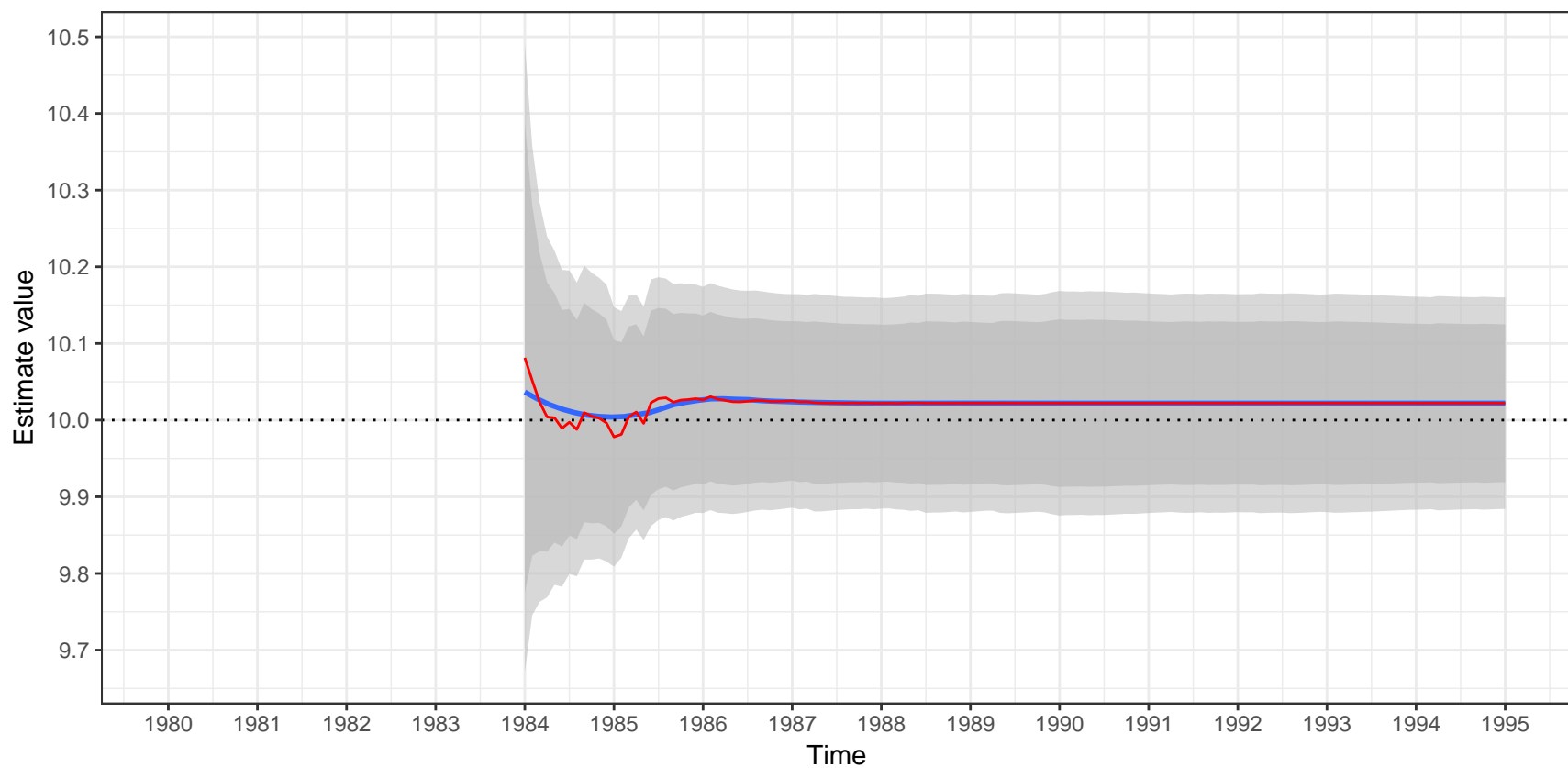


Raw data

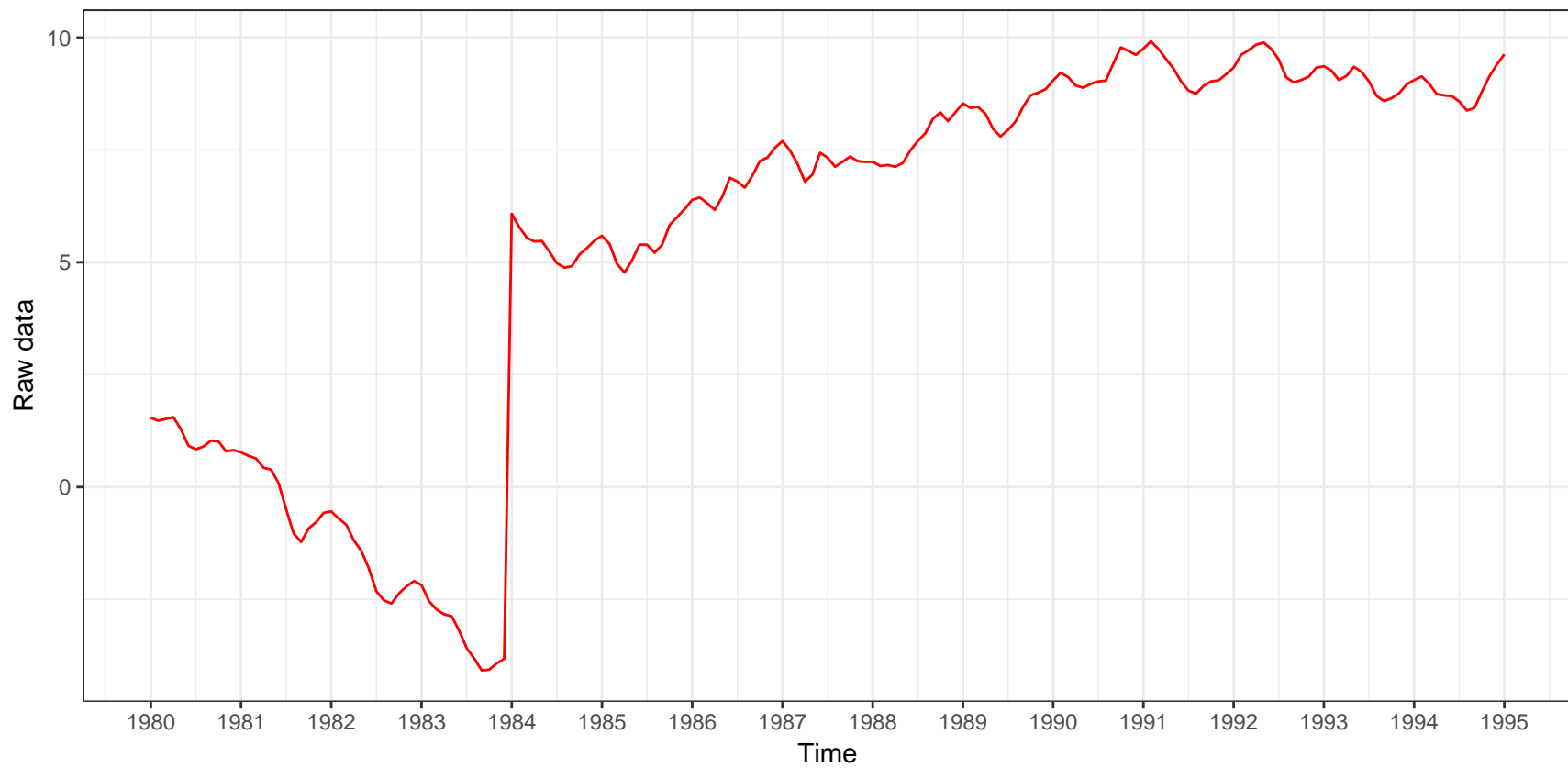


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

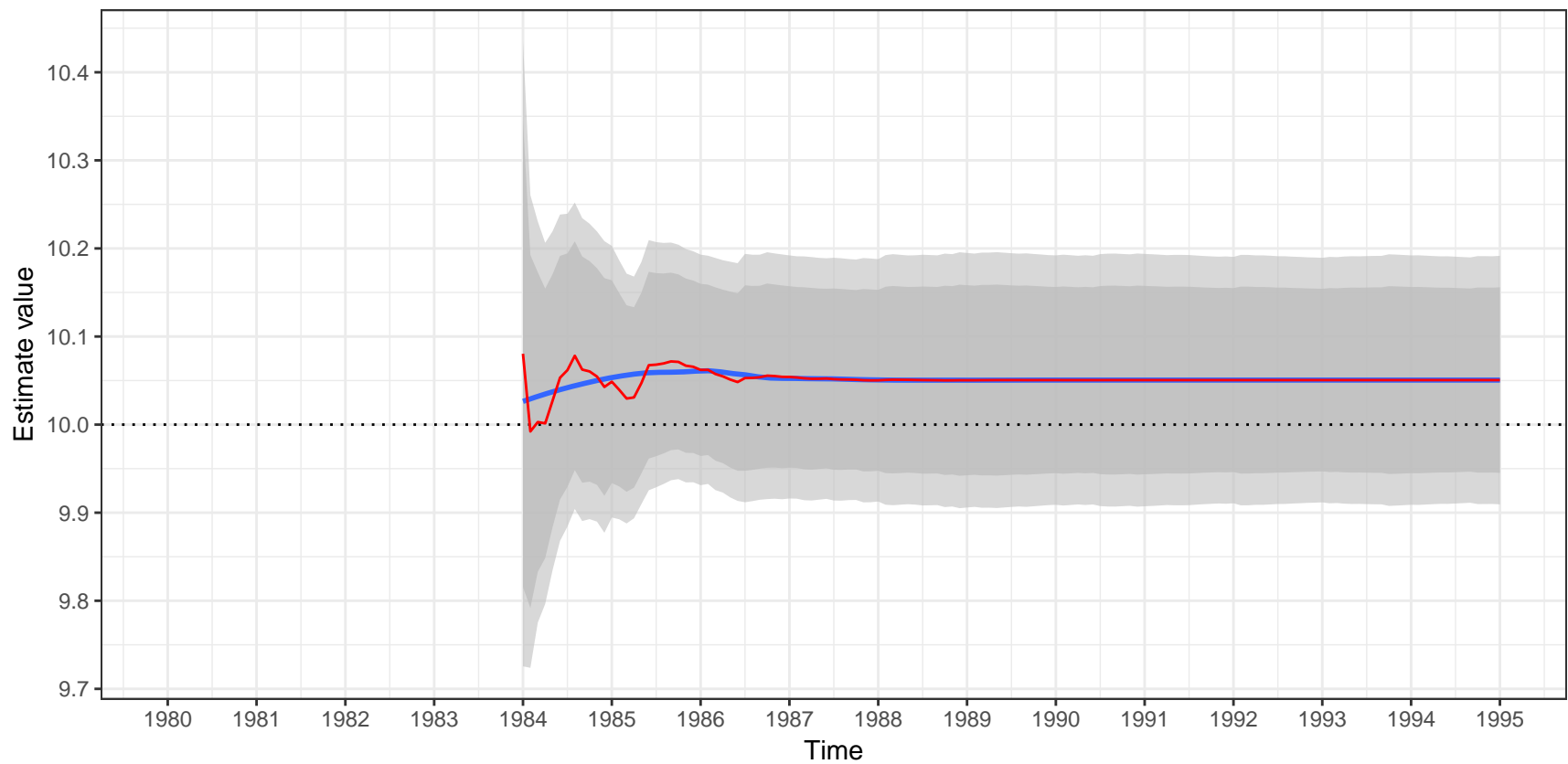


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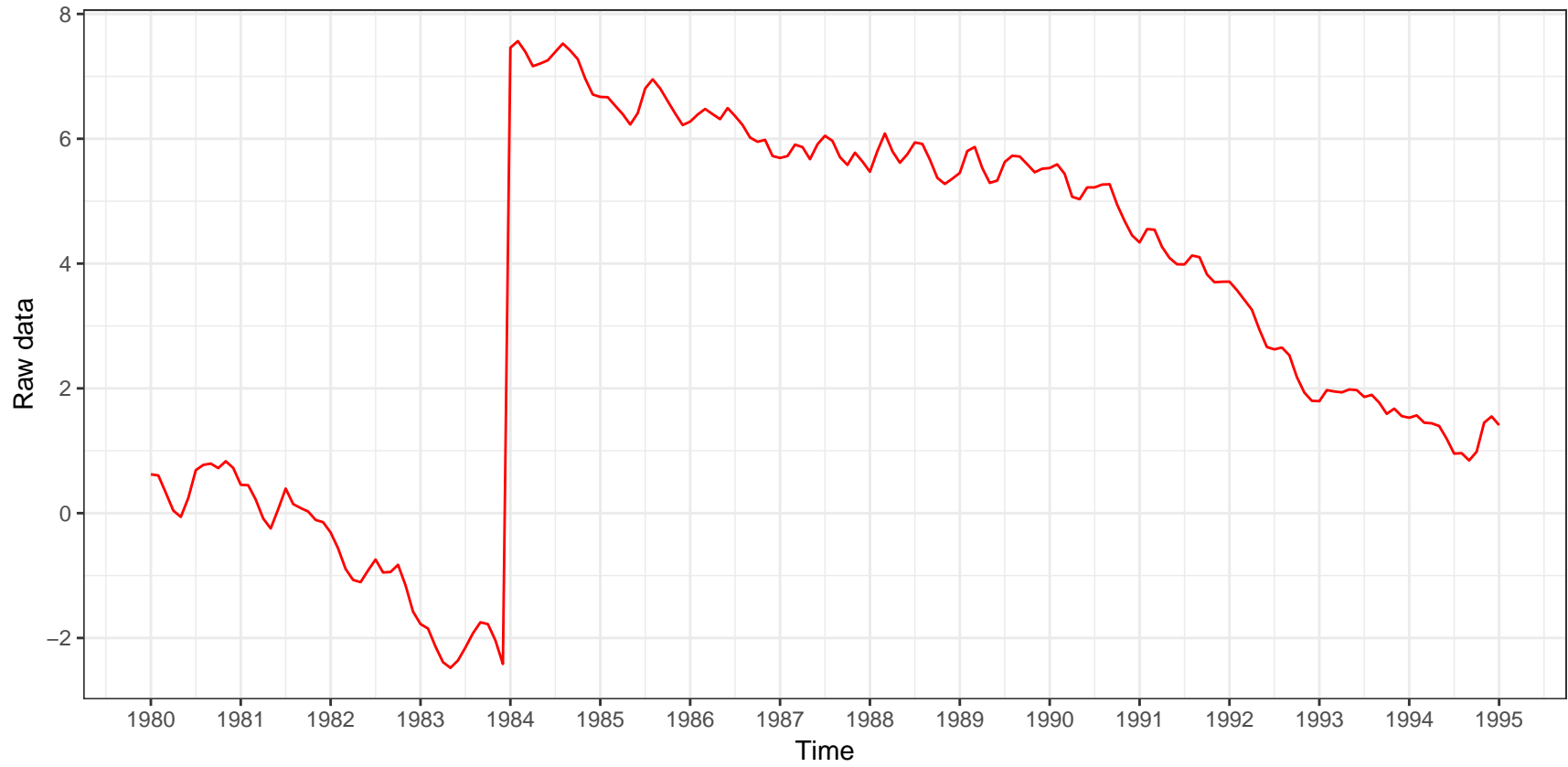


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

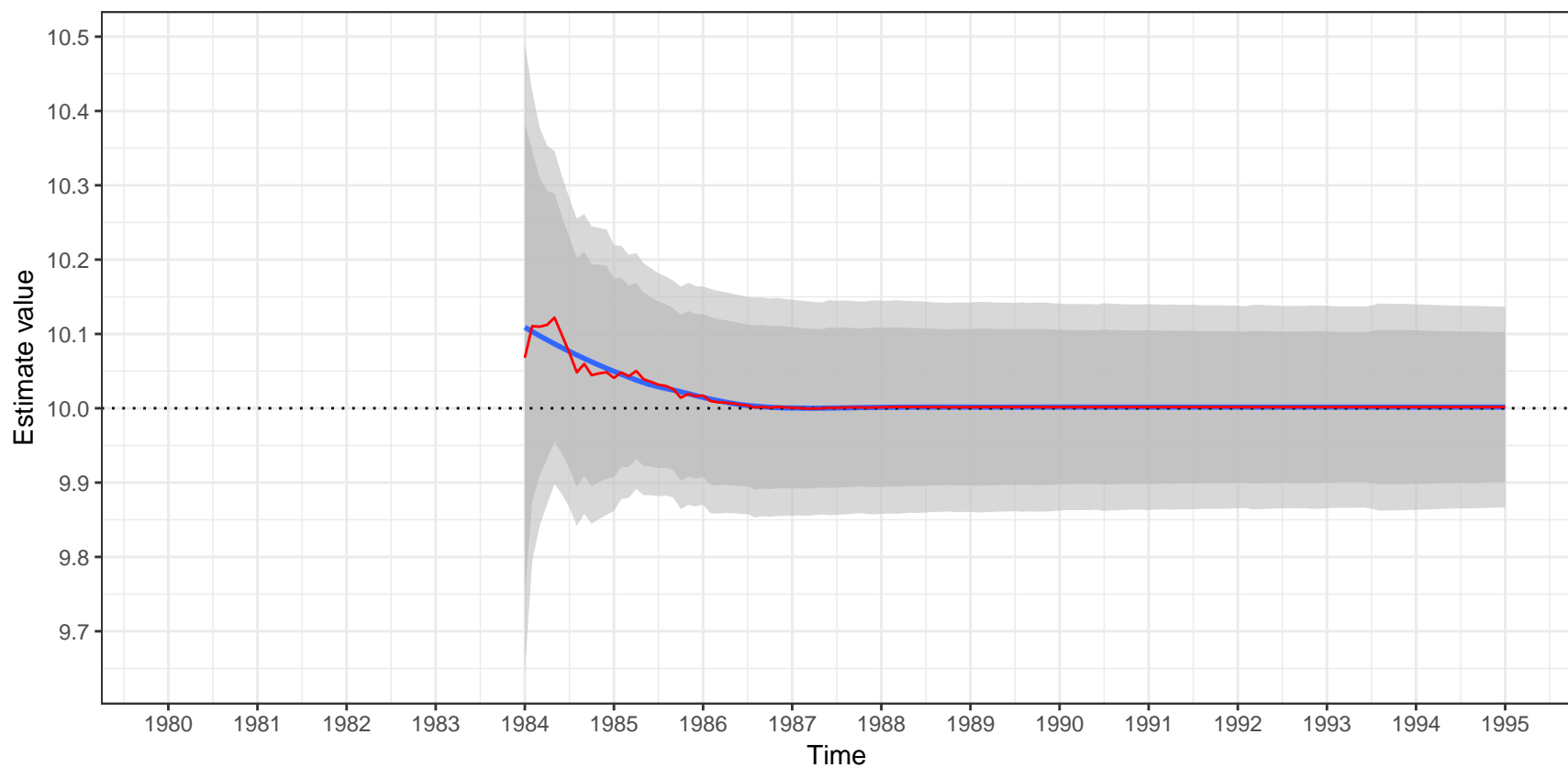


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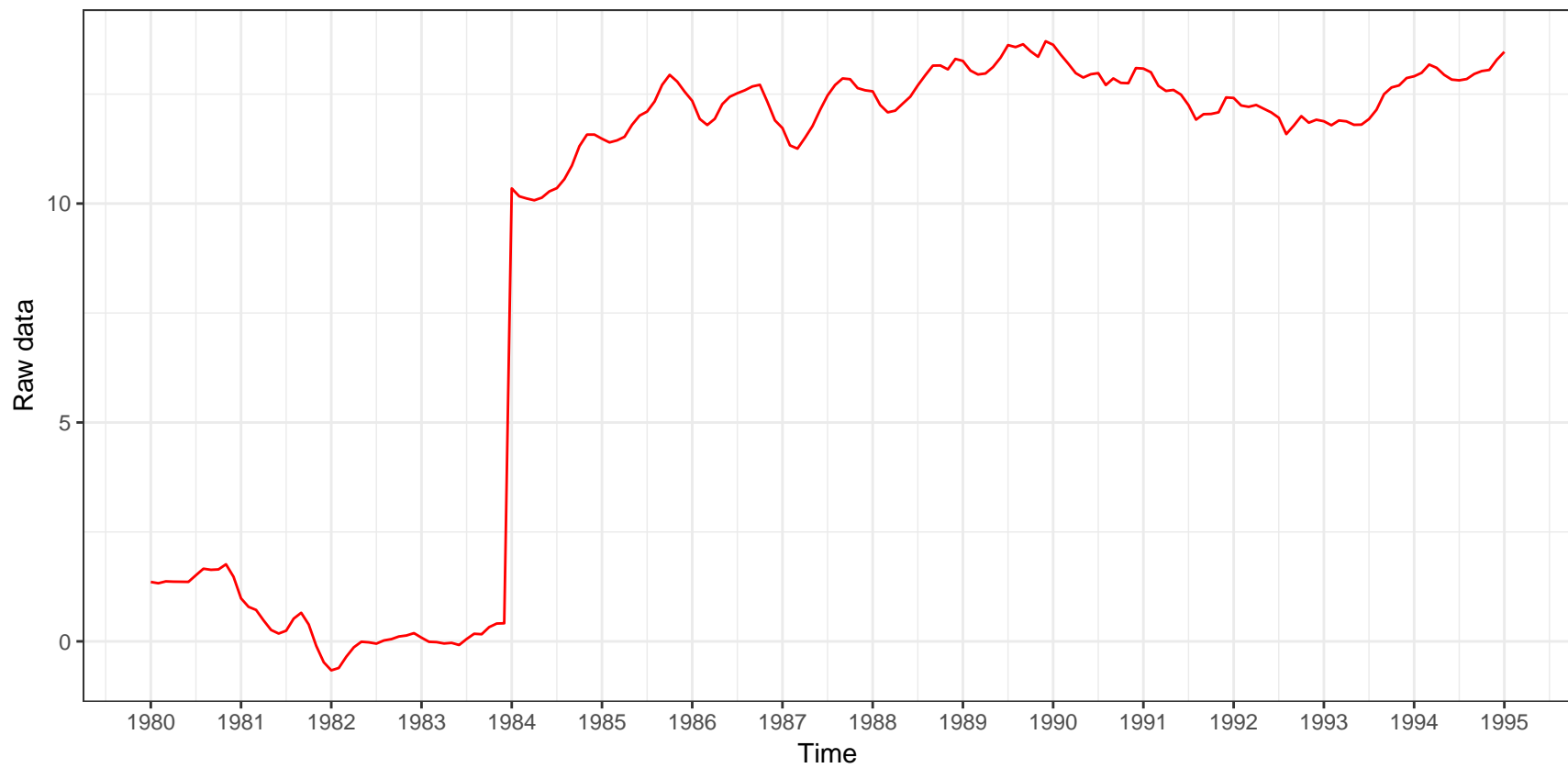


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

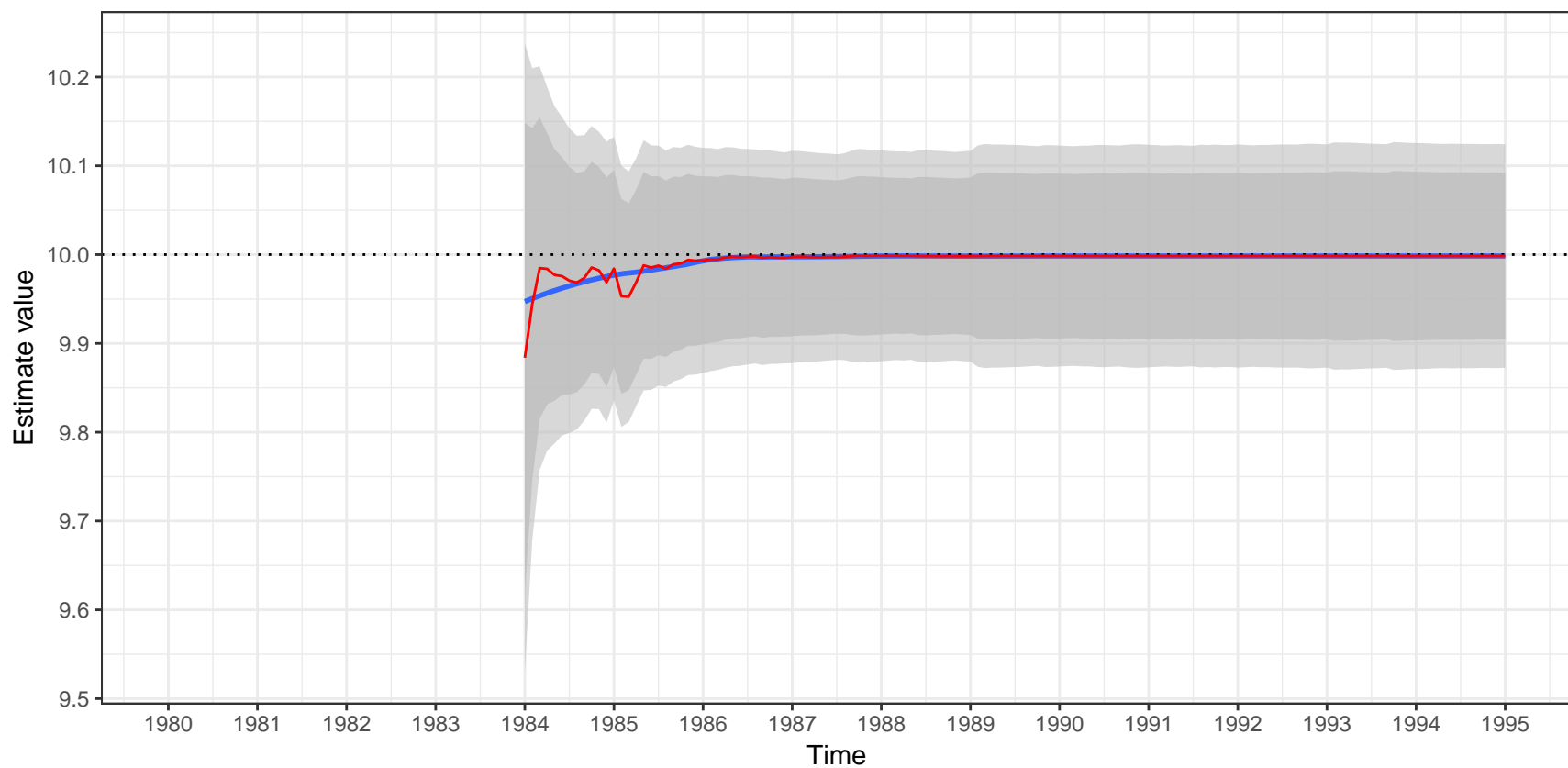


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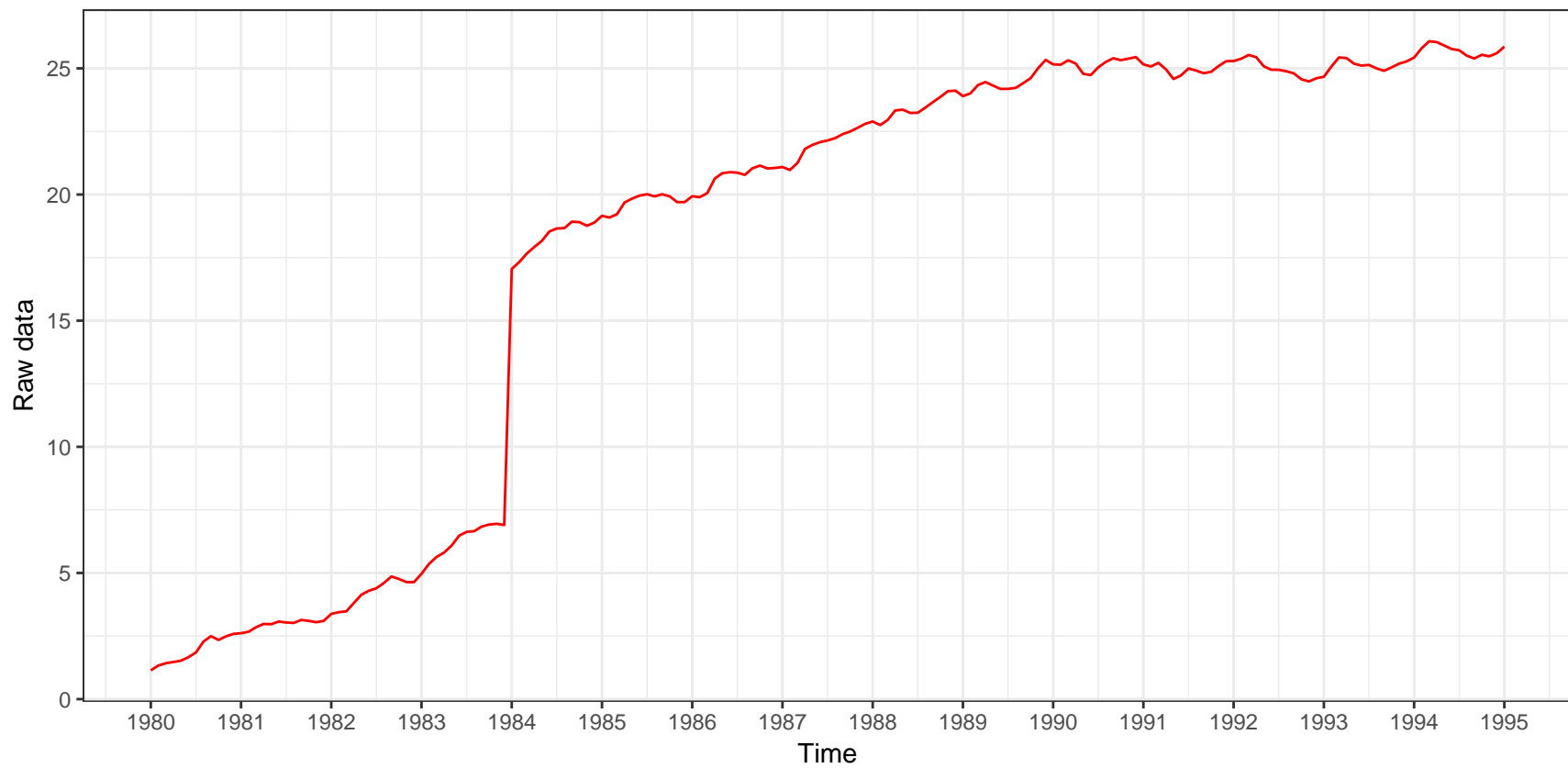


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

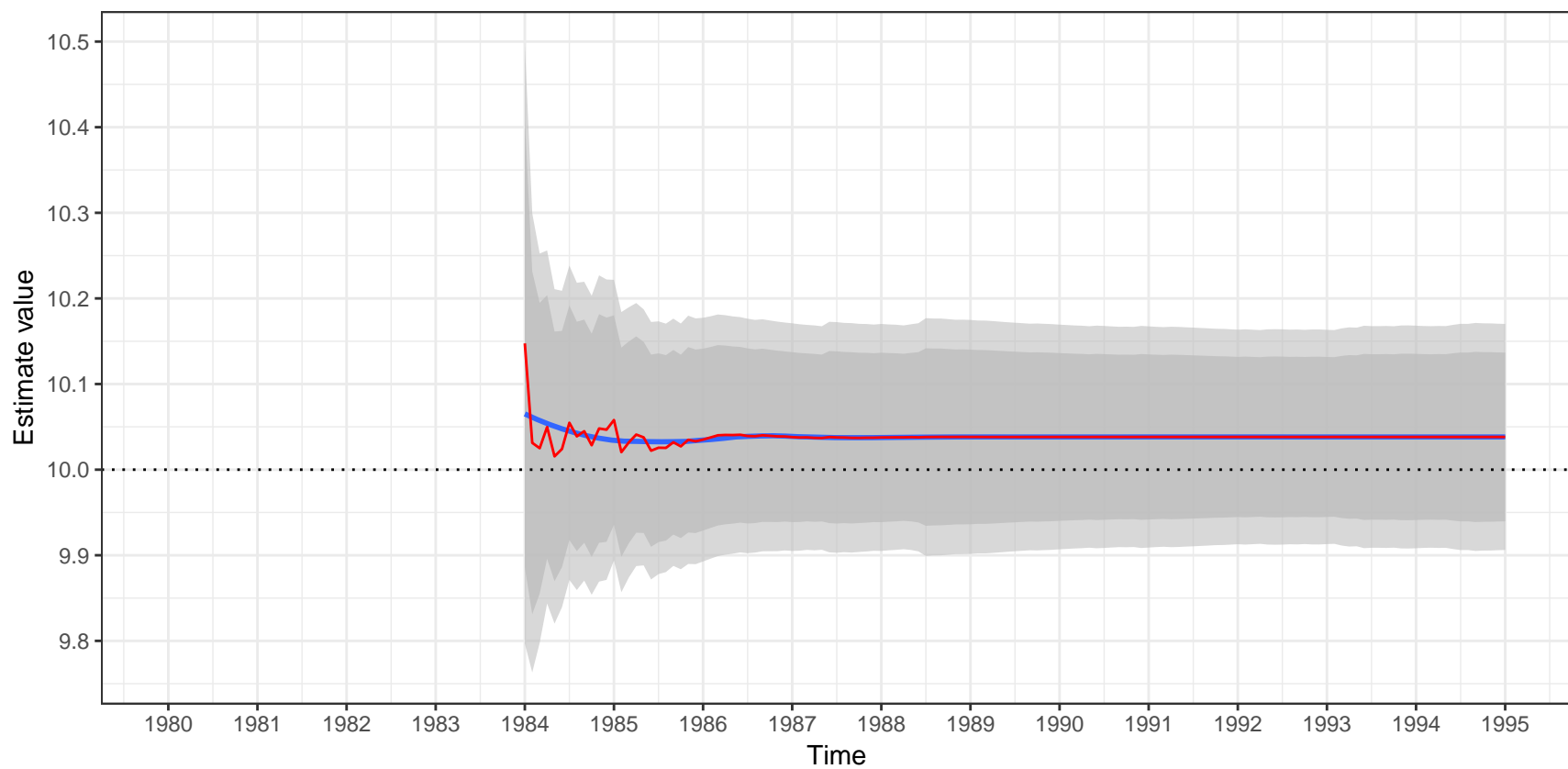


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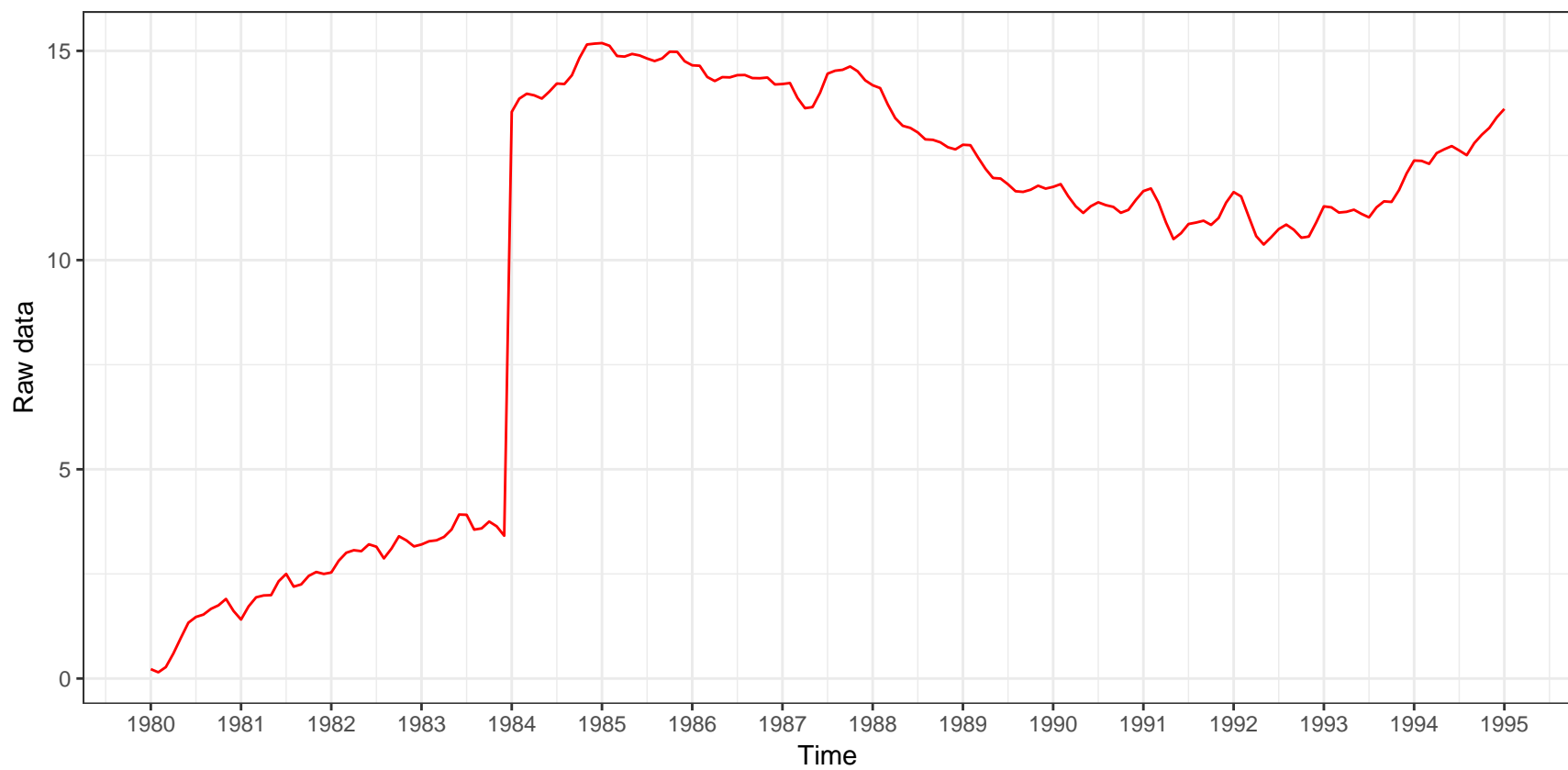


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
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Estimation of the outlier

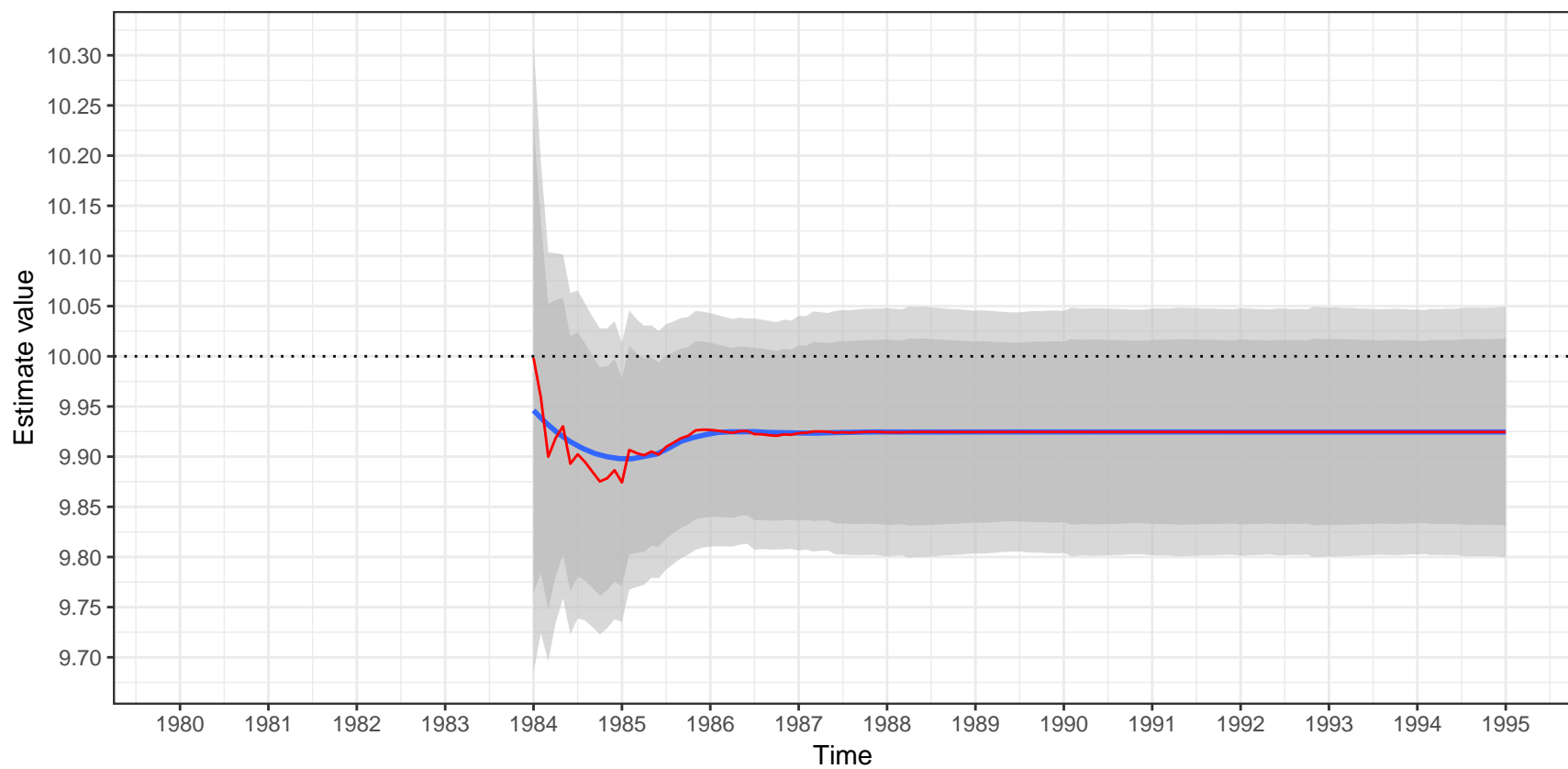


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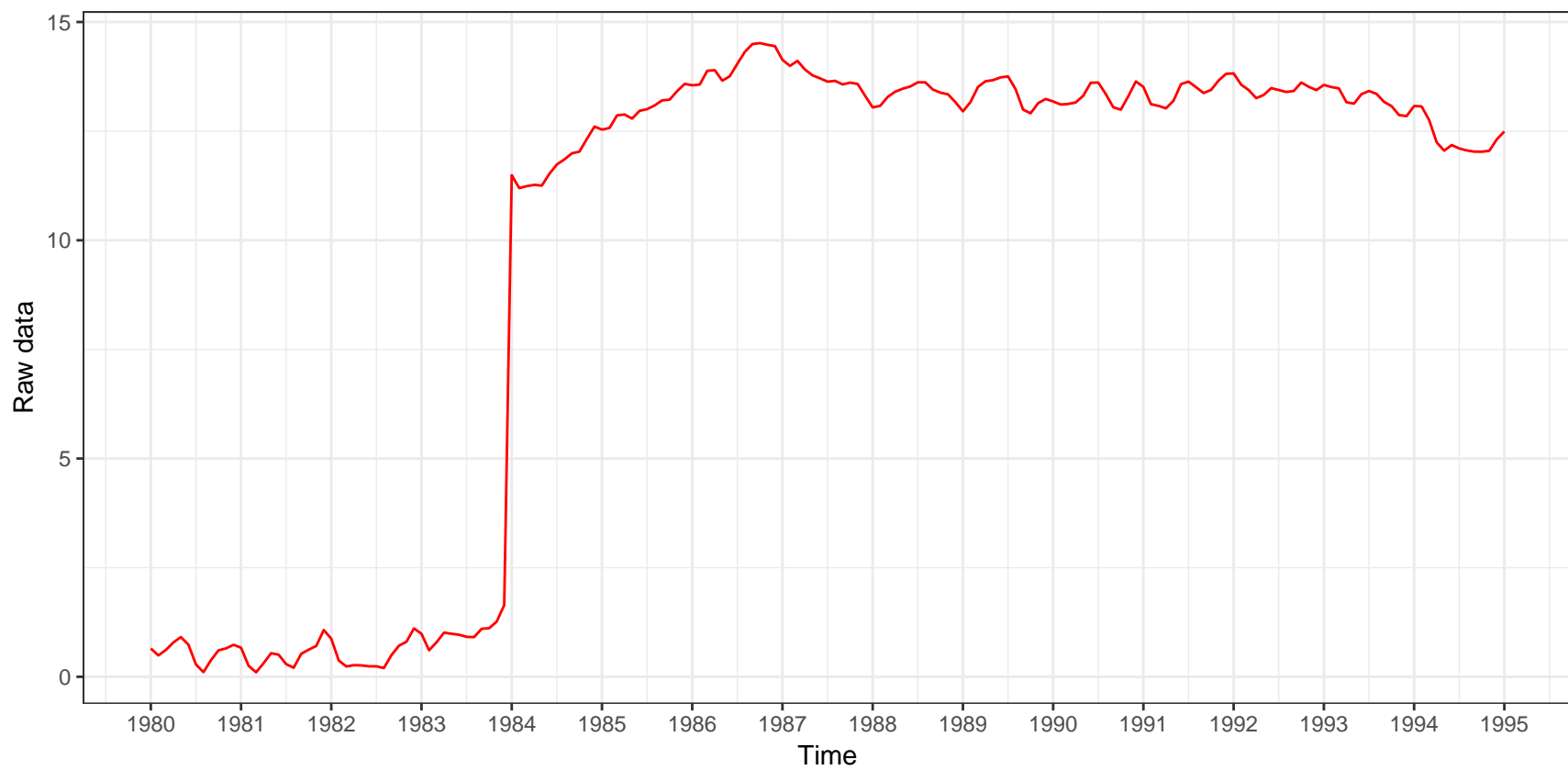


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

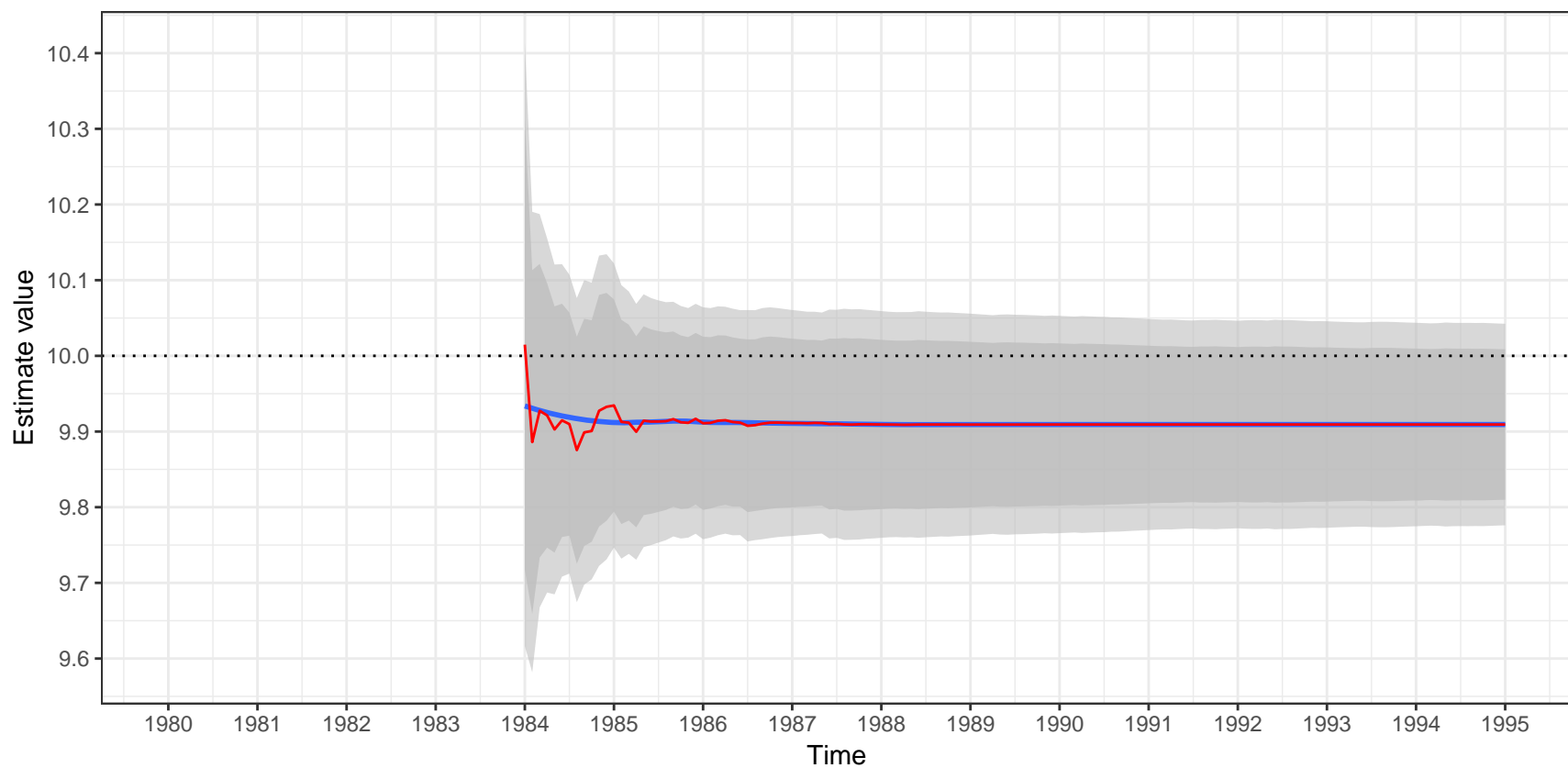


Raw data

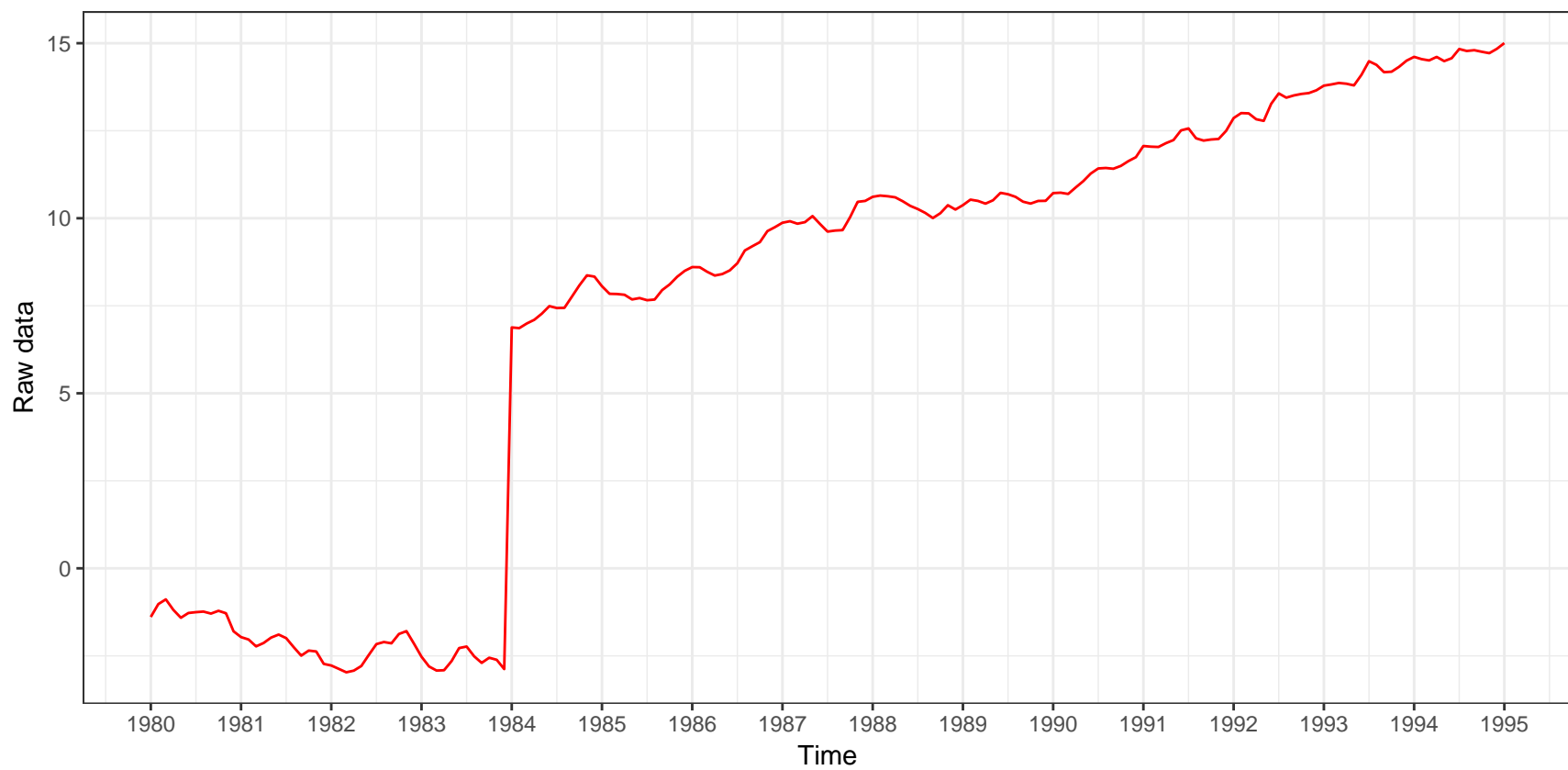


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,0,0) – additive decomposition
 $(1-B)(1-0.6B)X_t=(1+0.5B+0.7B^2)a_t$

Estimation of the outlier

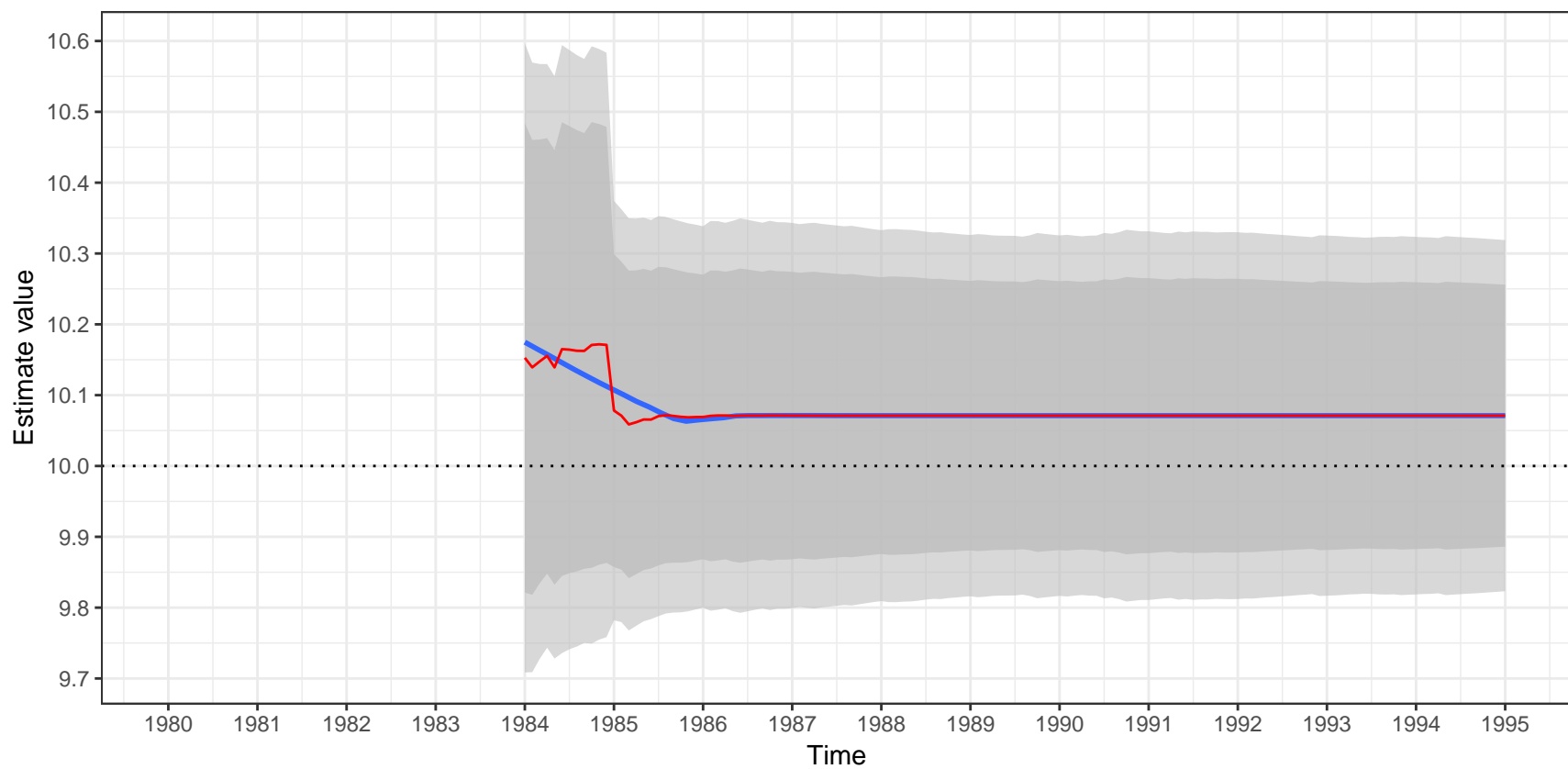


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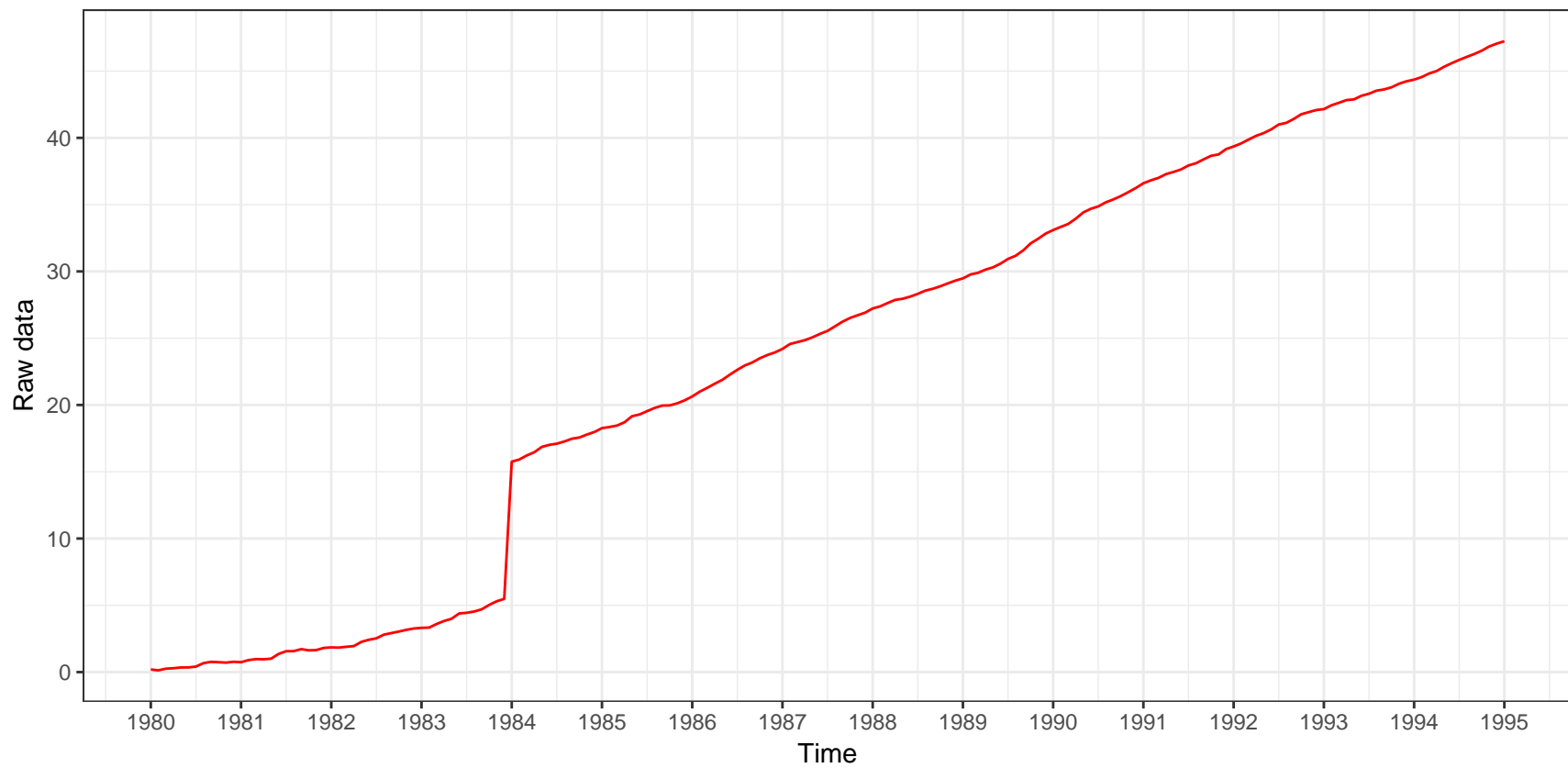


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.8B)a_t$

Estimation of the outlier

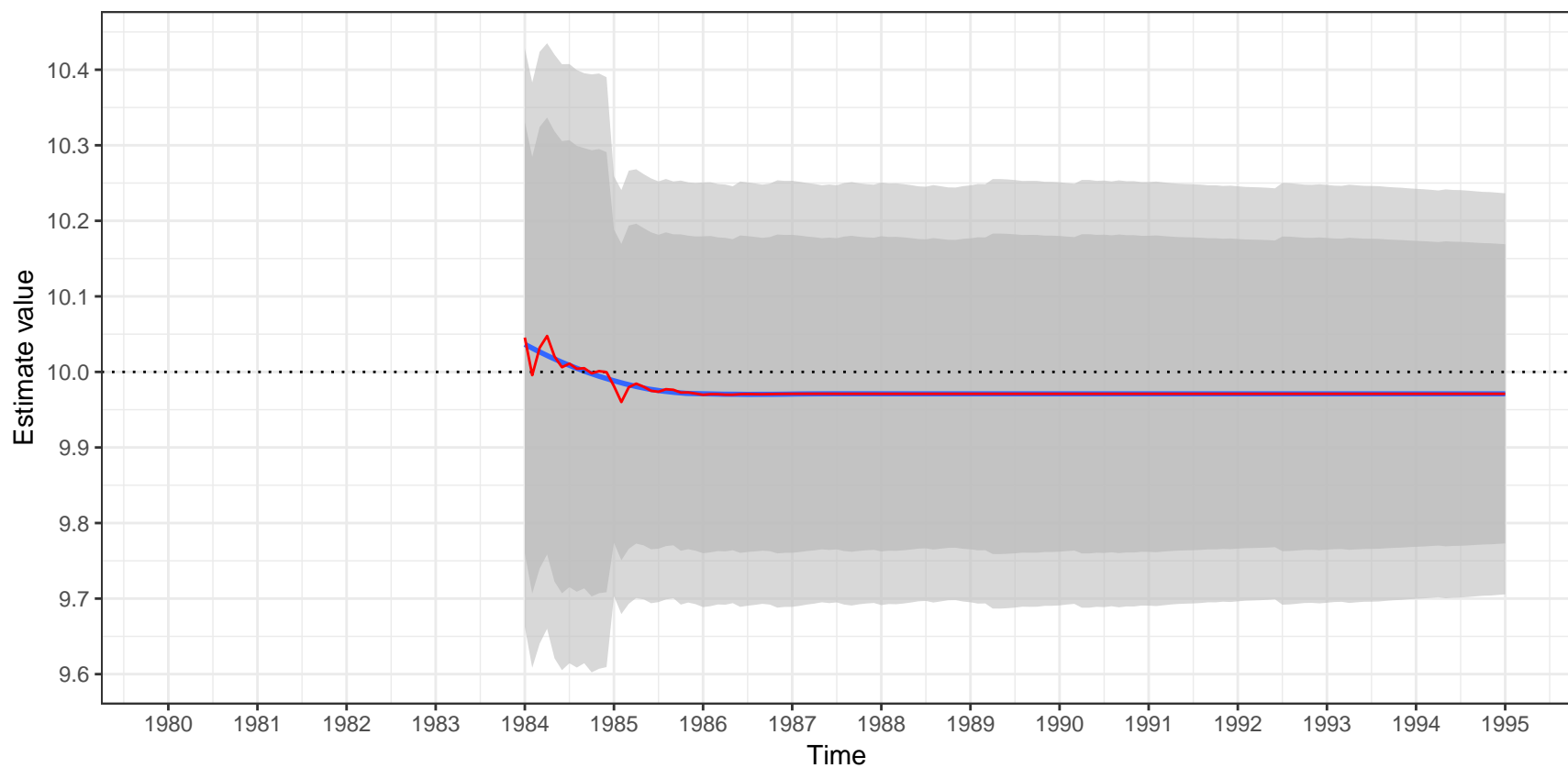


Raw data

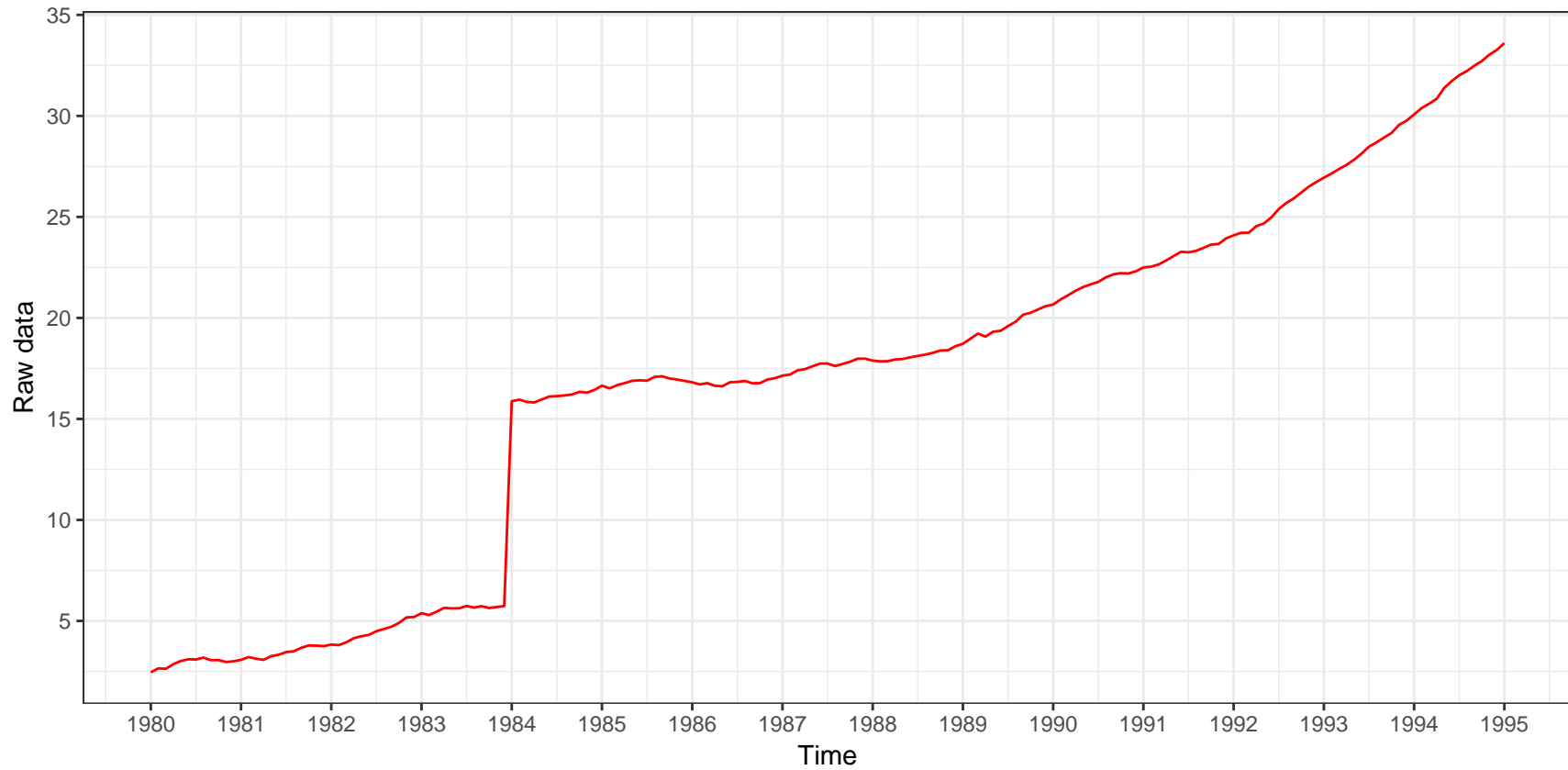


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.8B)a_t$

Estimation of the outlier

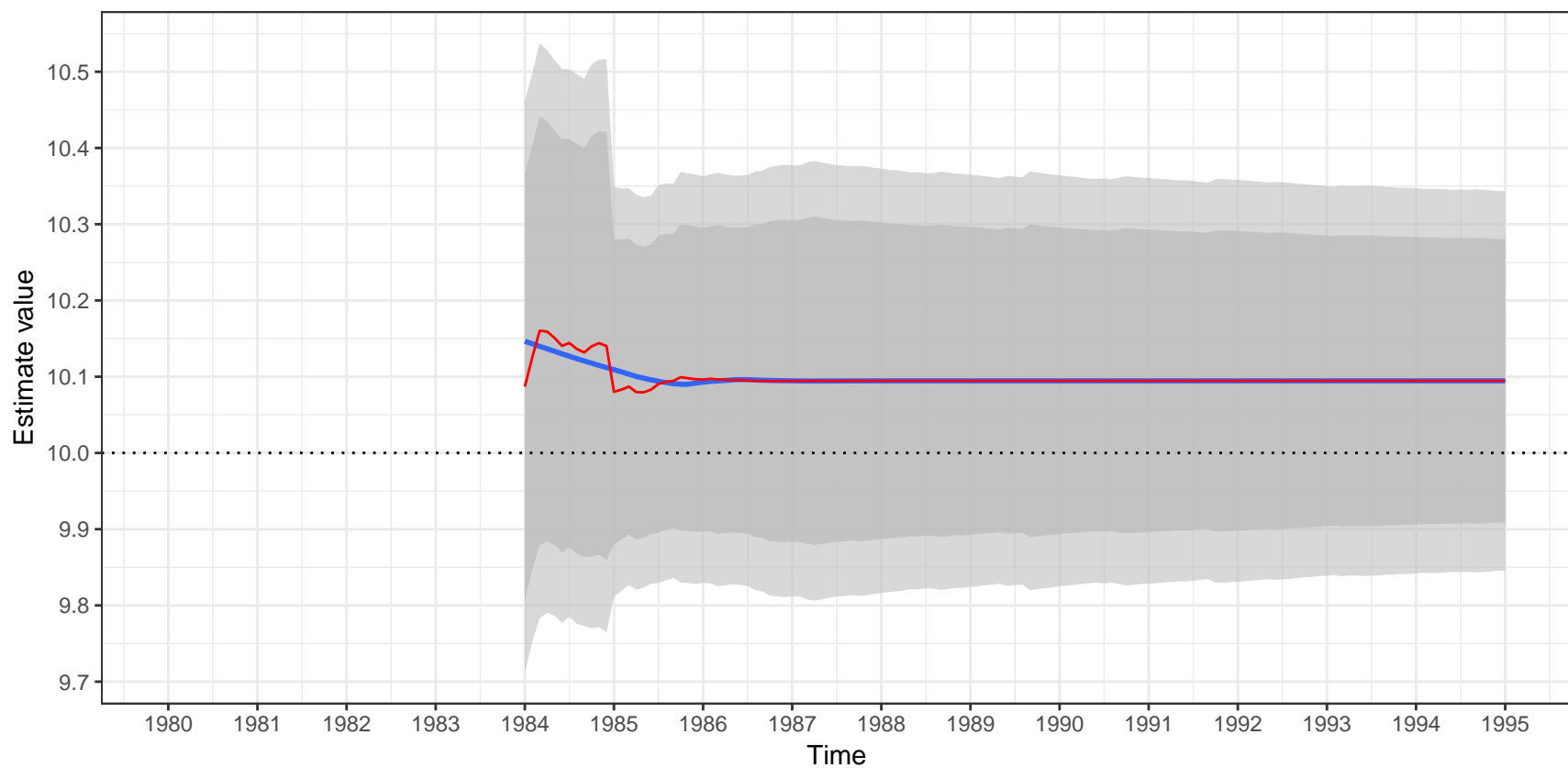


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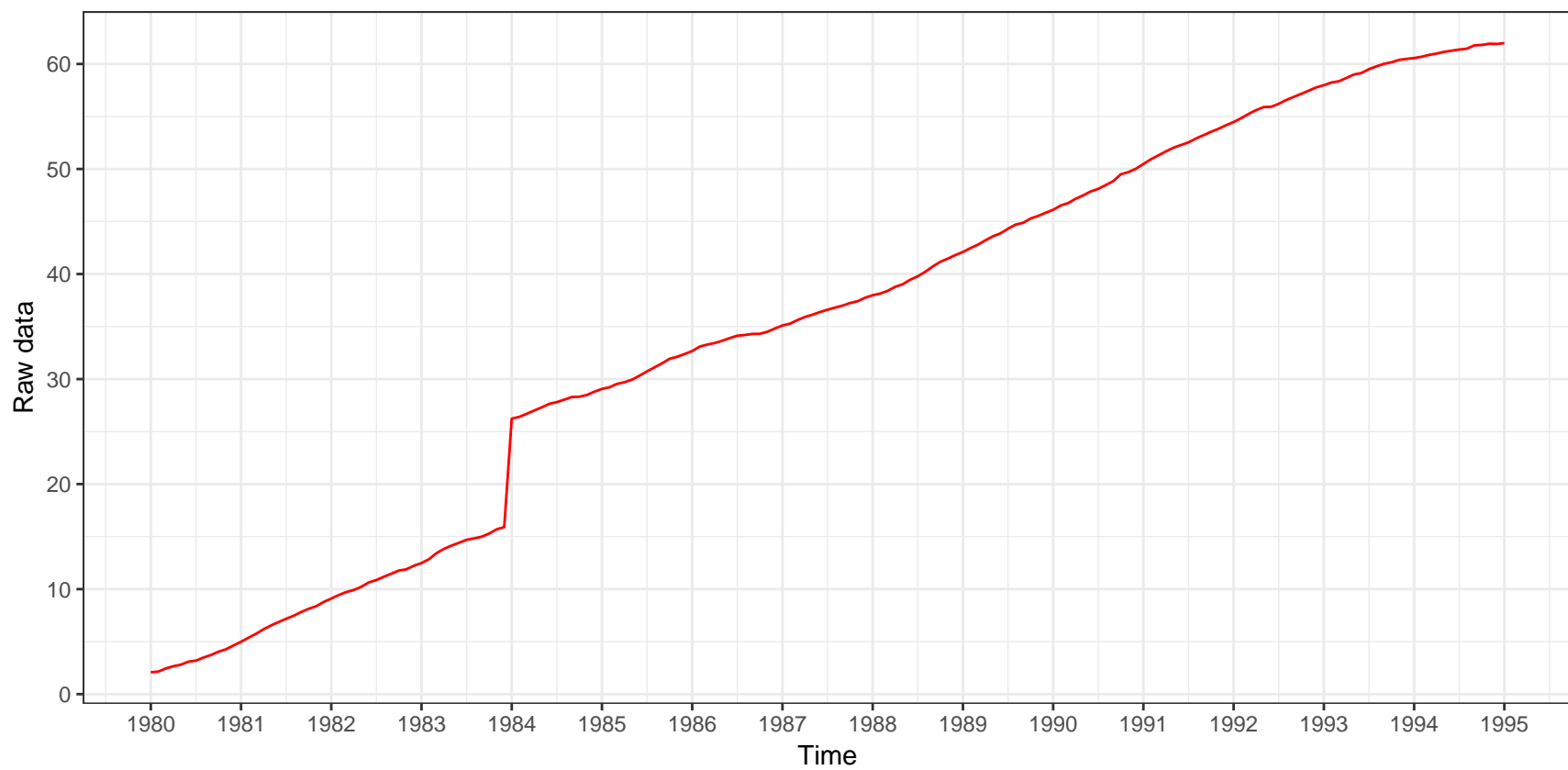


Estimate value of a LS(1984-01)
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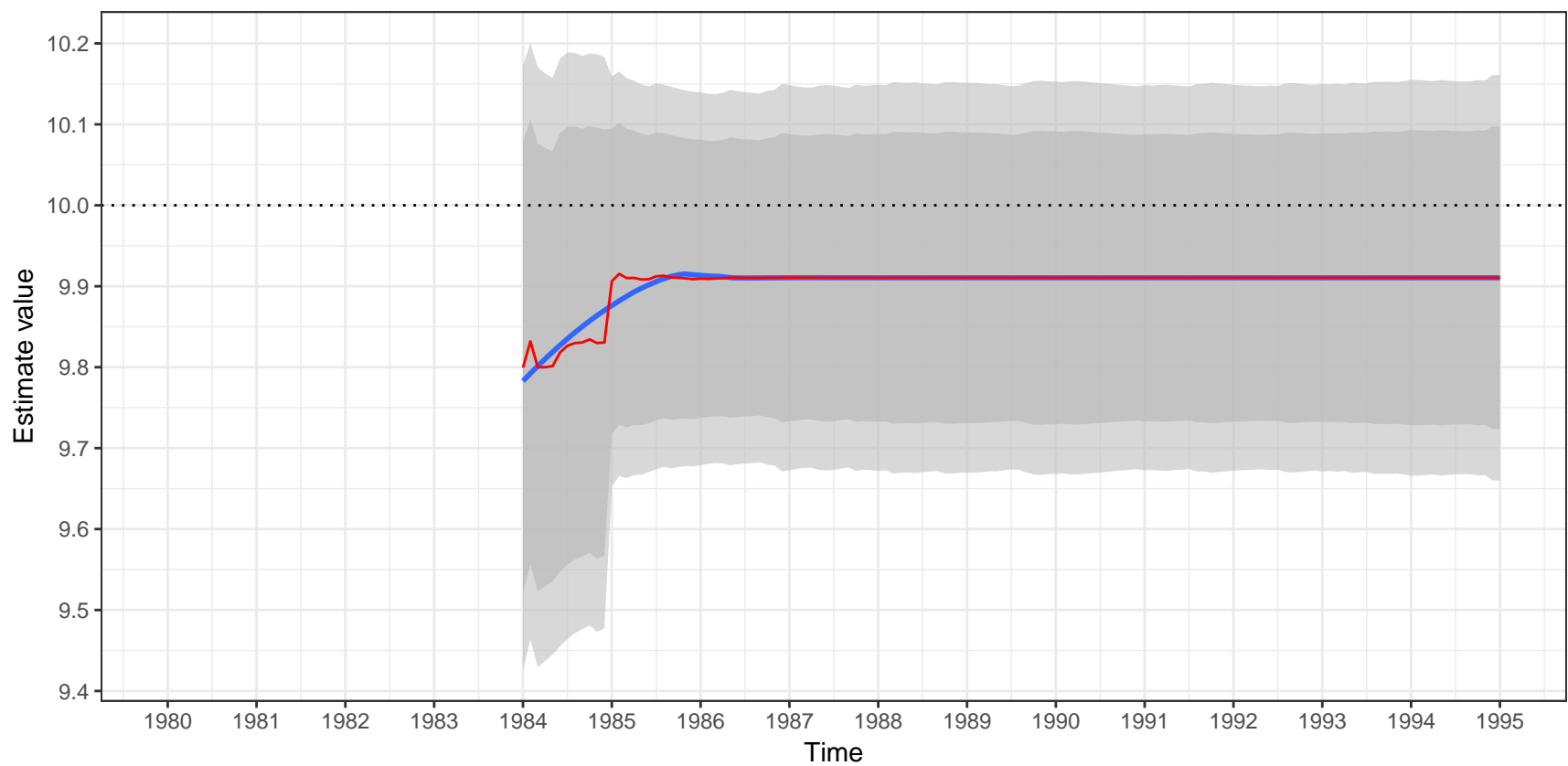


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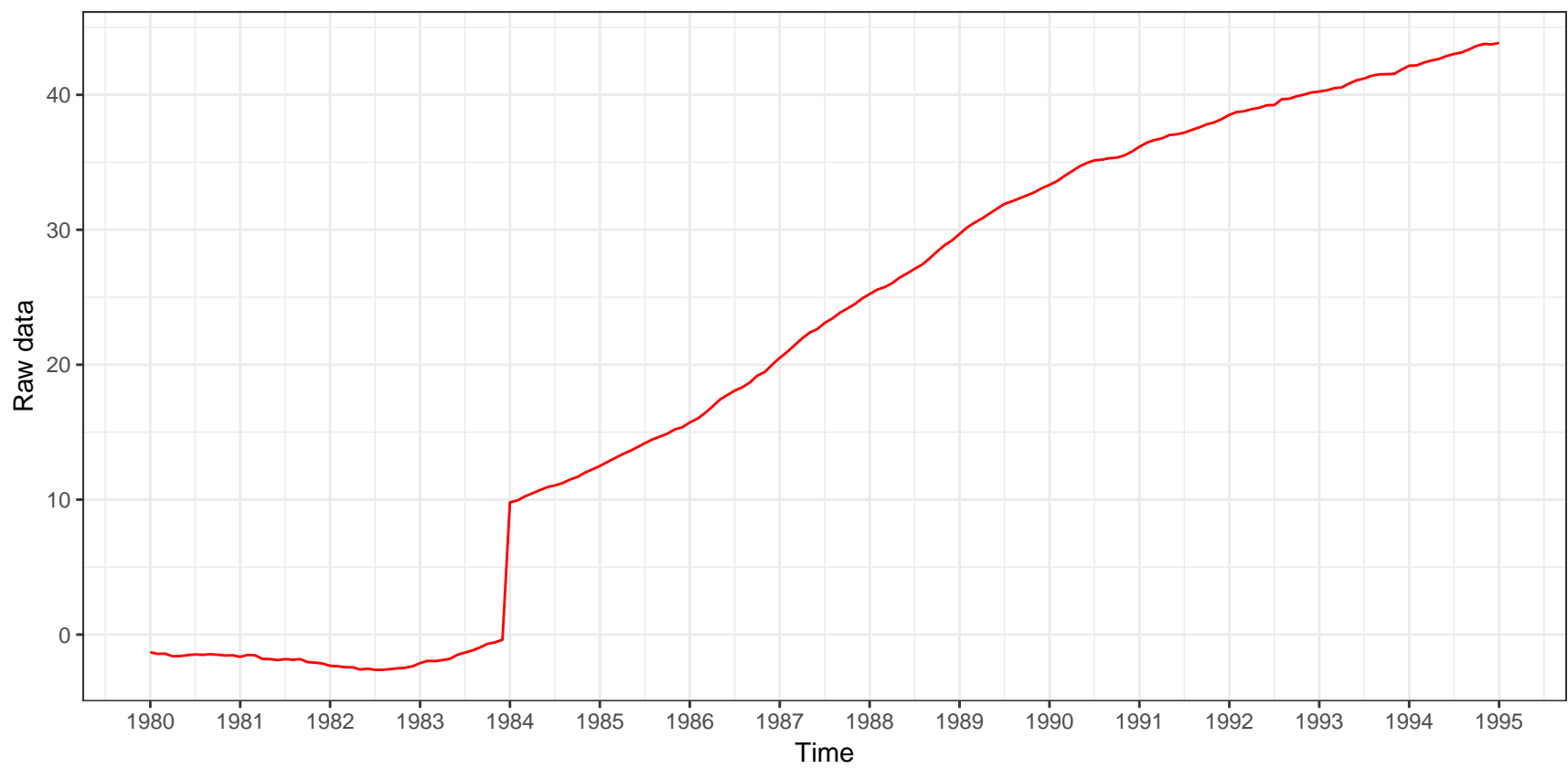


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Estimation of the outlier

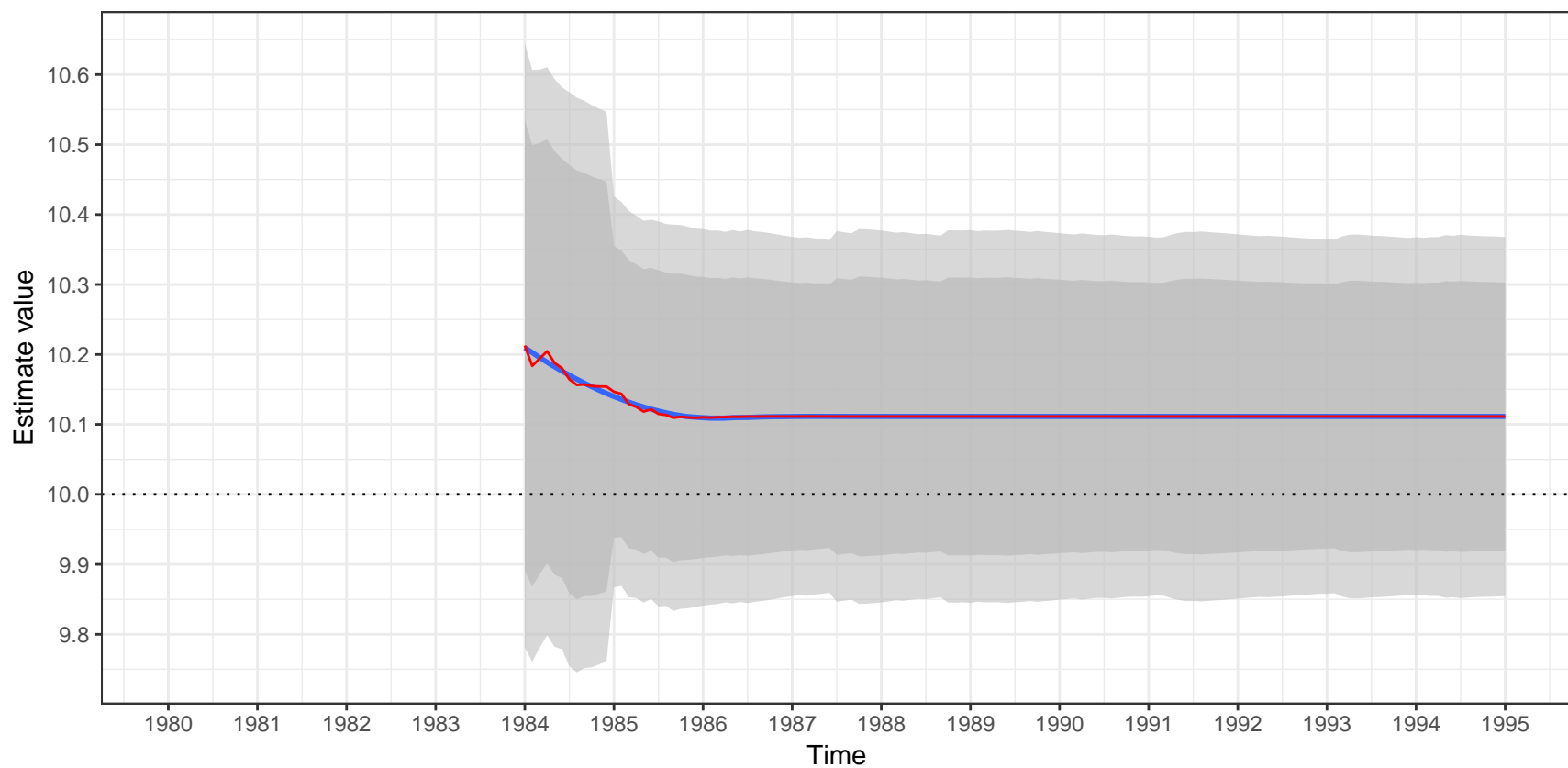


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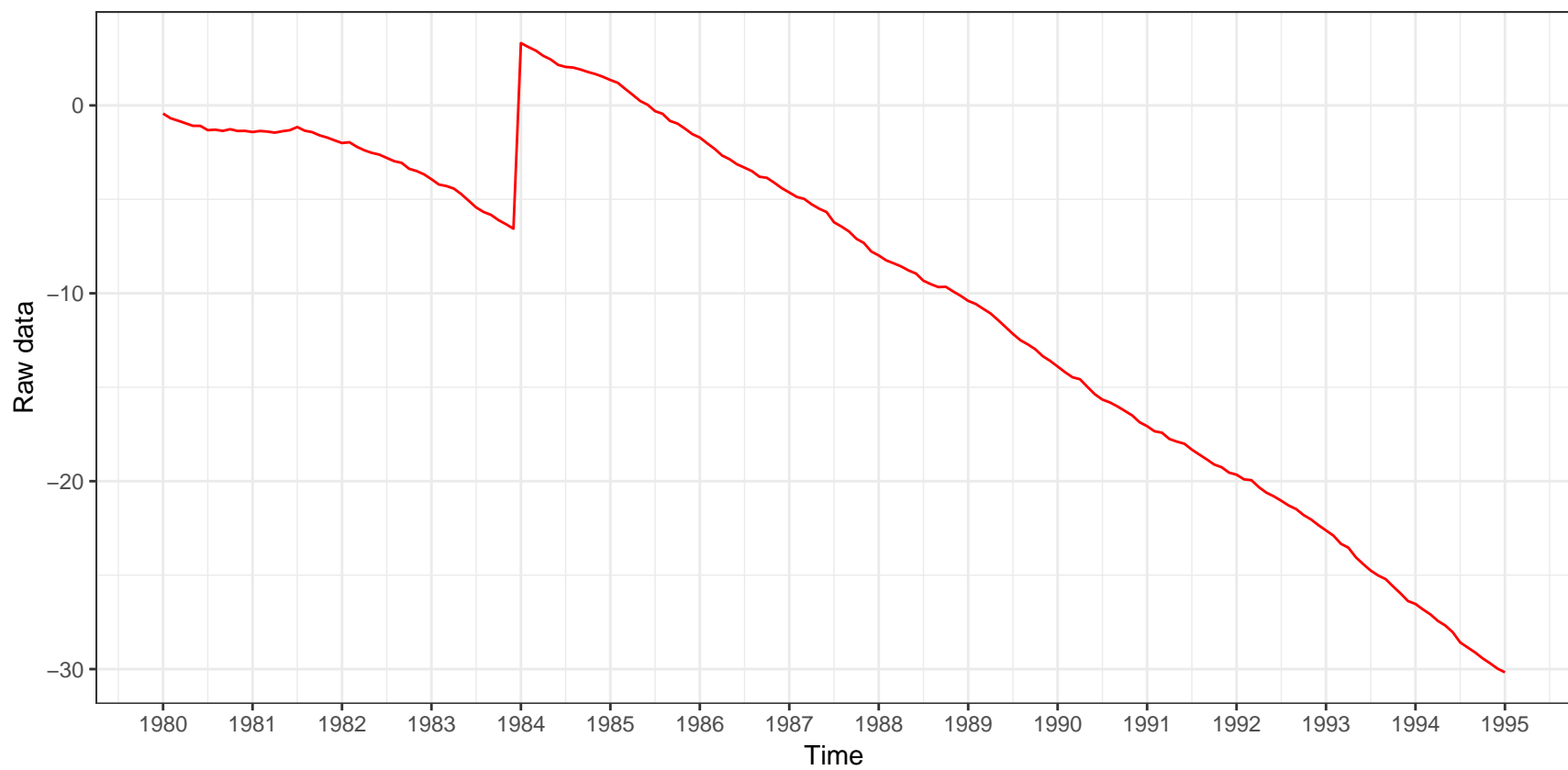


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
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Estimation of the outlier

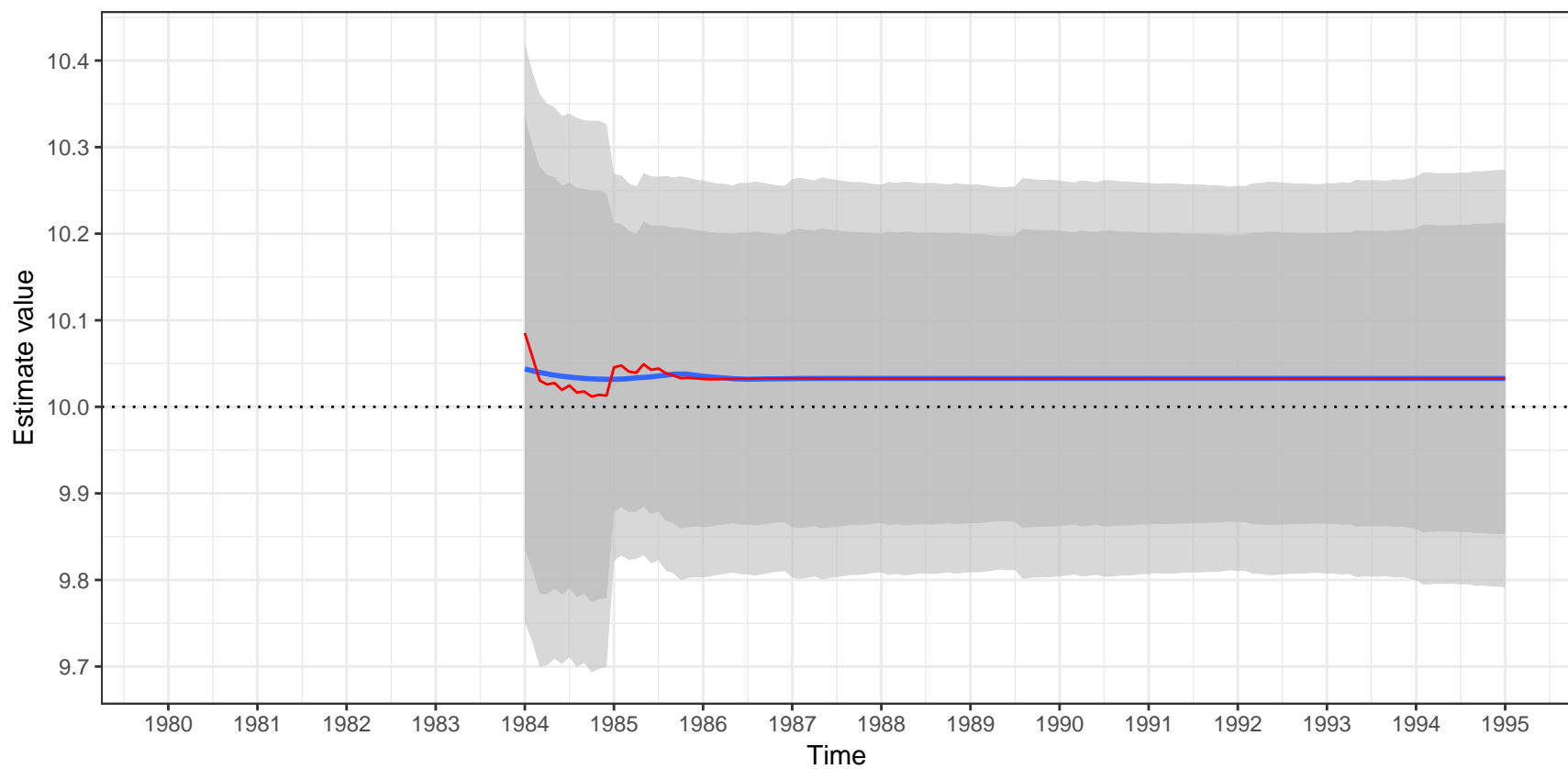


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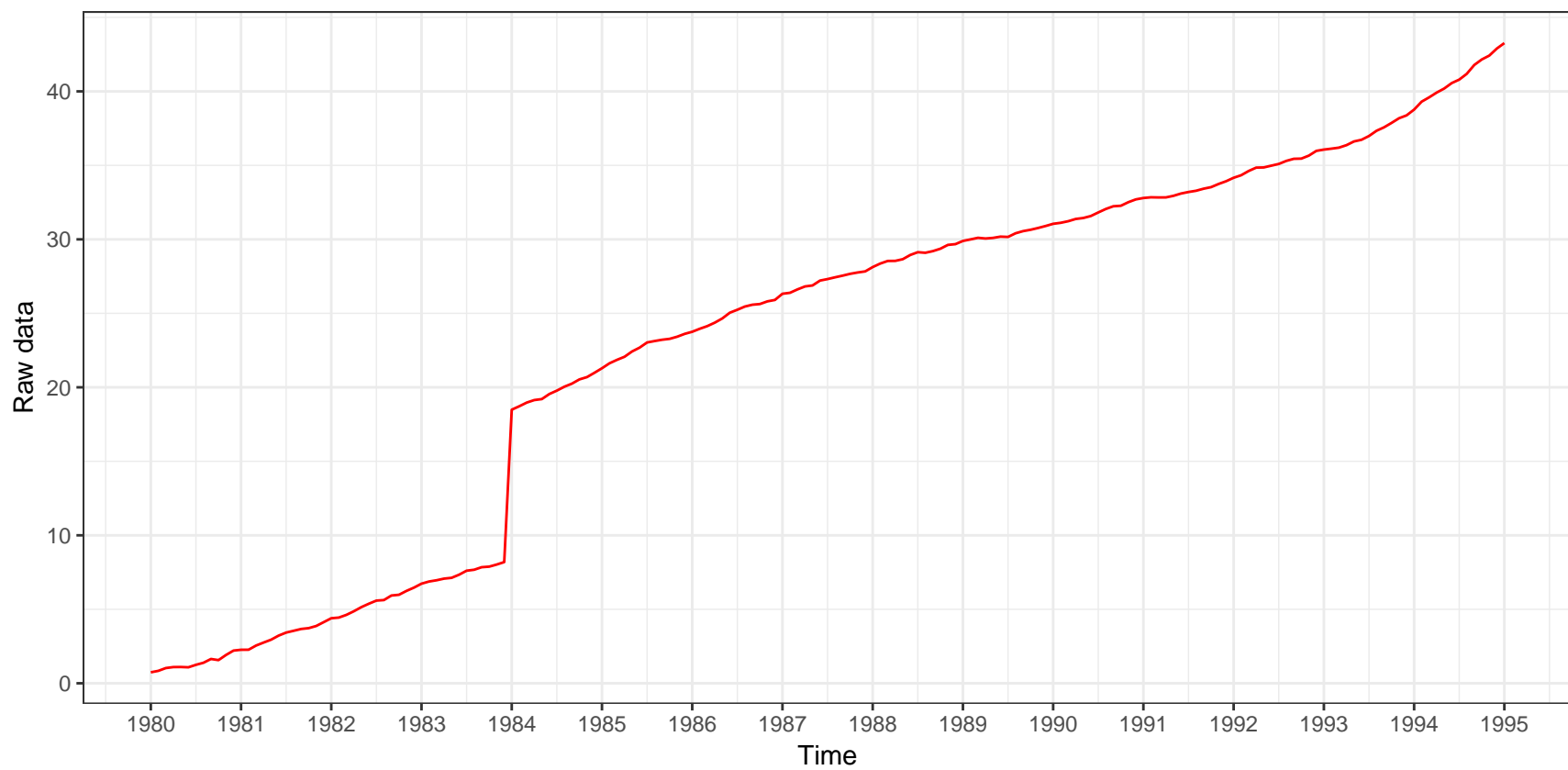


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.8B)a_t$

Estimation of the outlier

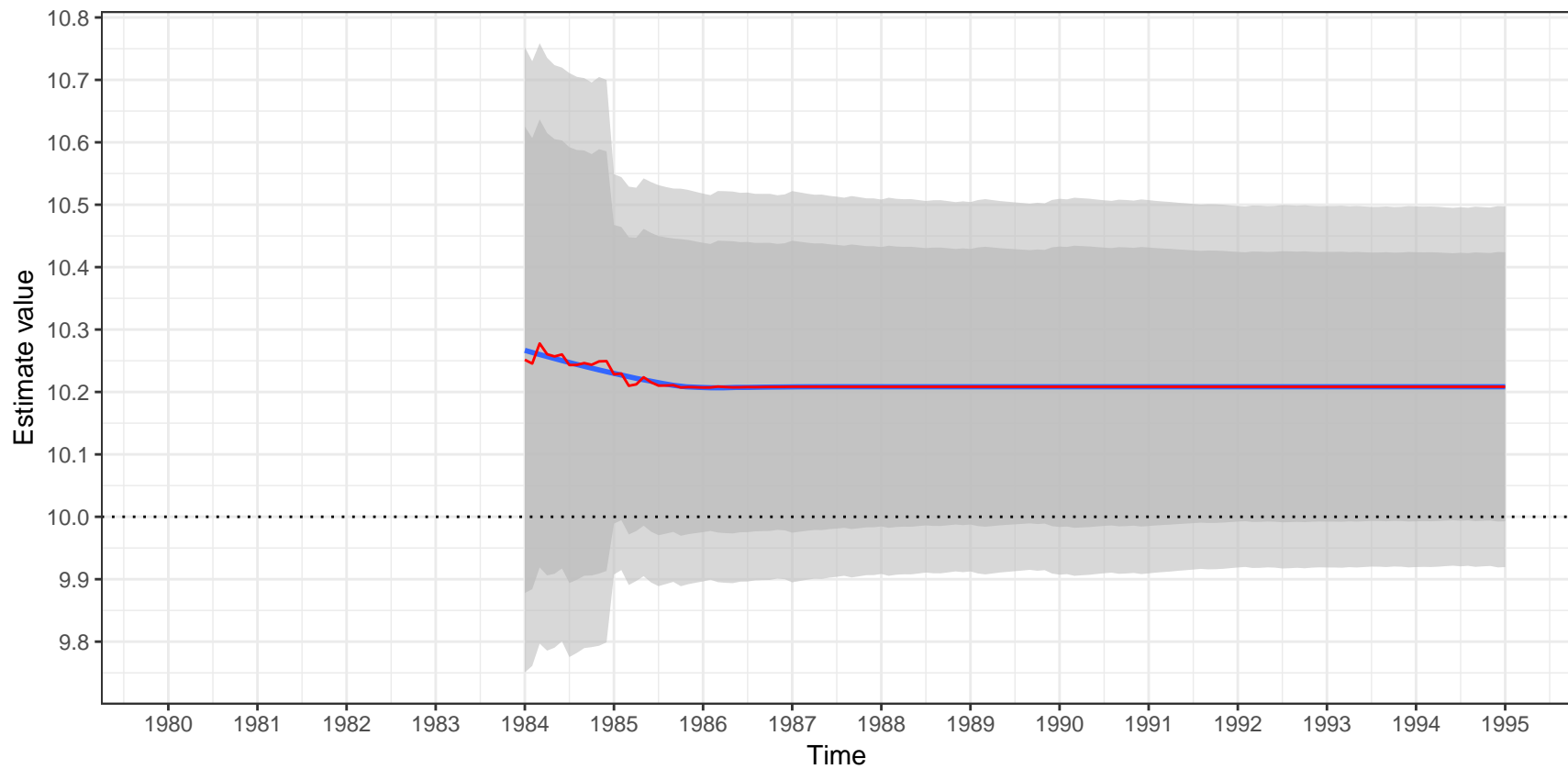


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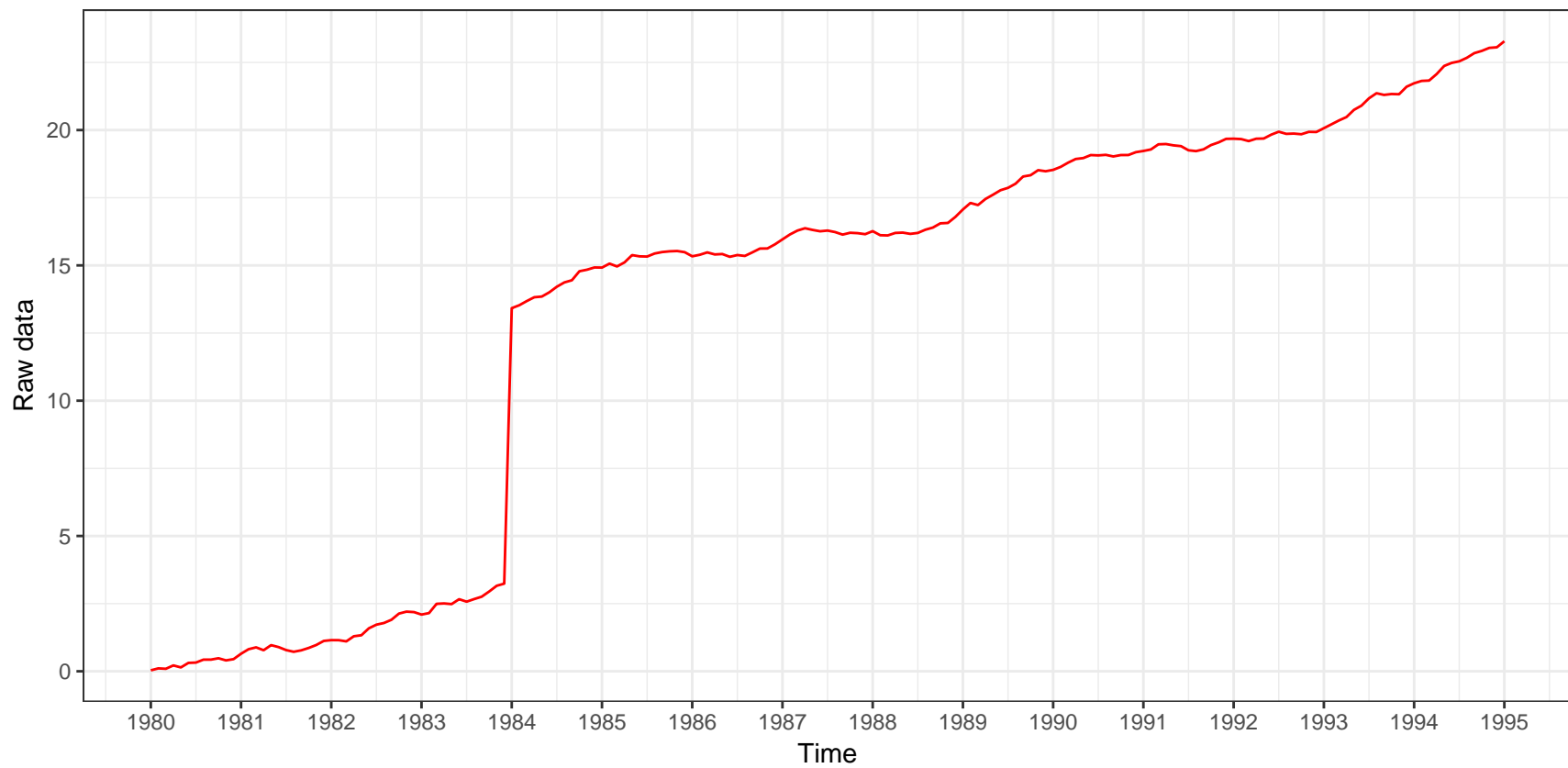


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.8B)a_t$

Estimation of the outlier

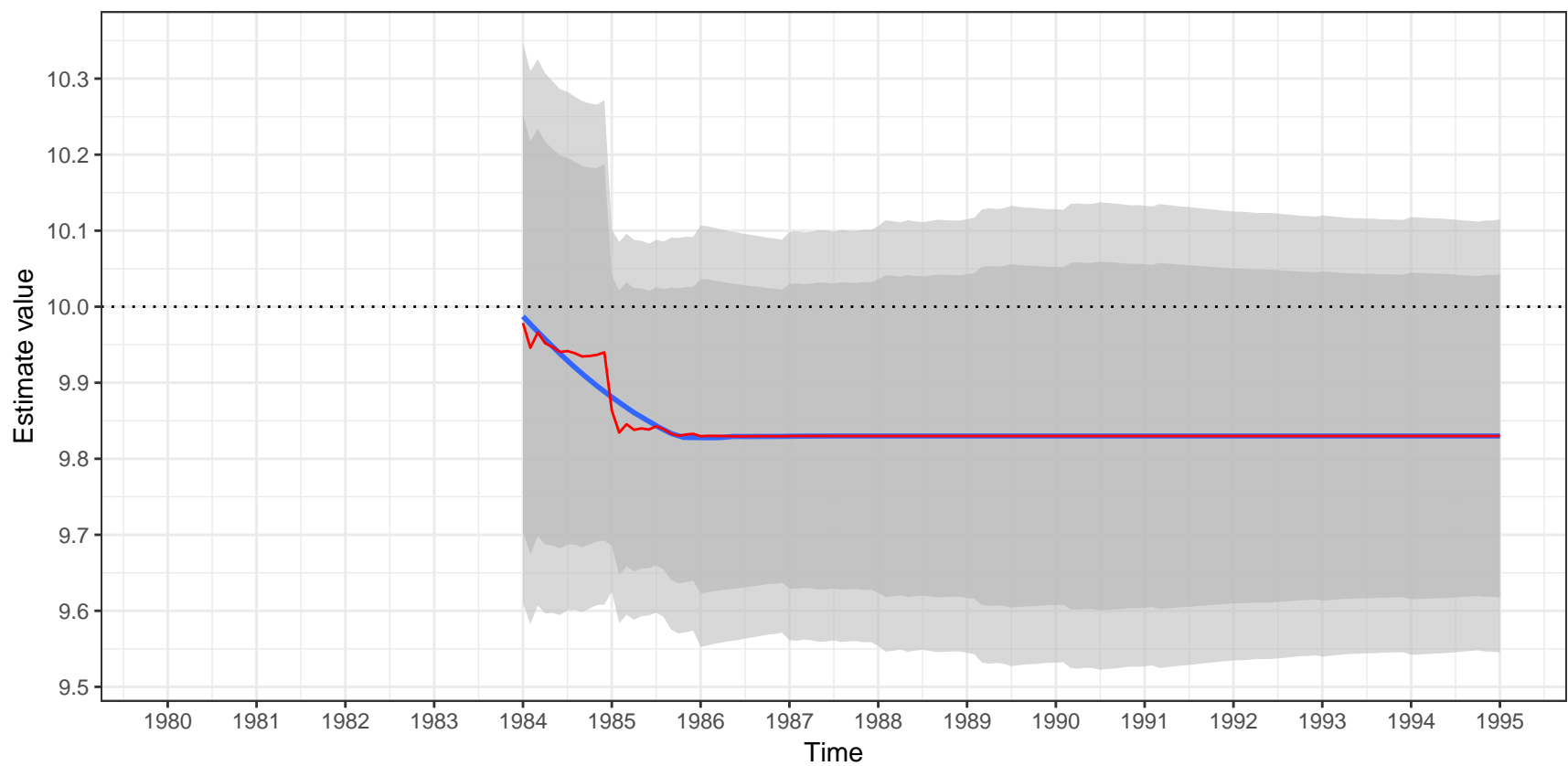


Raw data

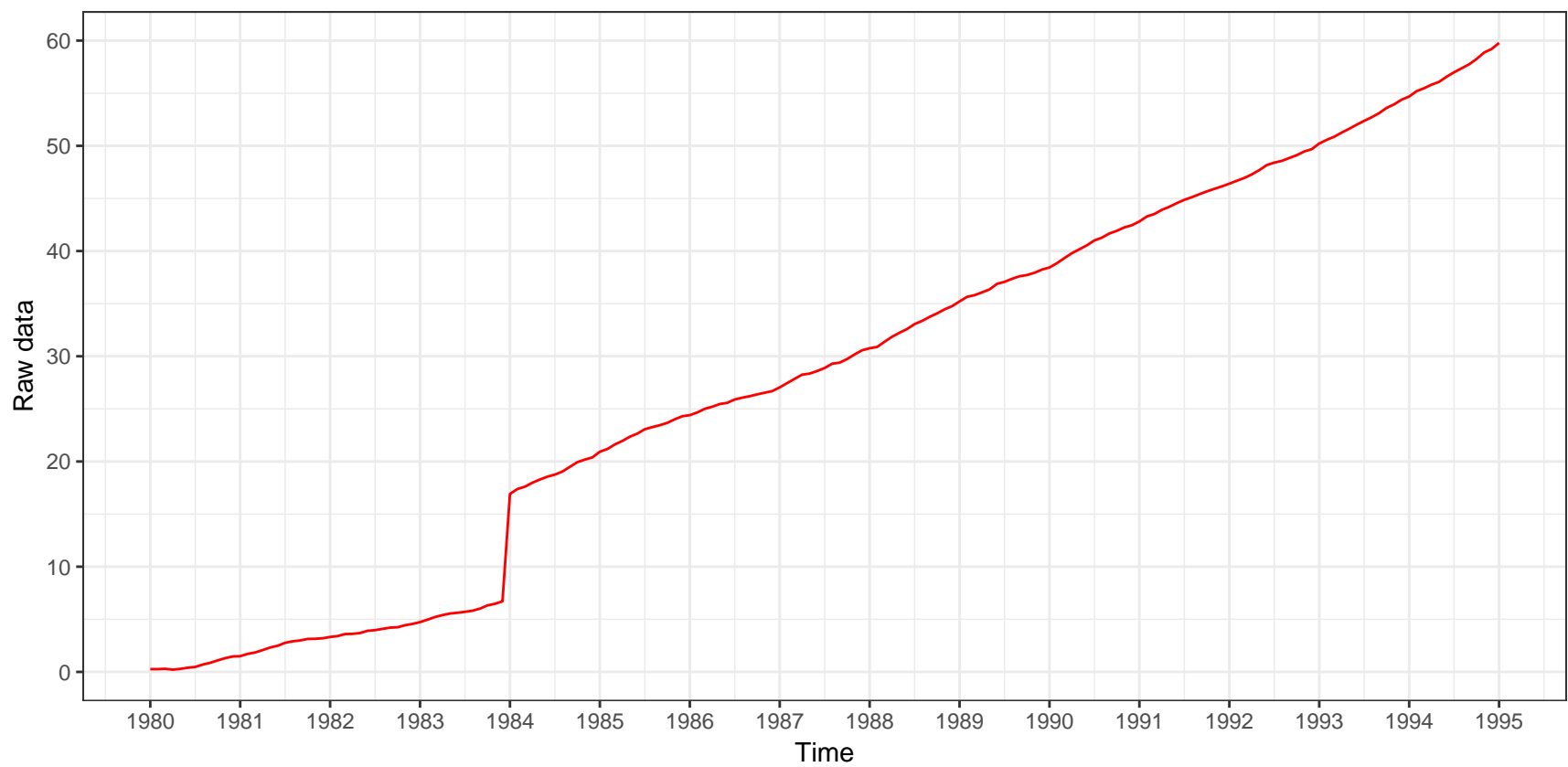


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.8B)a_t$

Estimation of the outlier

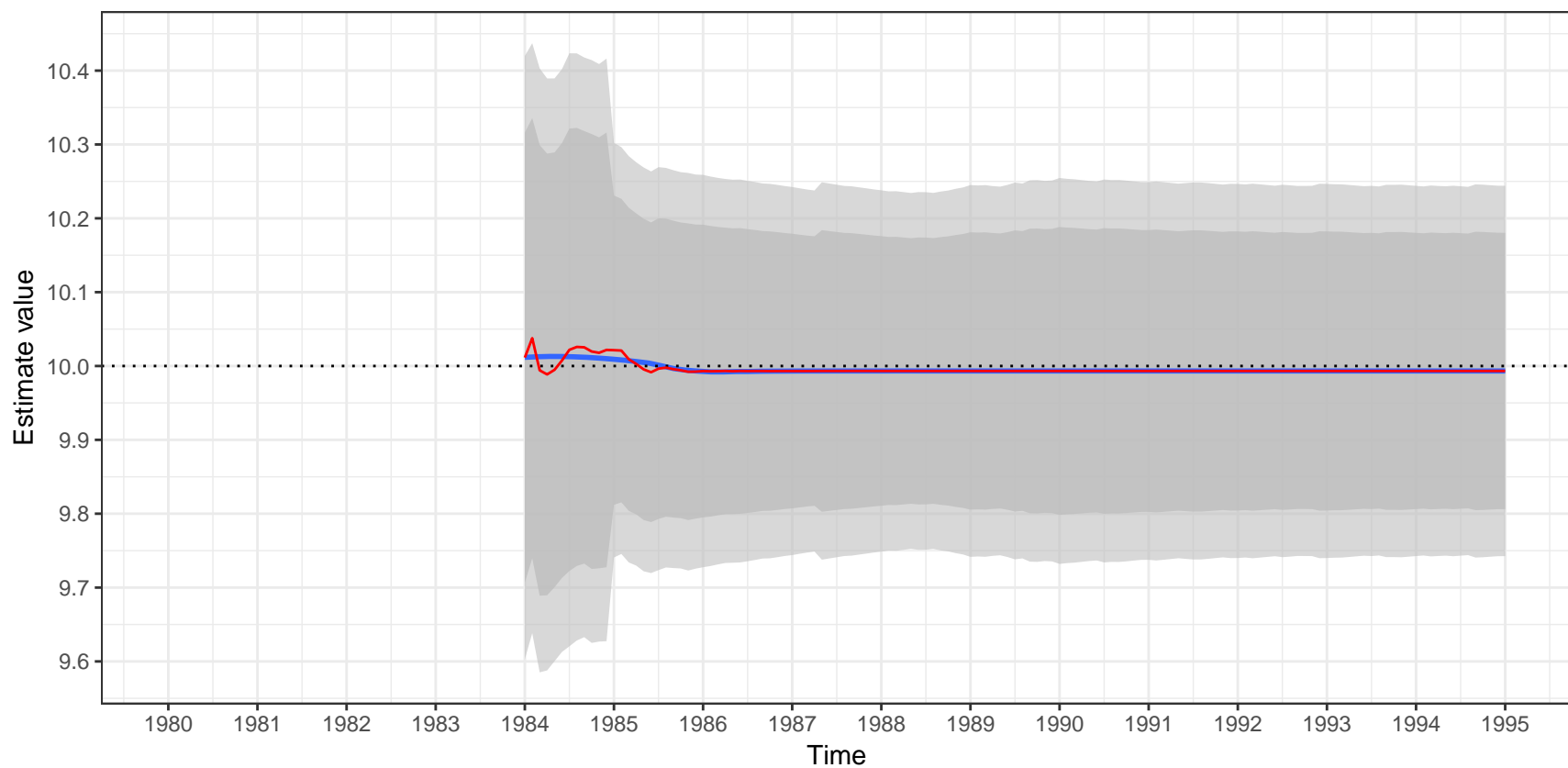


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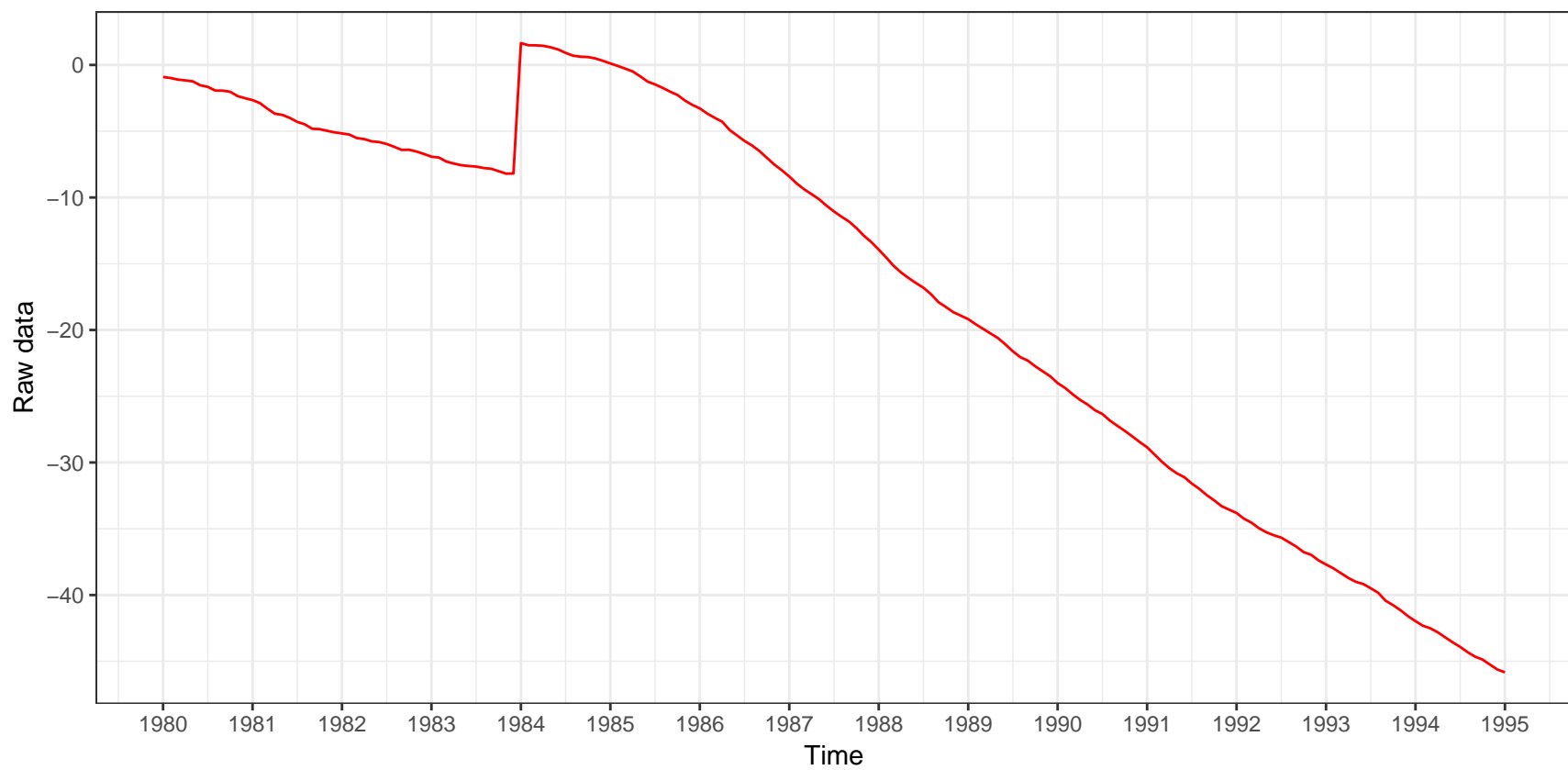


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.8B)a_t$

Estimation of the outlier

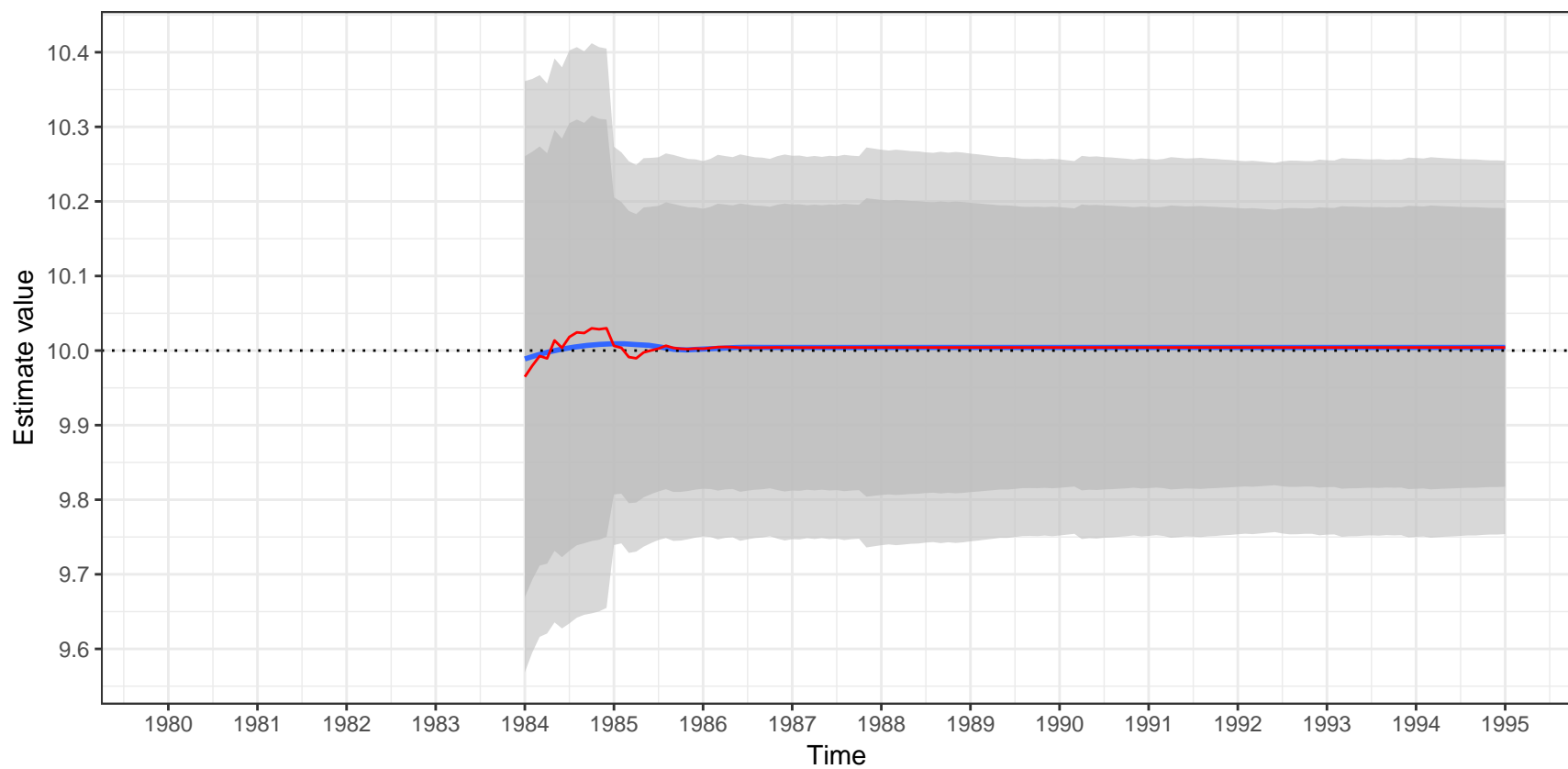


Raw data

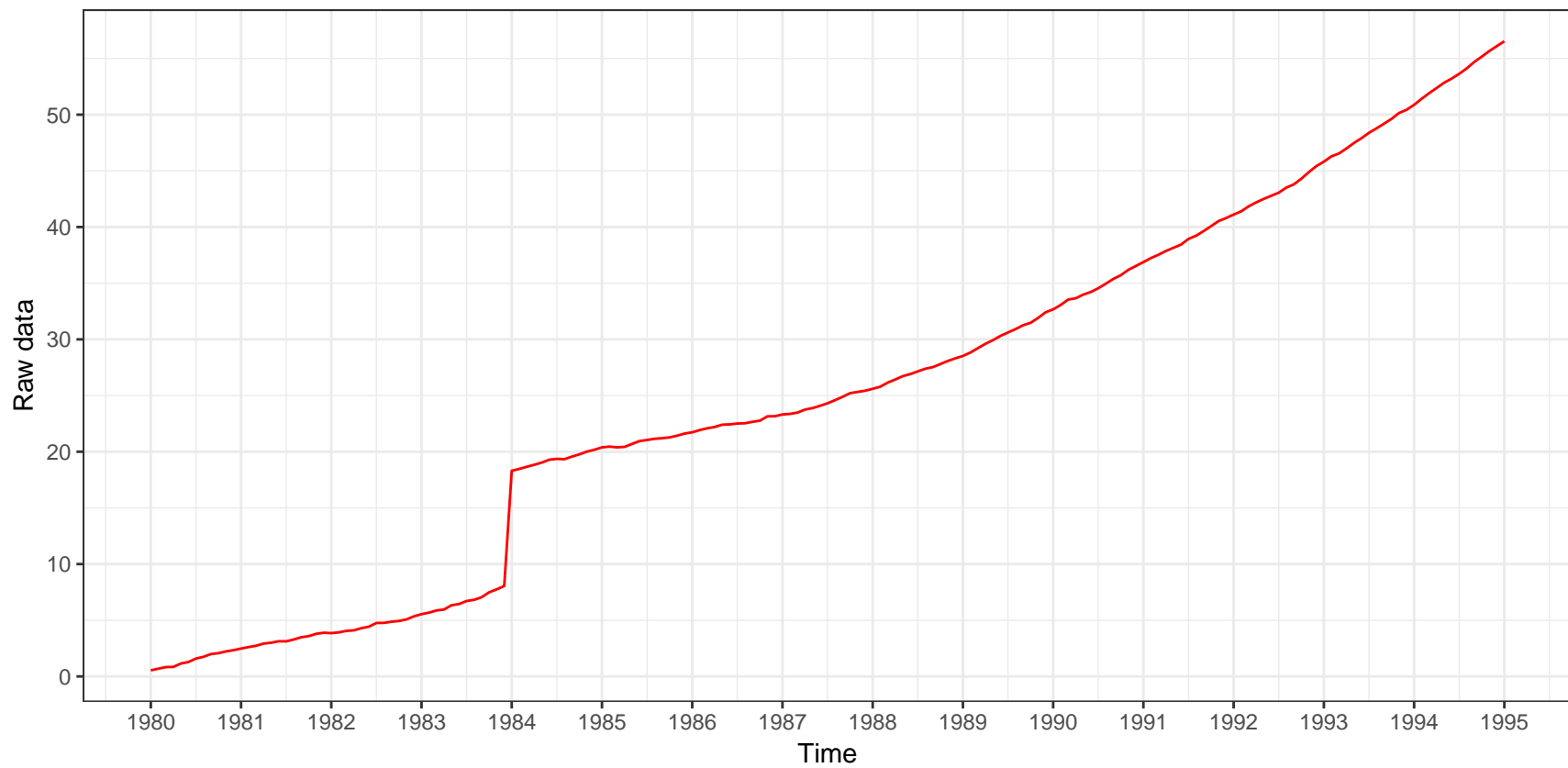


Estimate value of a LS(1984-01)
ARIMA (0,2,1)(0,0,0) – additive decomposition
 $(1-B)^2 X_t = (1-0.8B)a_t$

Estimation of the outlier

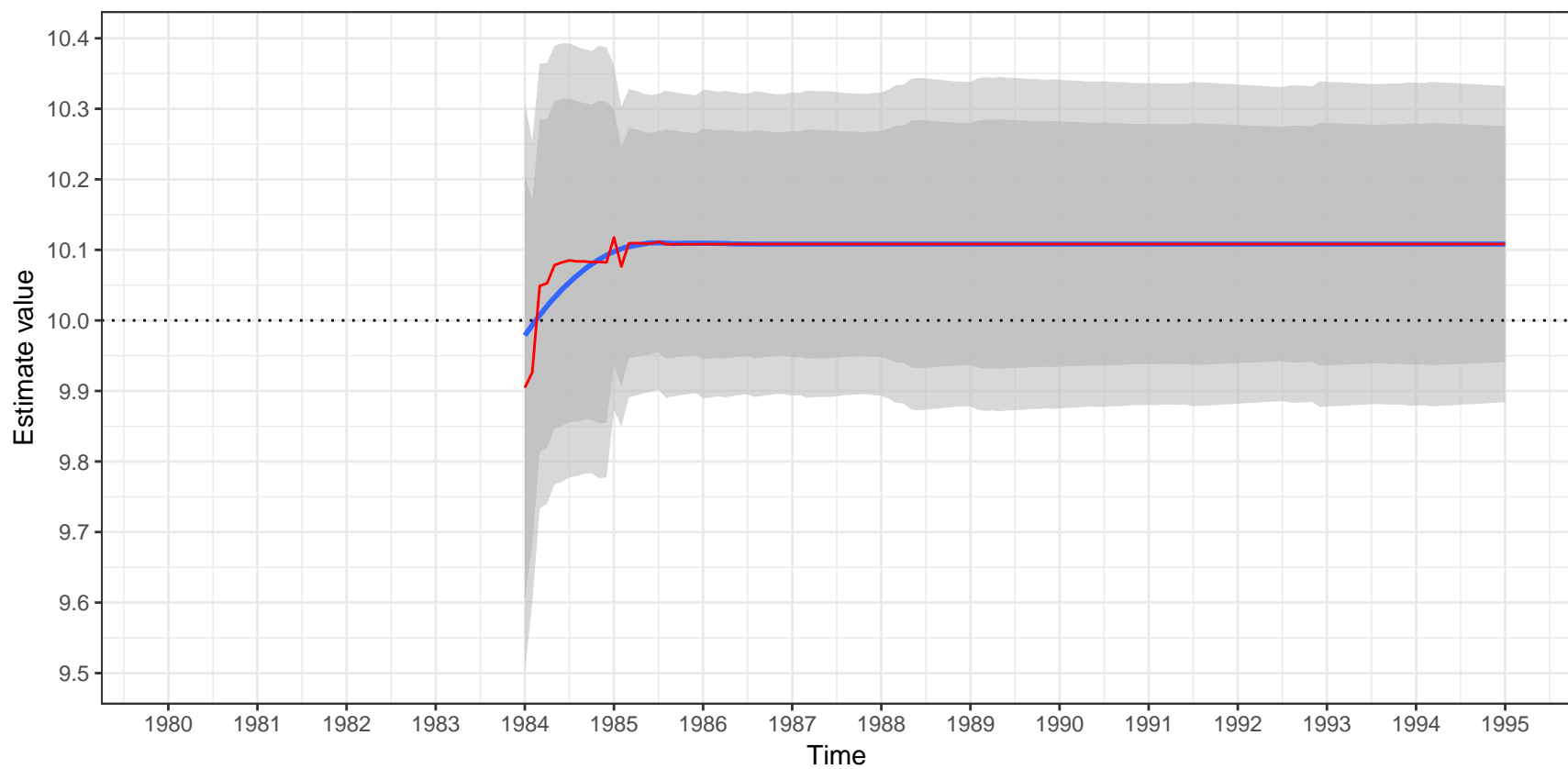


Raw data

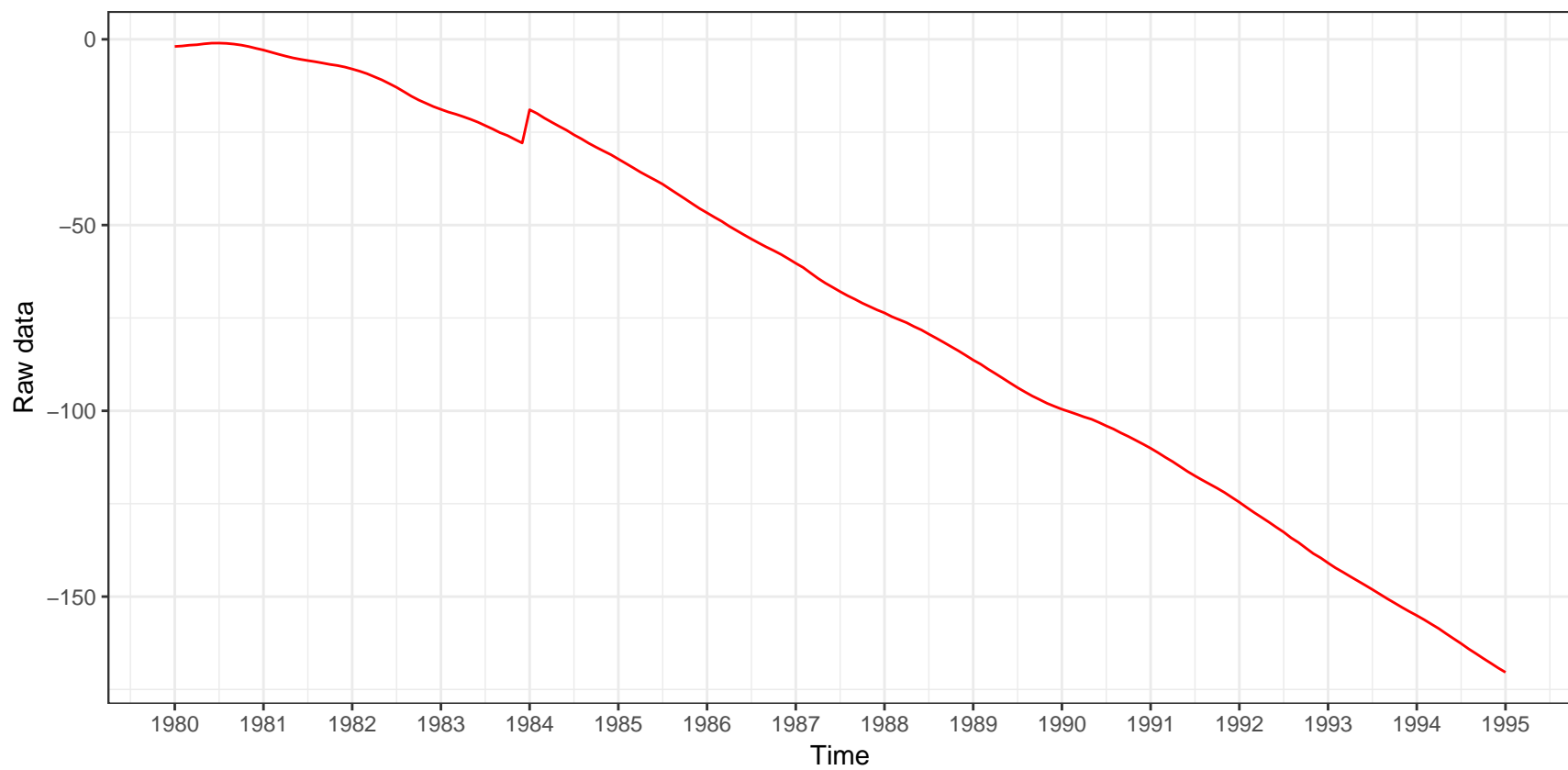


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)2X_t = (1 - 0.31058B + 0.36B^2)at$

Estimation of the outlier

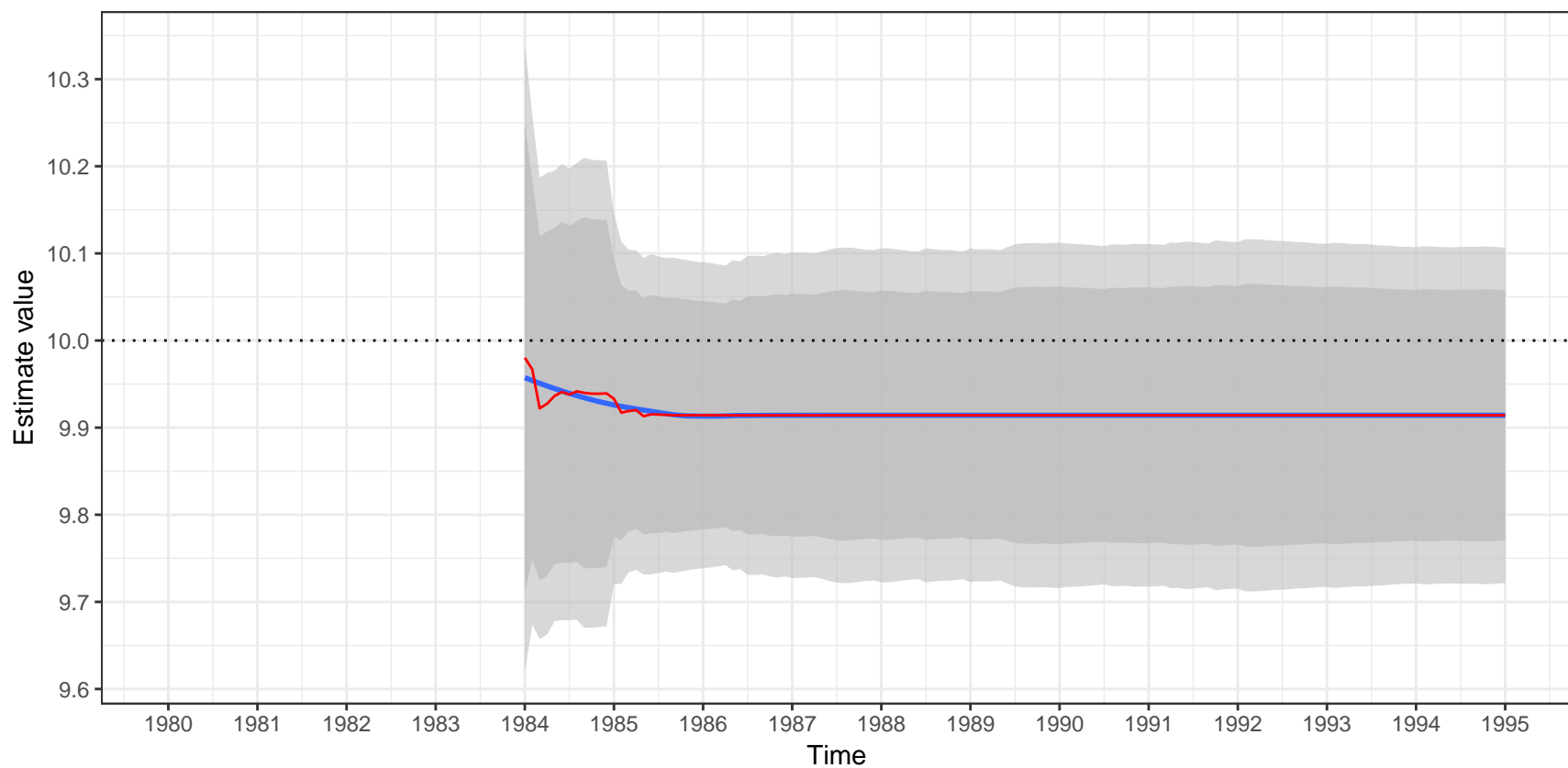


Raw data

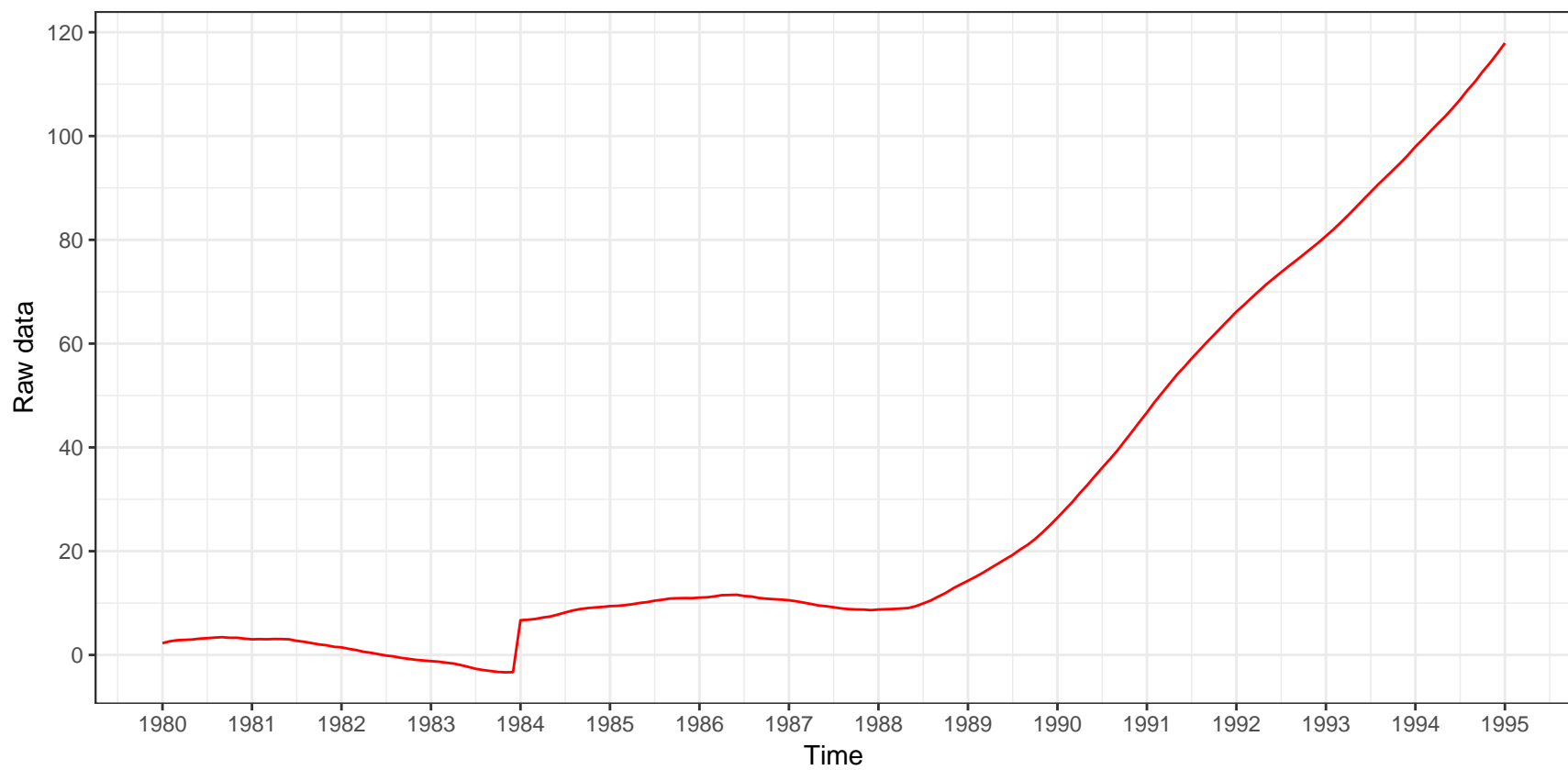


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)^2X_t = (1-0.31058B+0.36B^2)a_t$

Estimation of the outlier

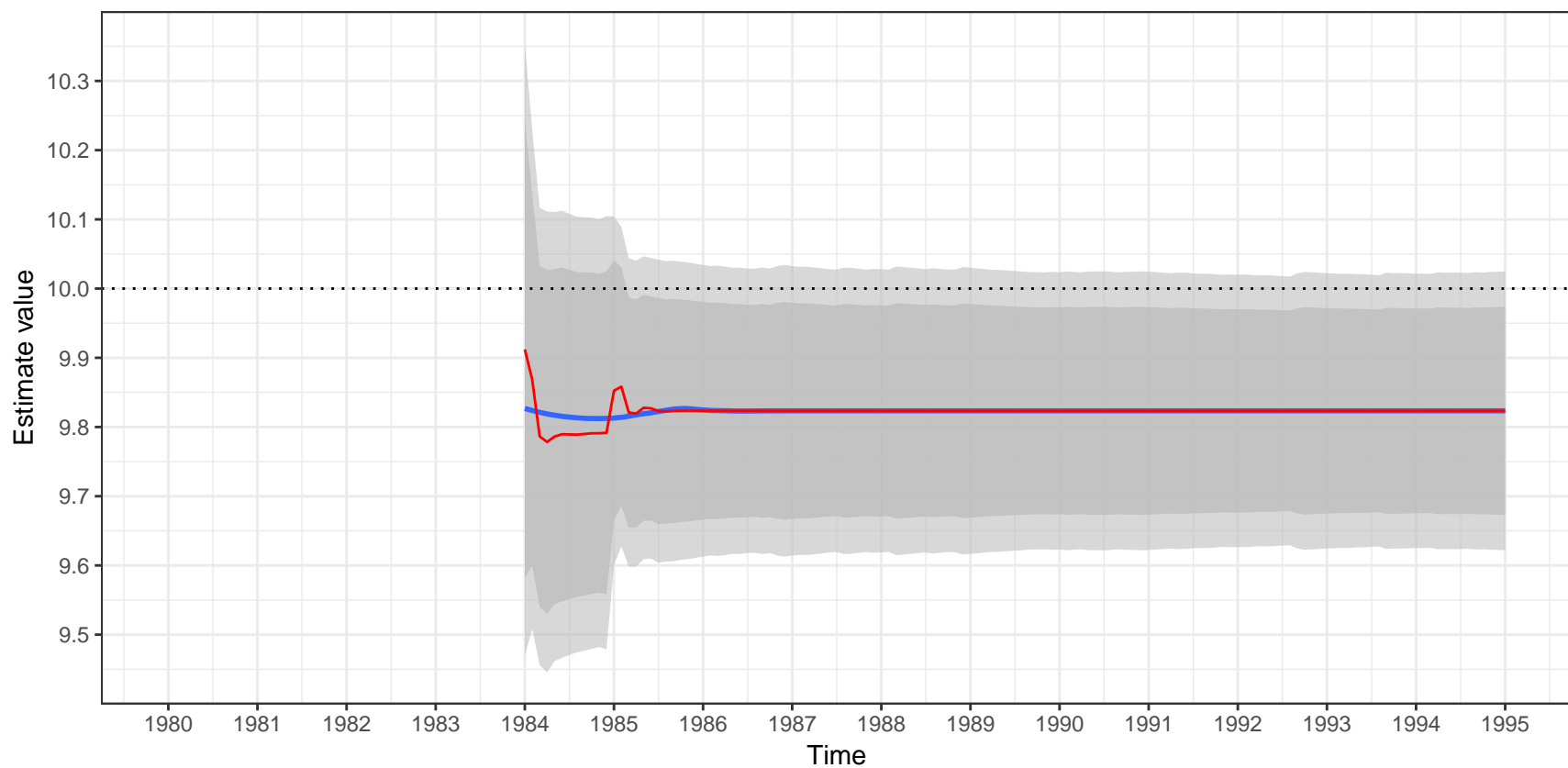


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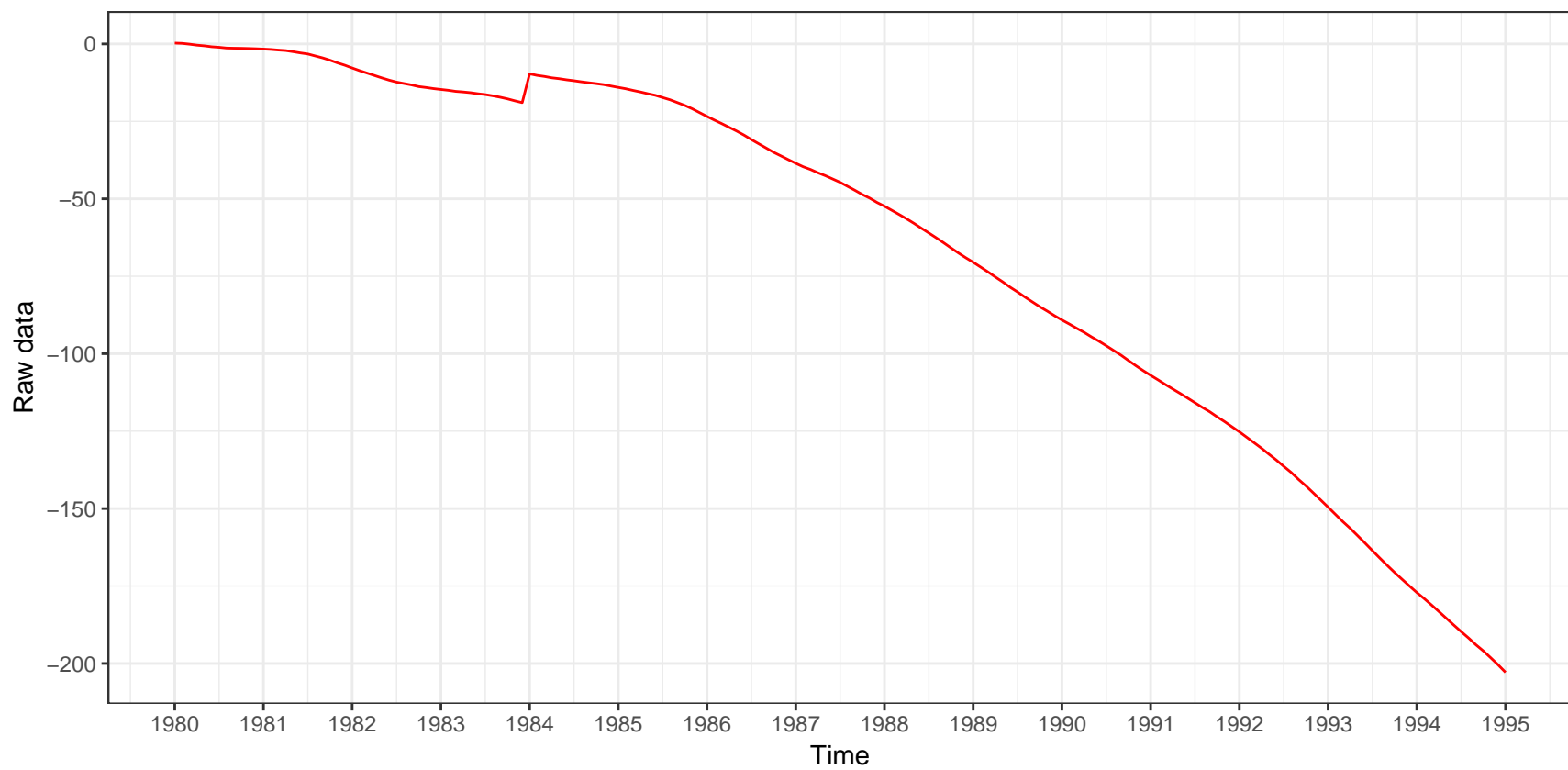


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
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Estimation of the outlier

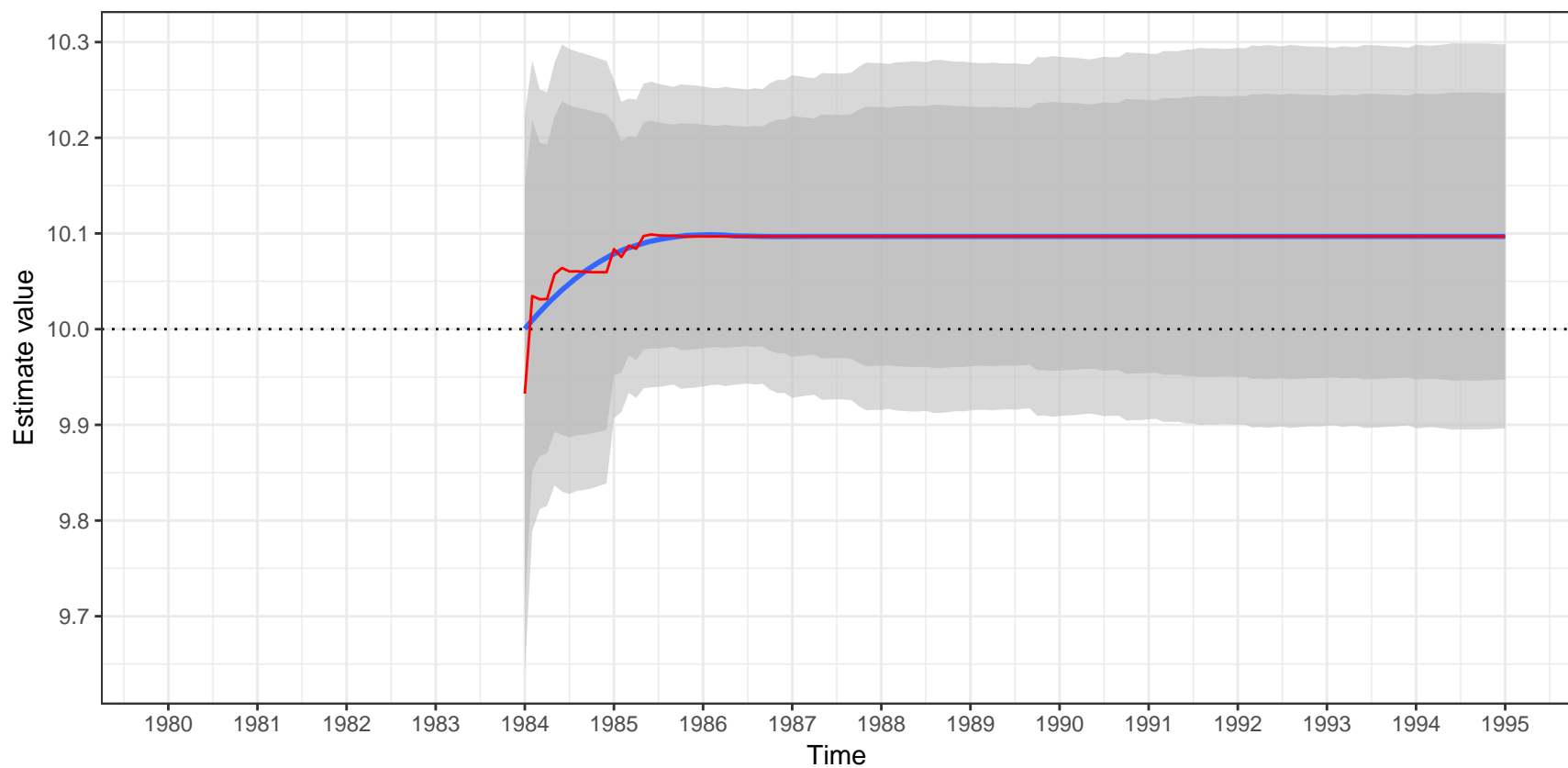


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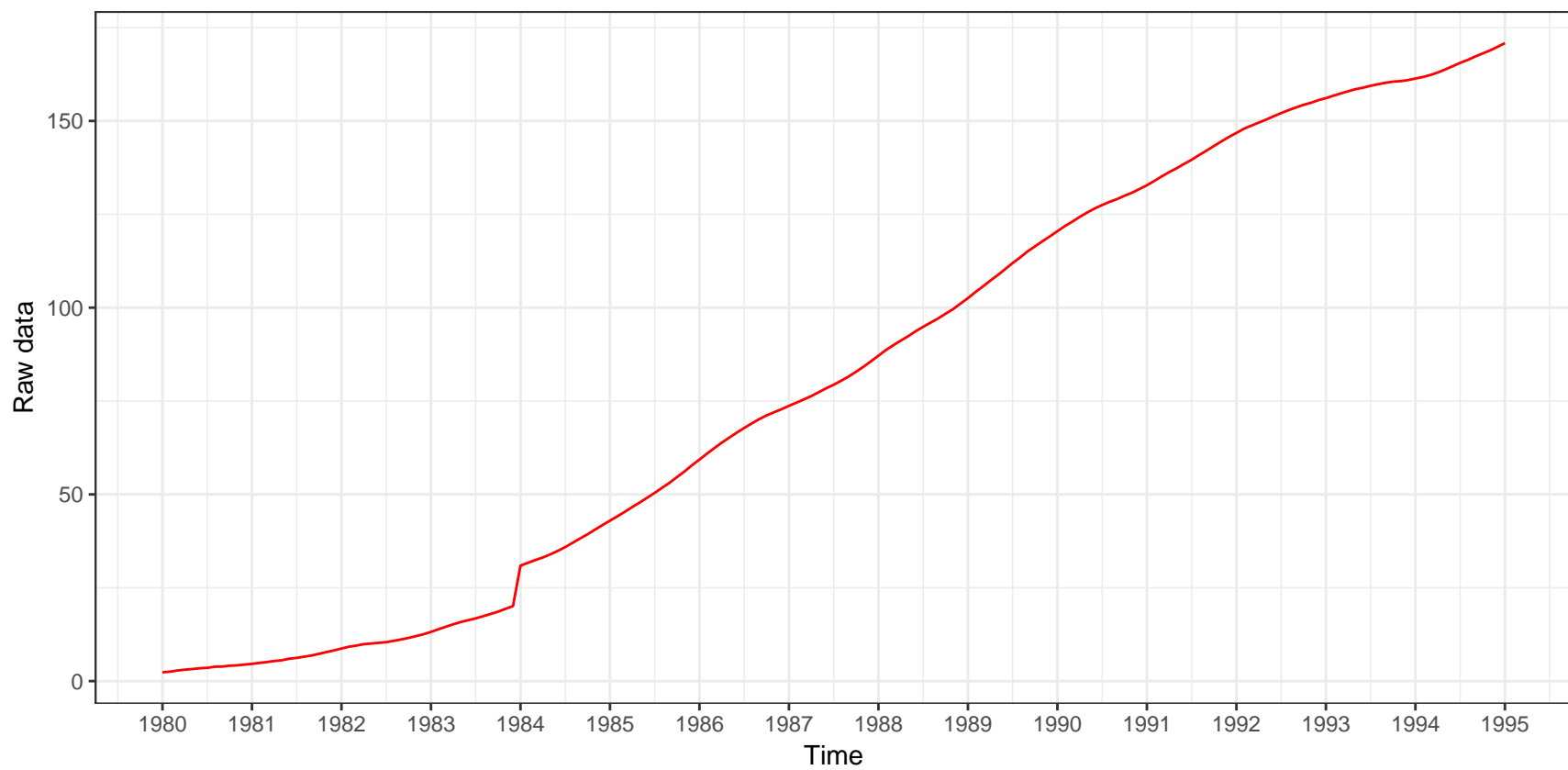


Estimate value of a LS(1984-01)
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Estimation of the outlier

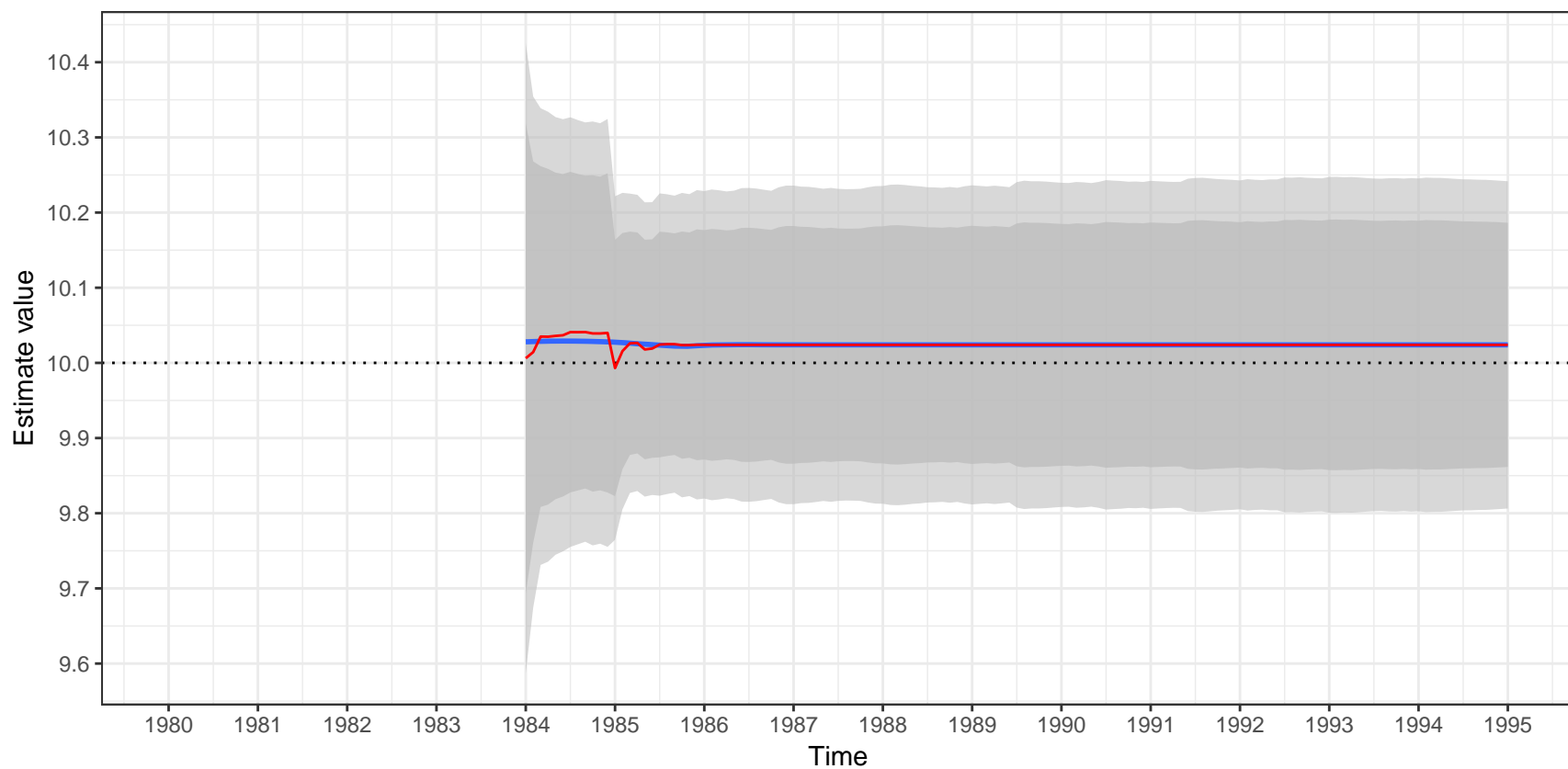


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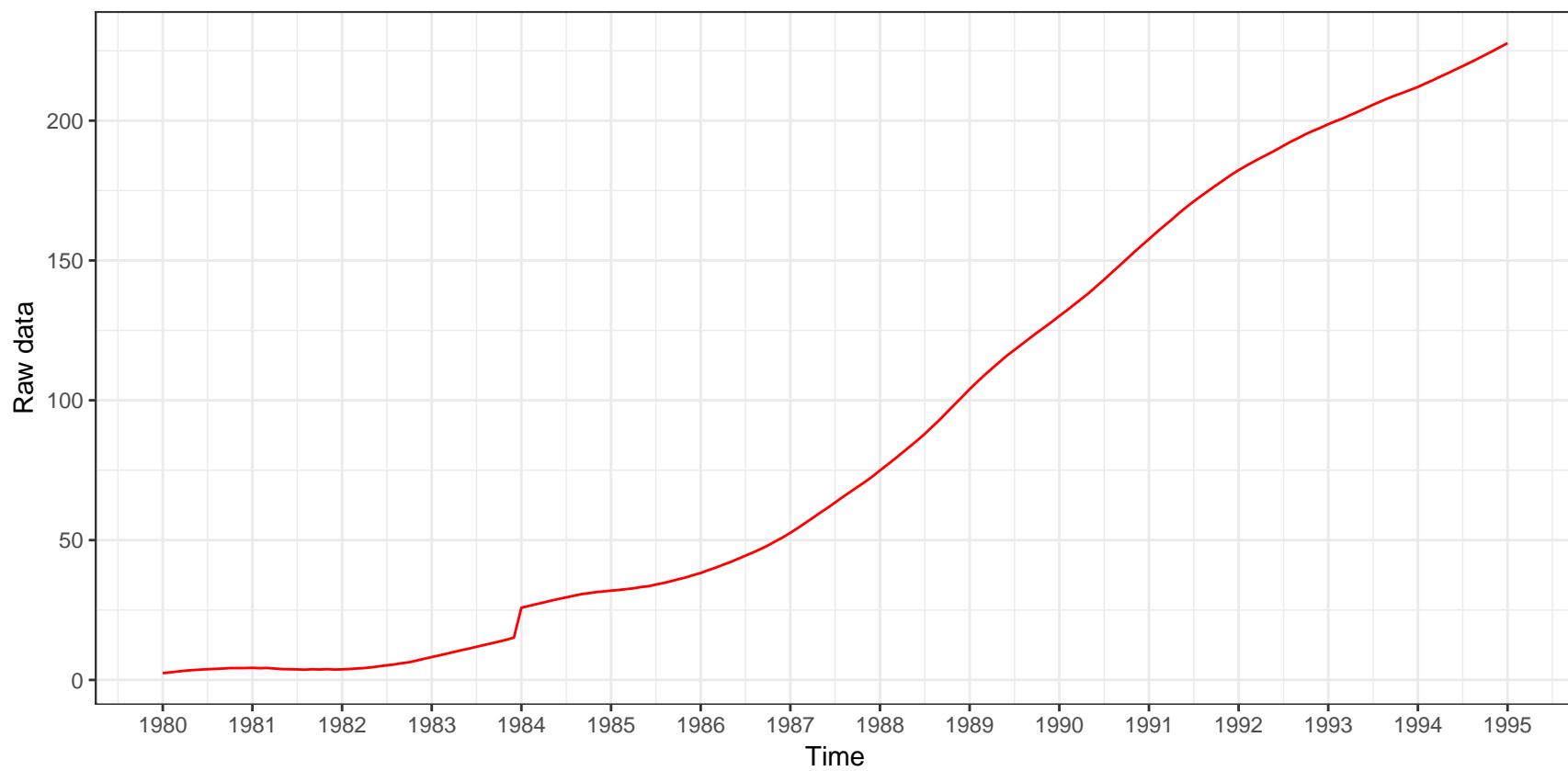


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)2X_t = (1 - 0.31058B + 0.36B^2)a_t$

Estimation of the outlier

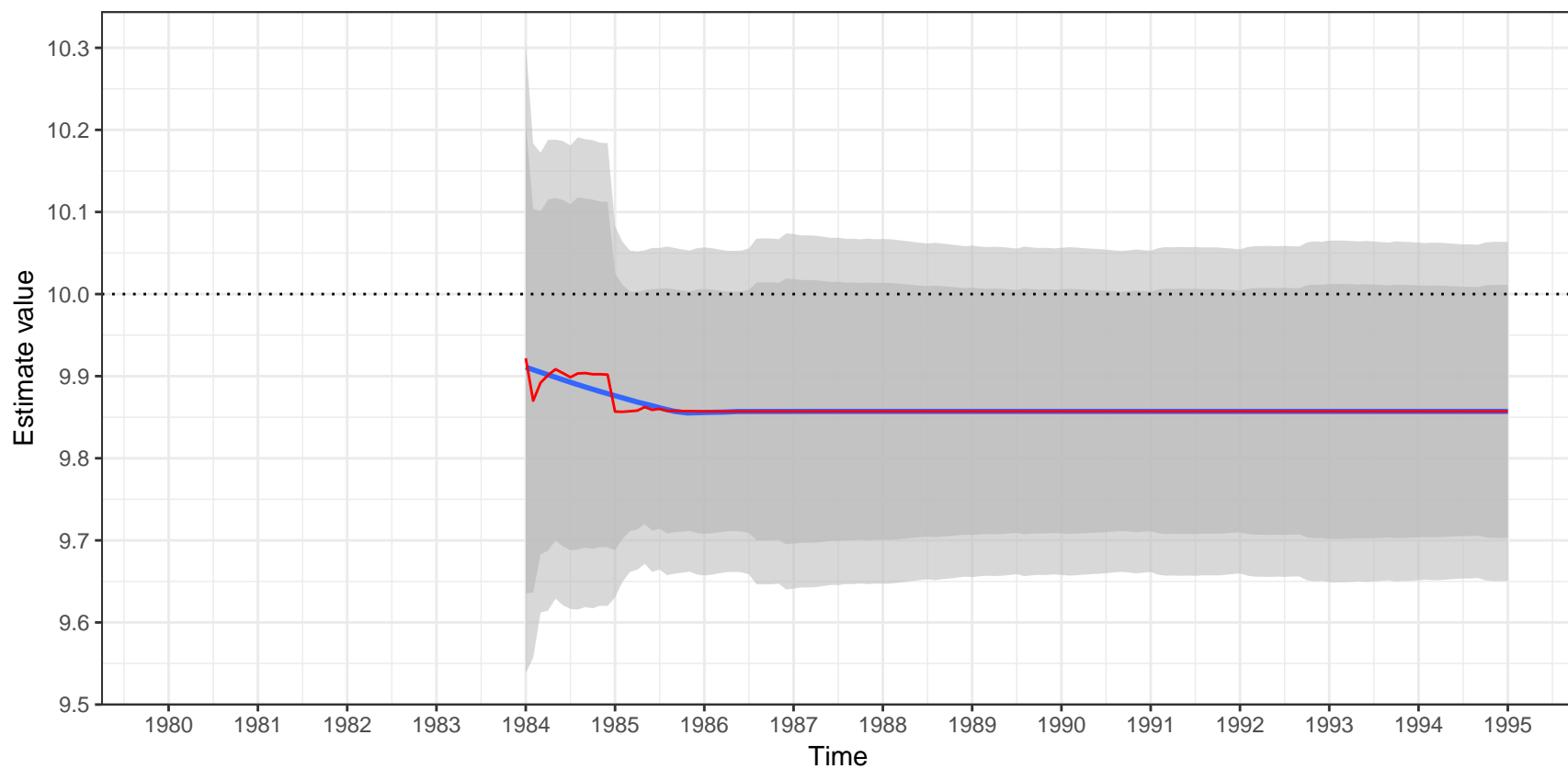


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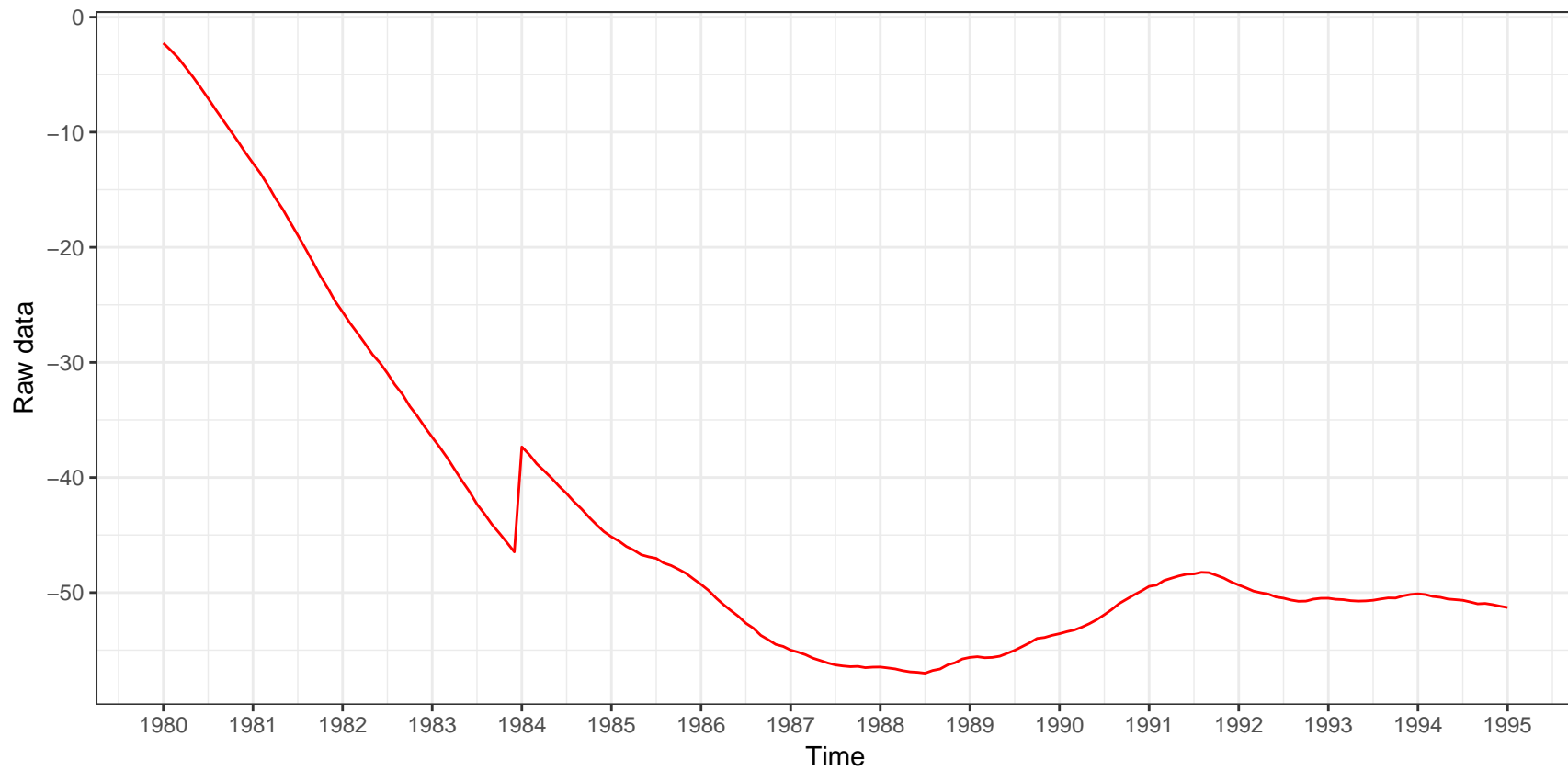


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)2X_t = (1-0.31058B+0.36B^2)a_t$

Estimation of the outlier

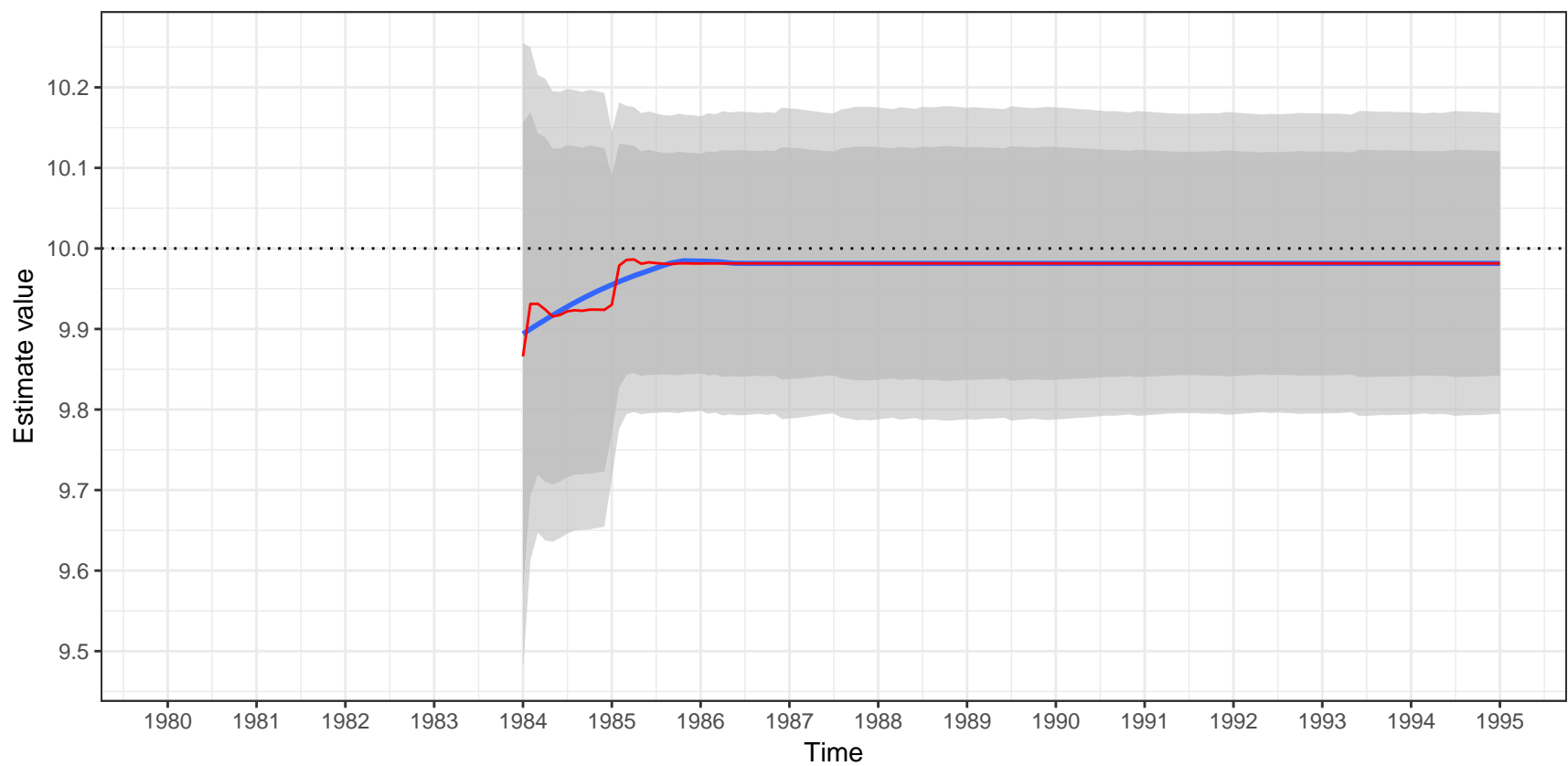


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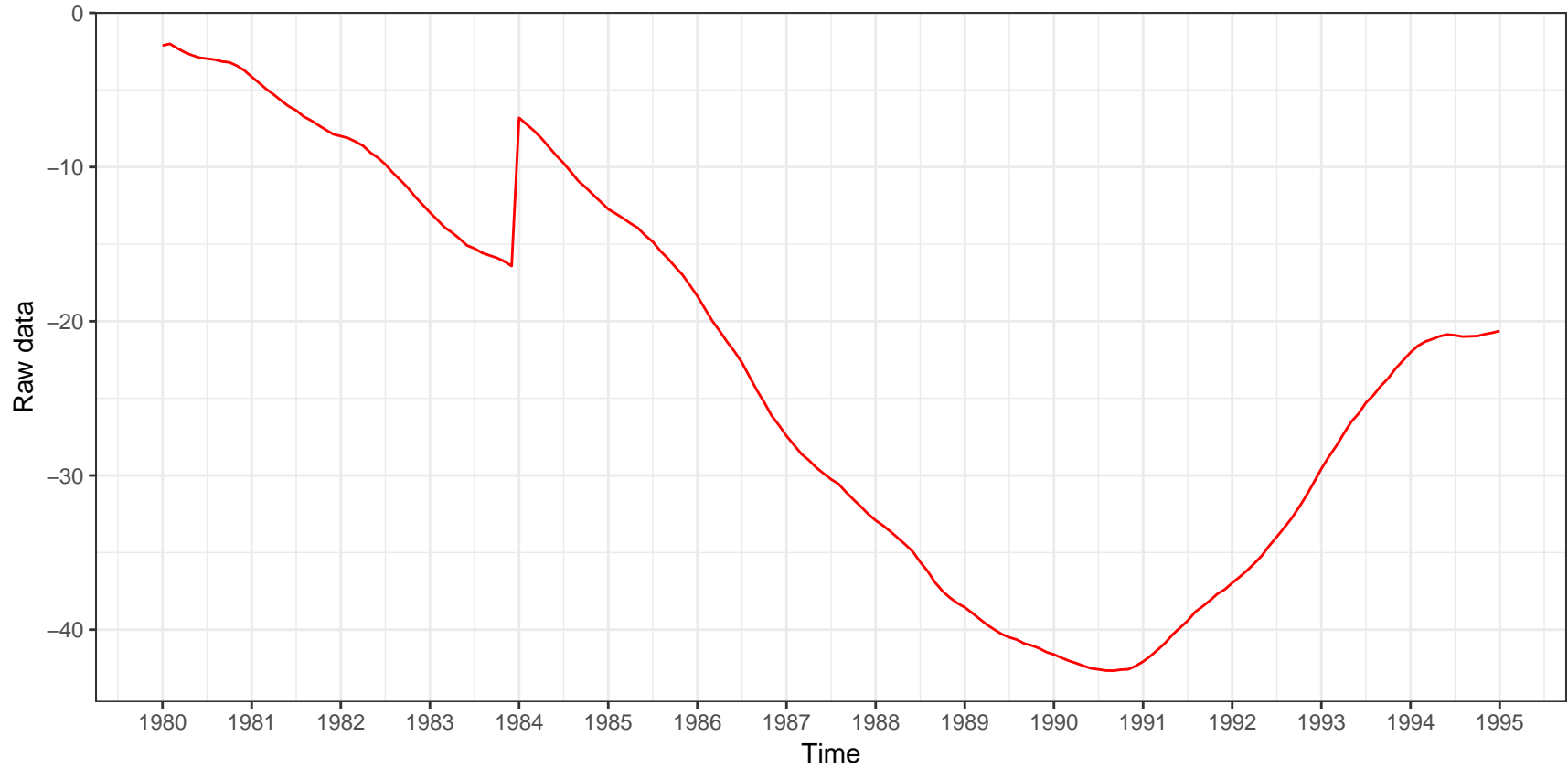


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Estimation of the outlier

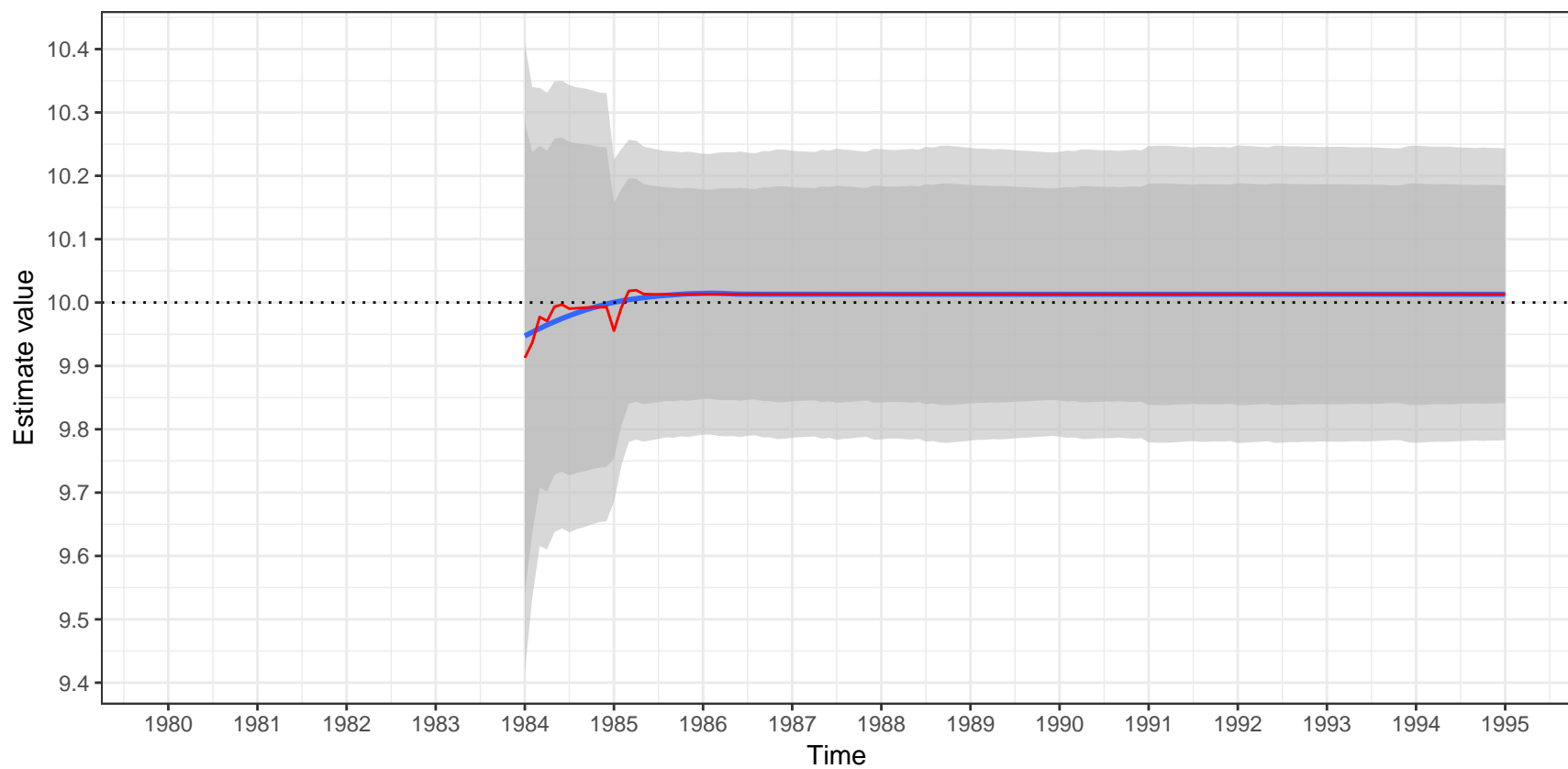


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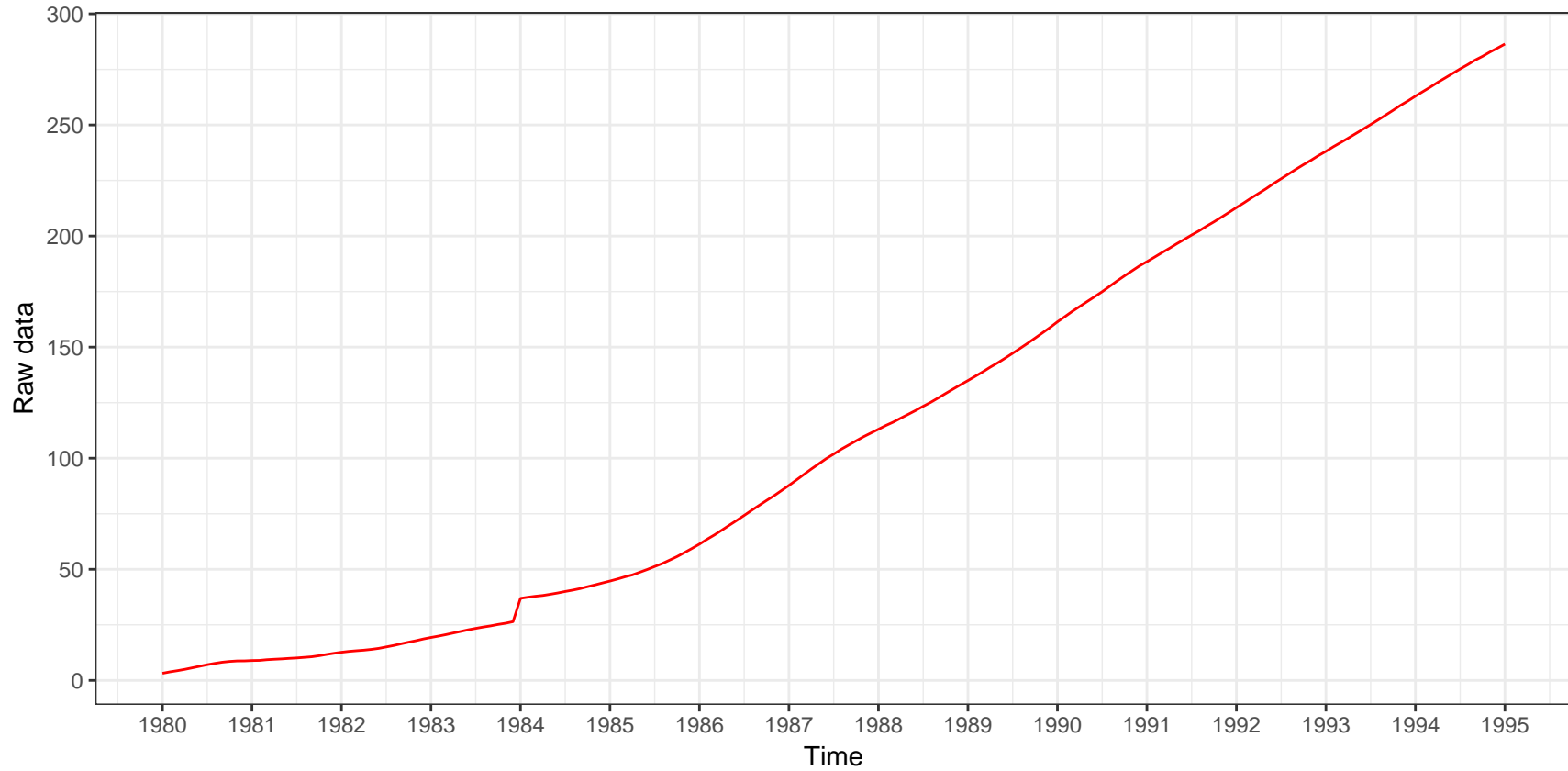


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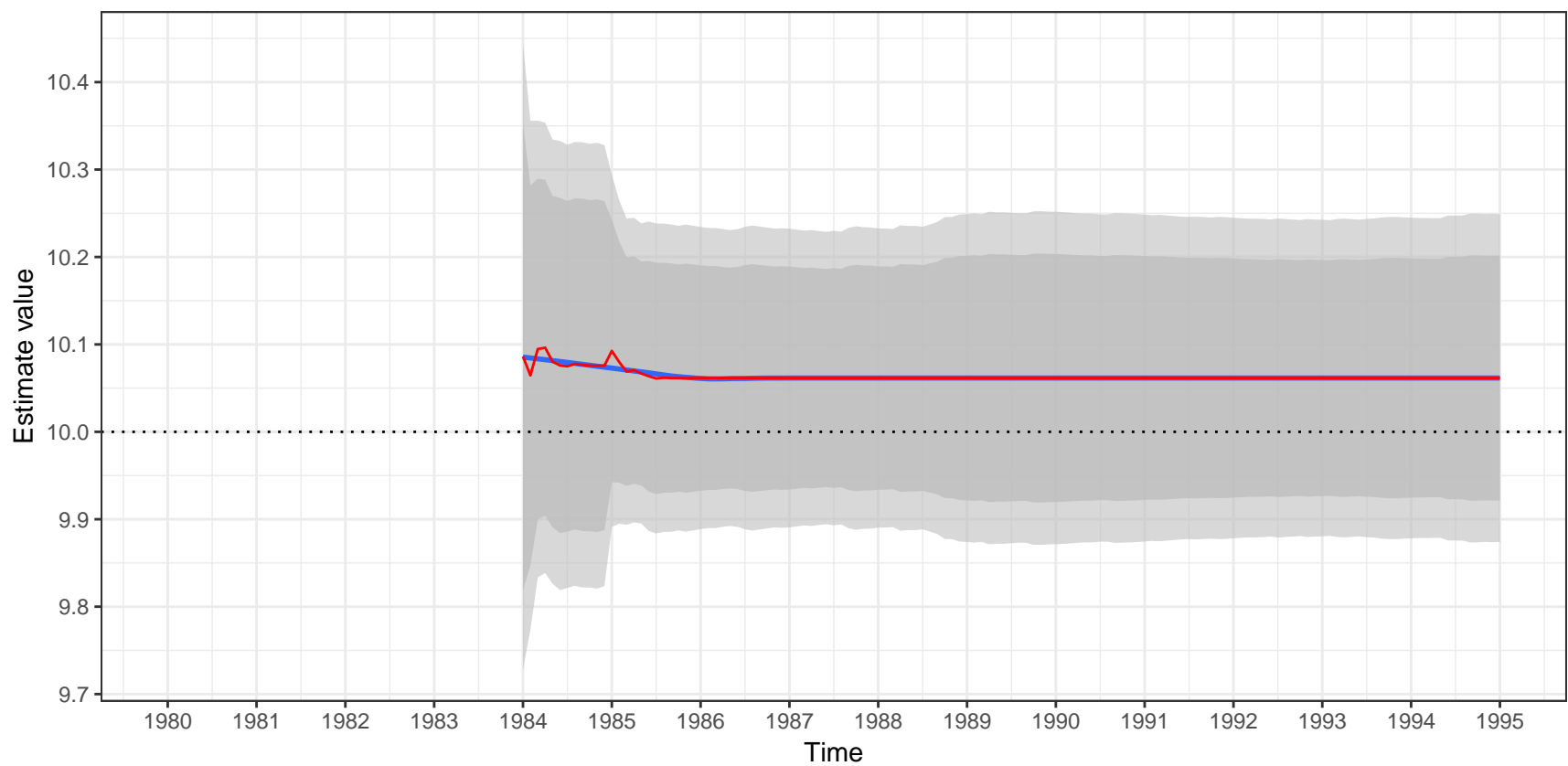


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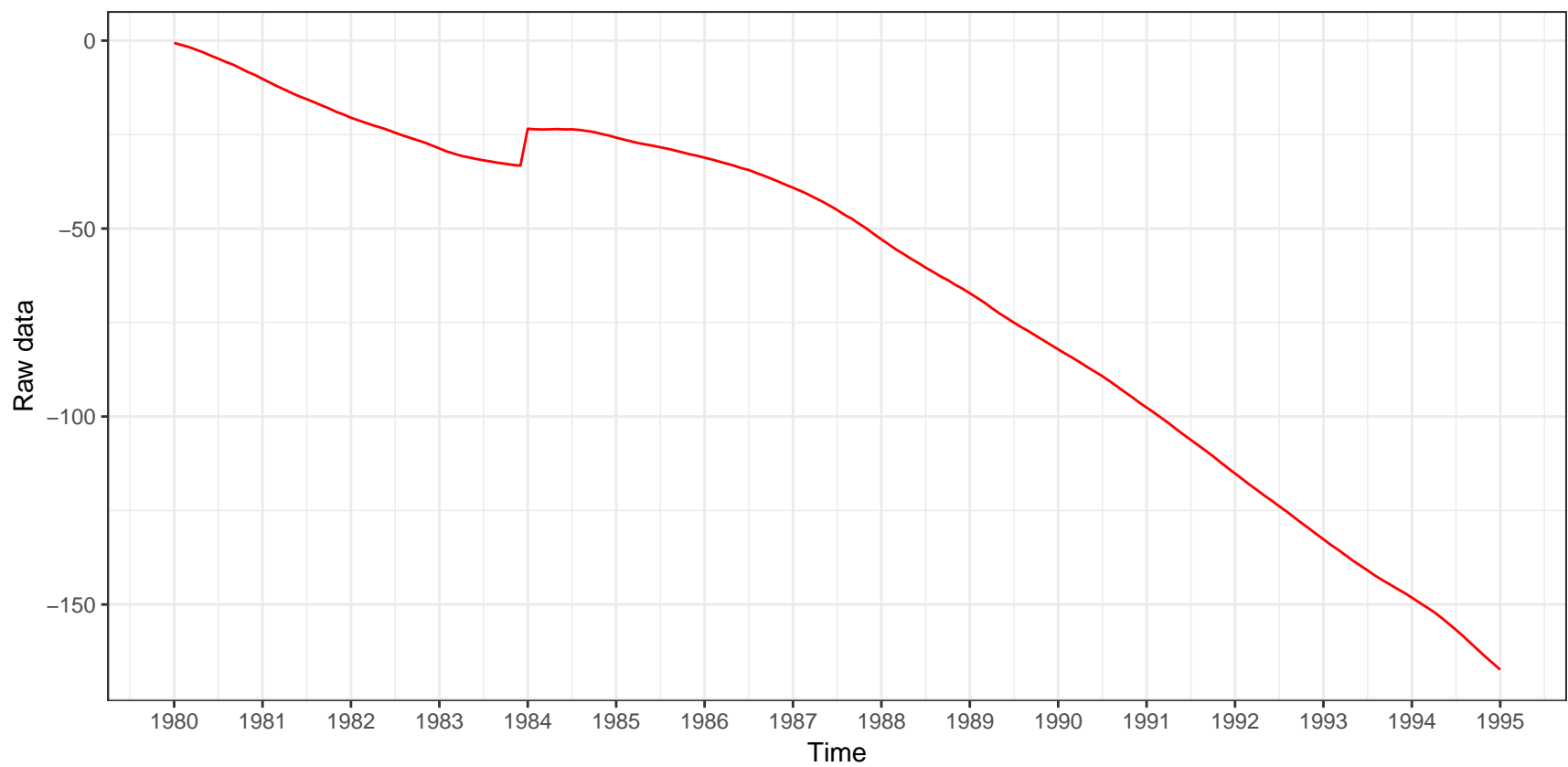


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Estimation of the outlier

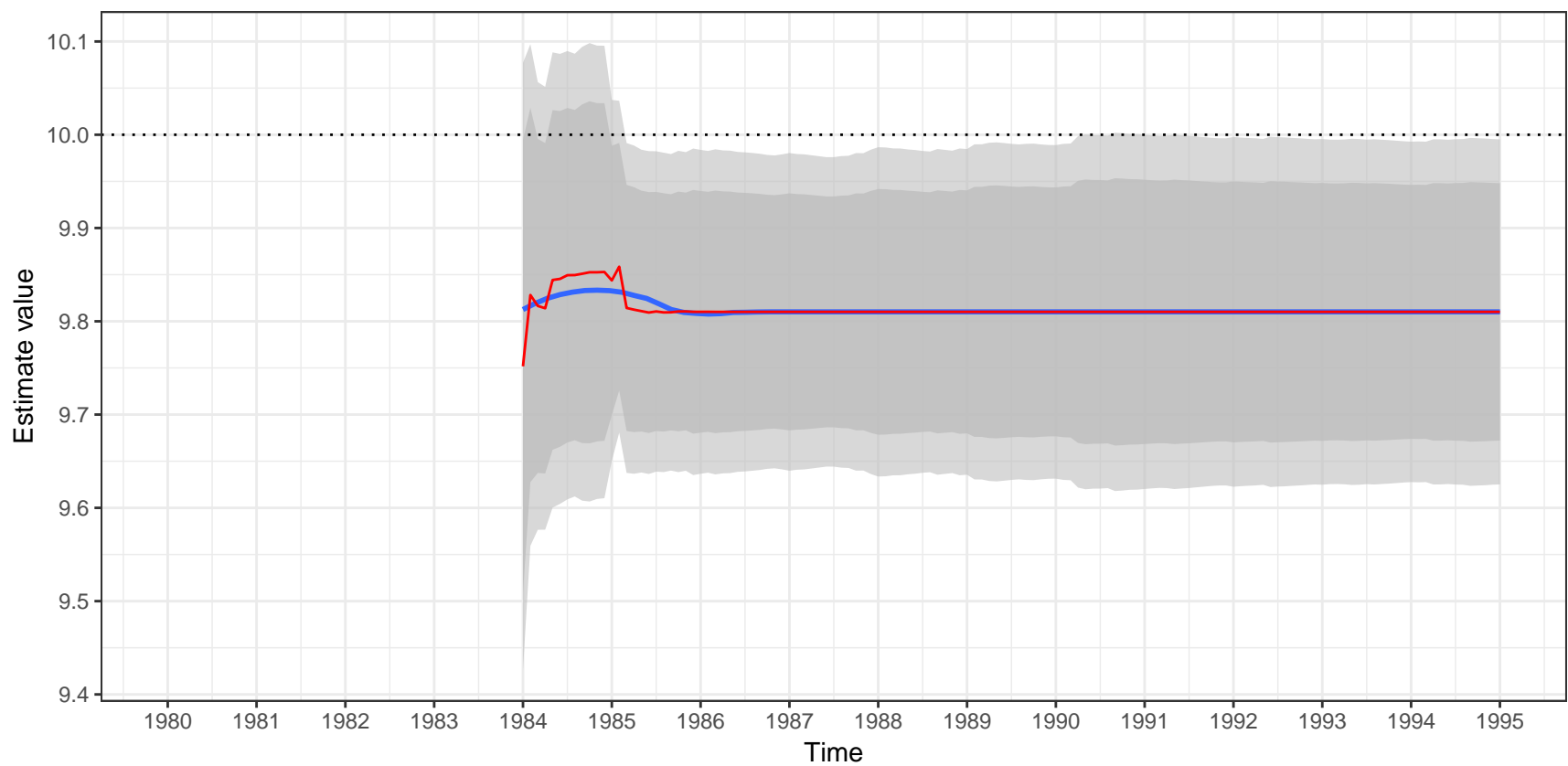


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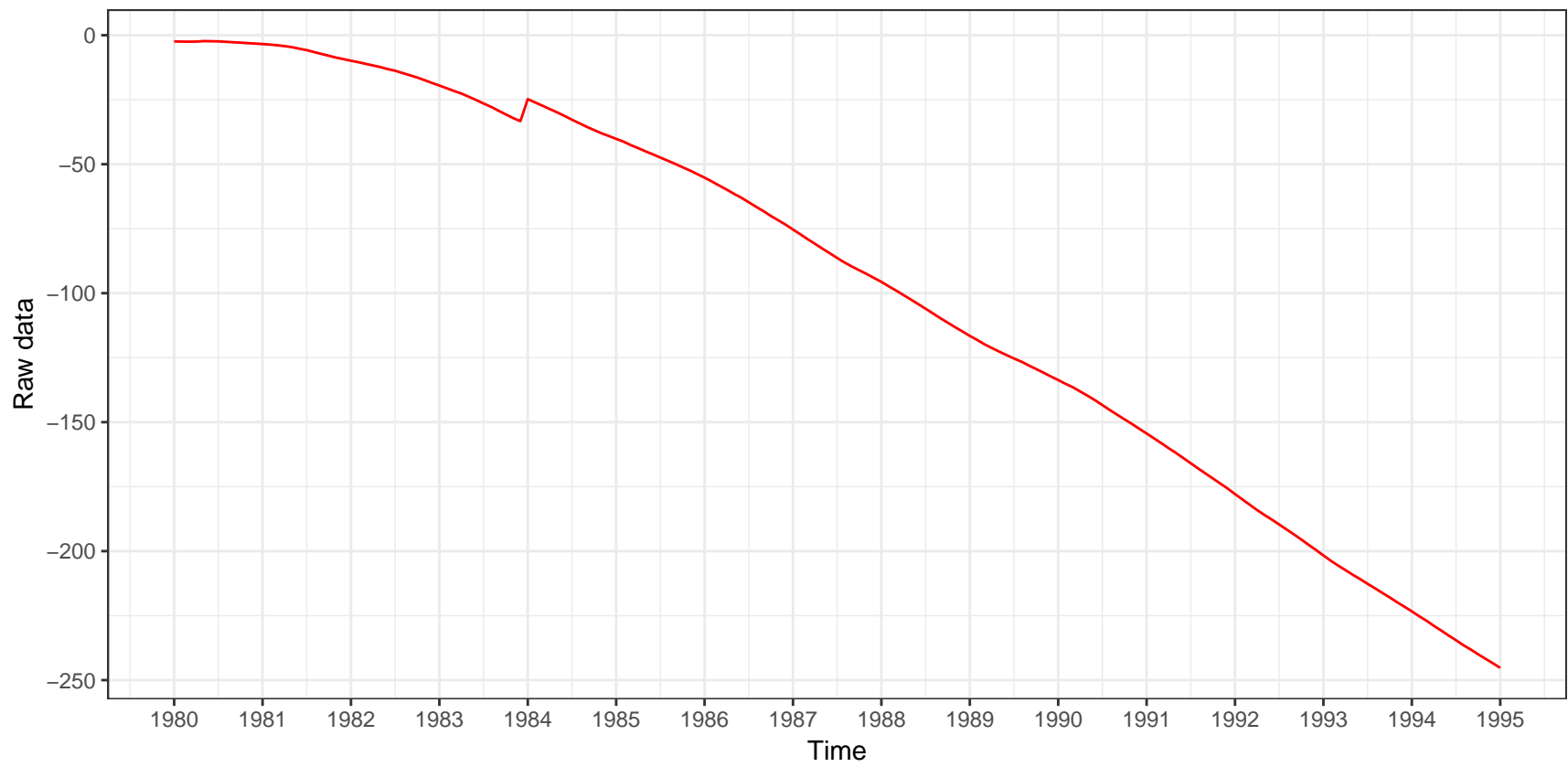


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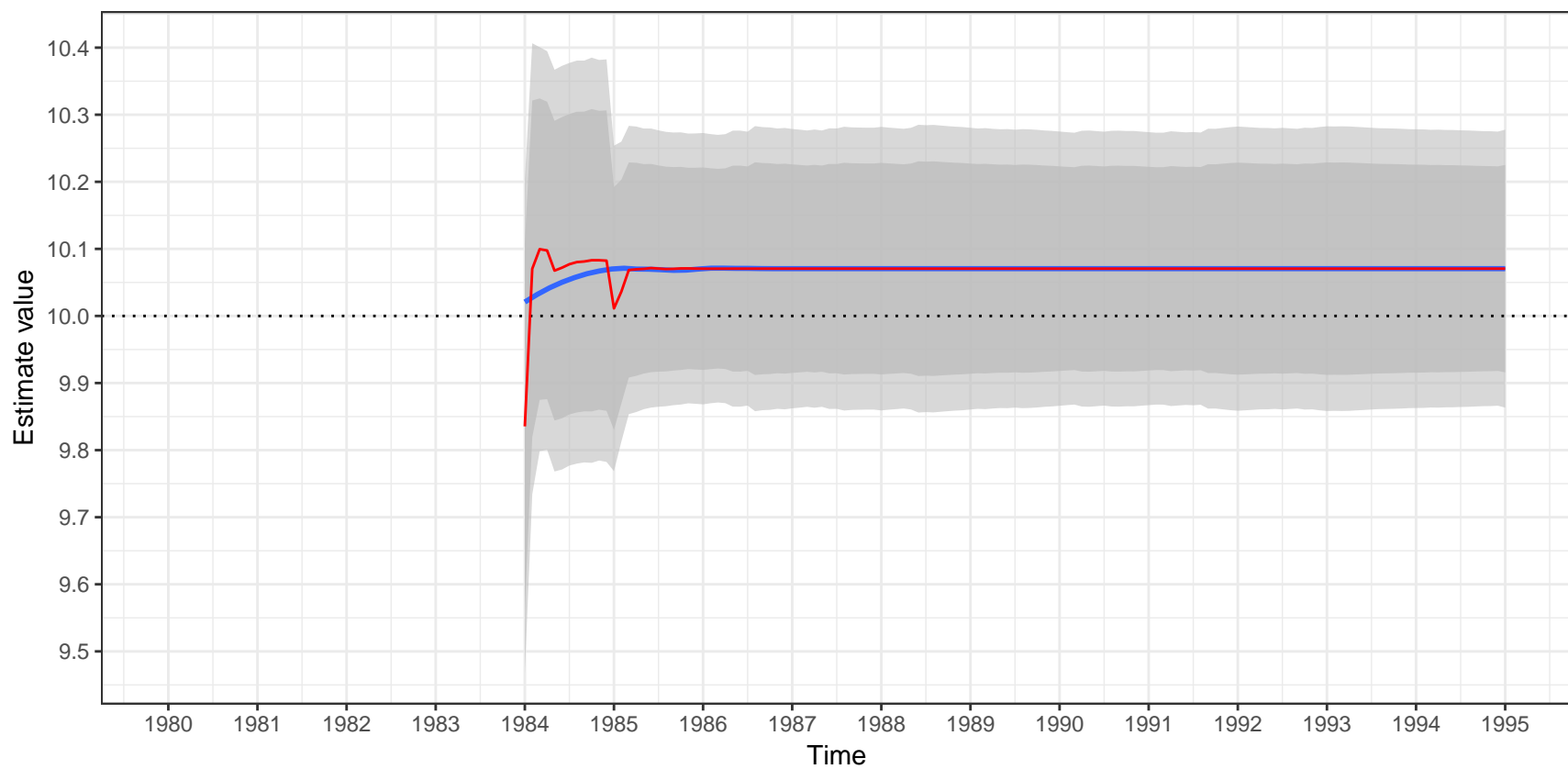


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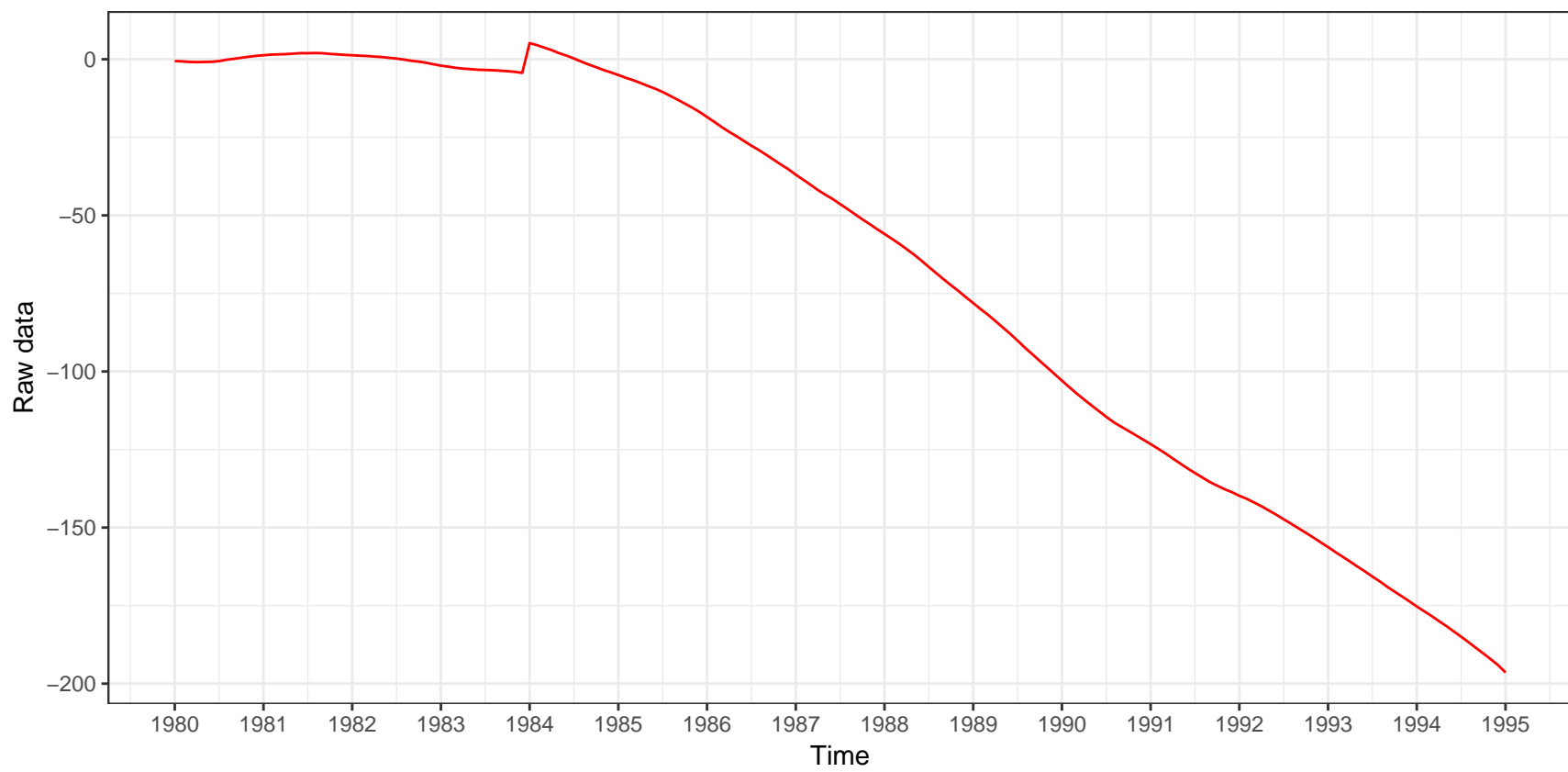


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)^2X_t = (1-0.31B+0.36B^2)a_t$

Estimation of the outlier

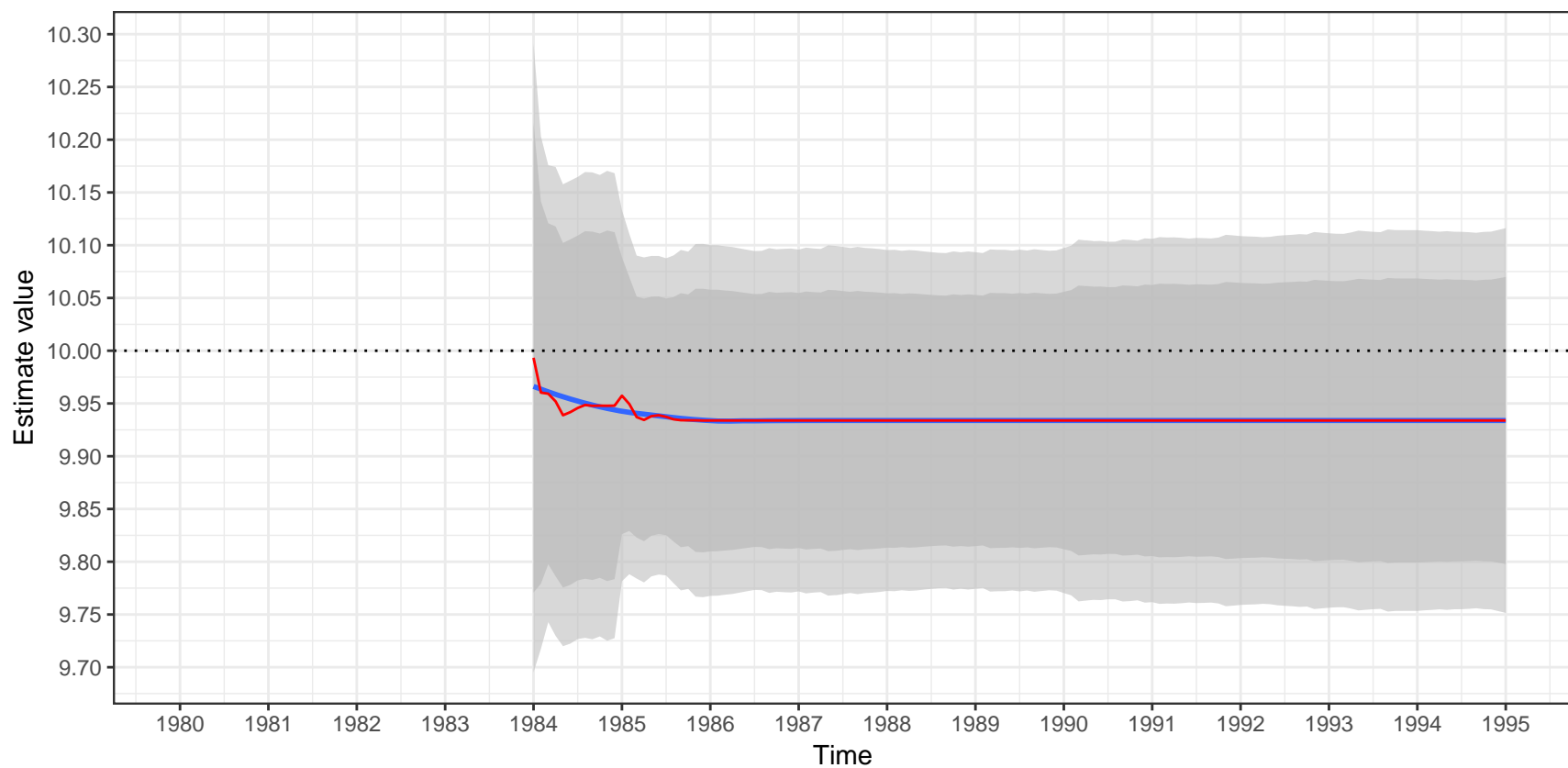


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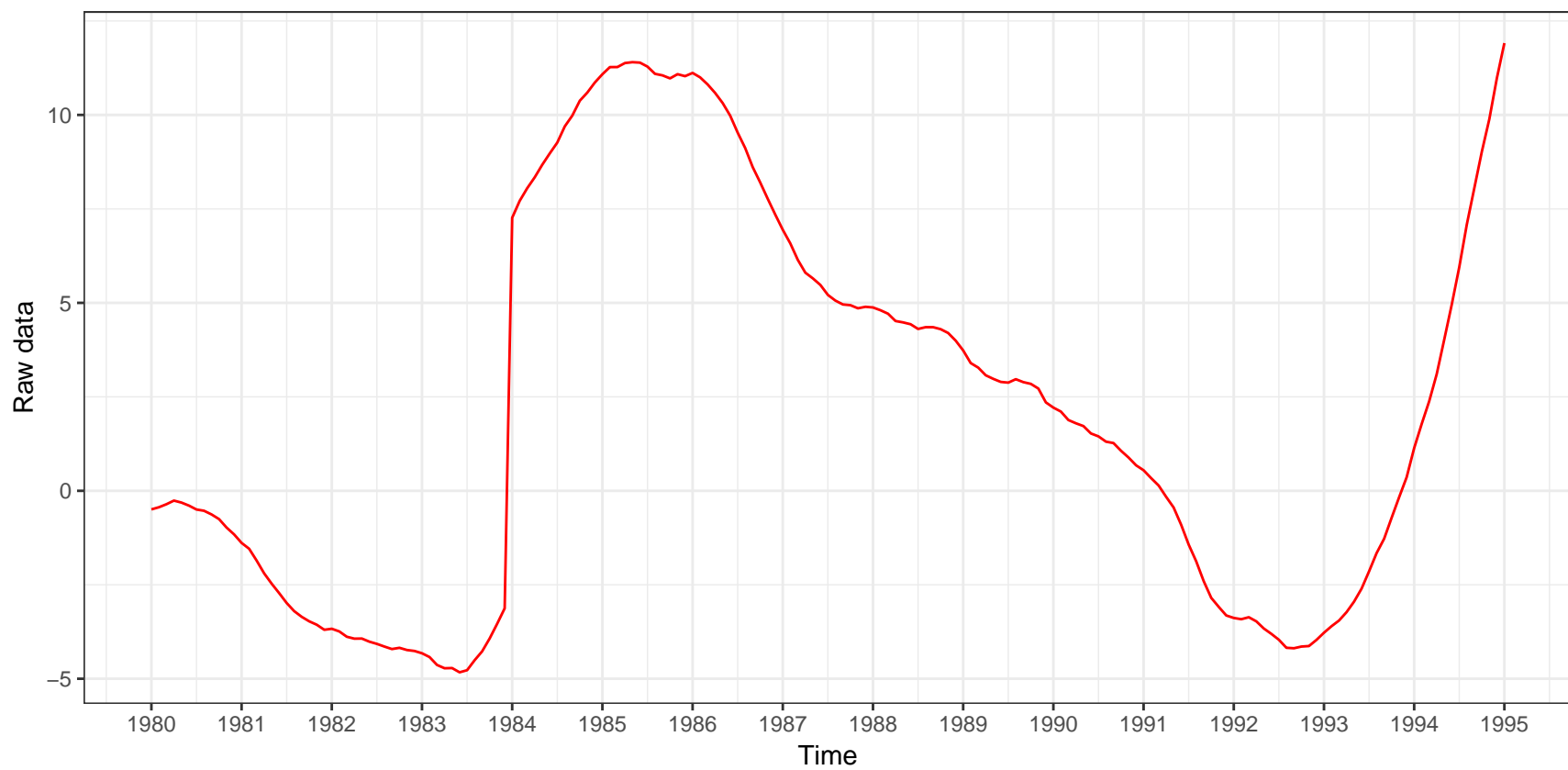


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 $(1-B)^2X_t=(1-0.31B+0.36B^2)a_t$

Estimation of the outlier

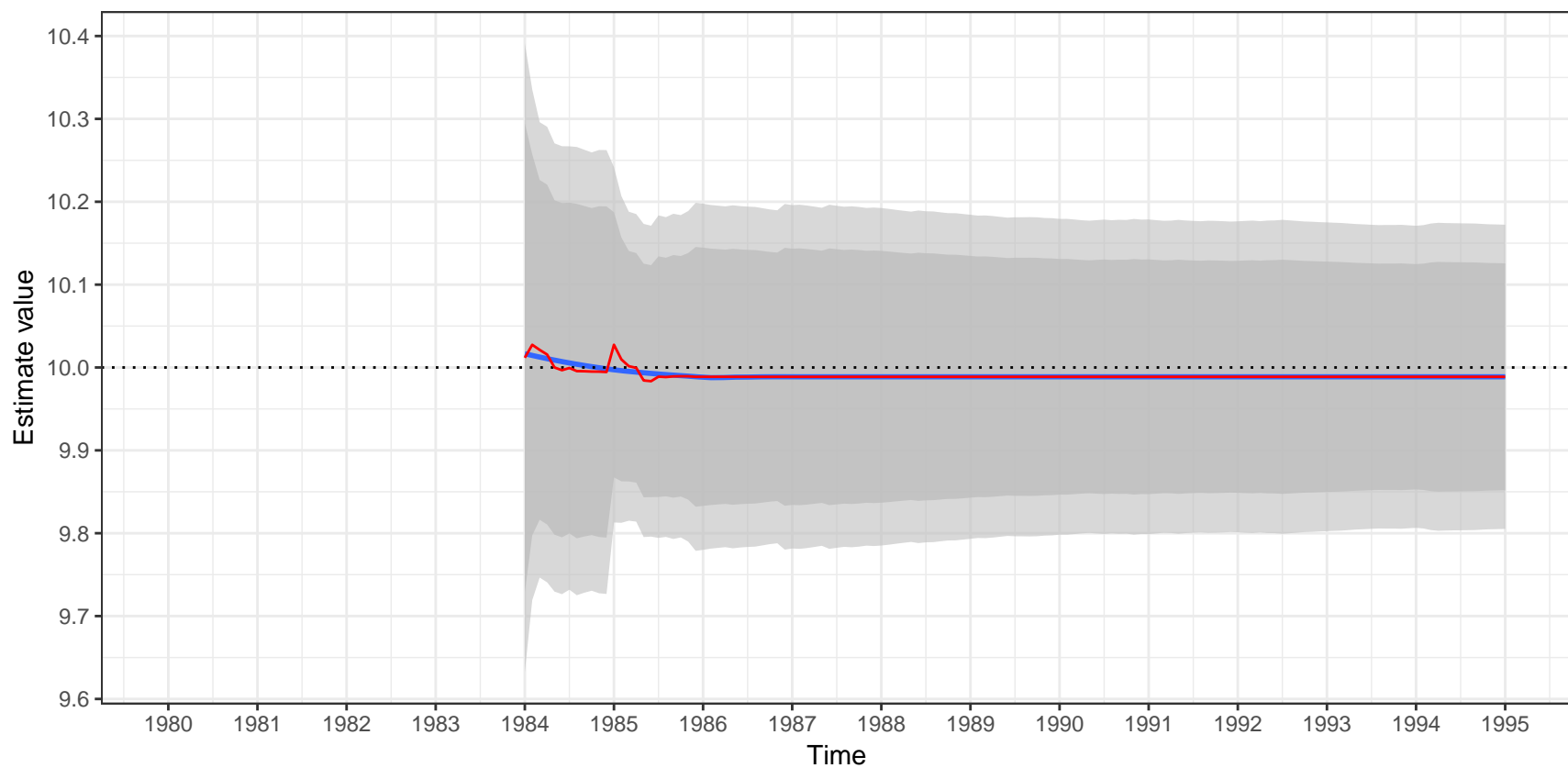


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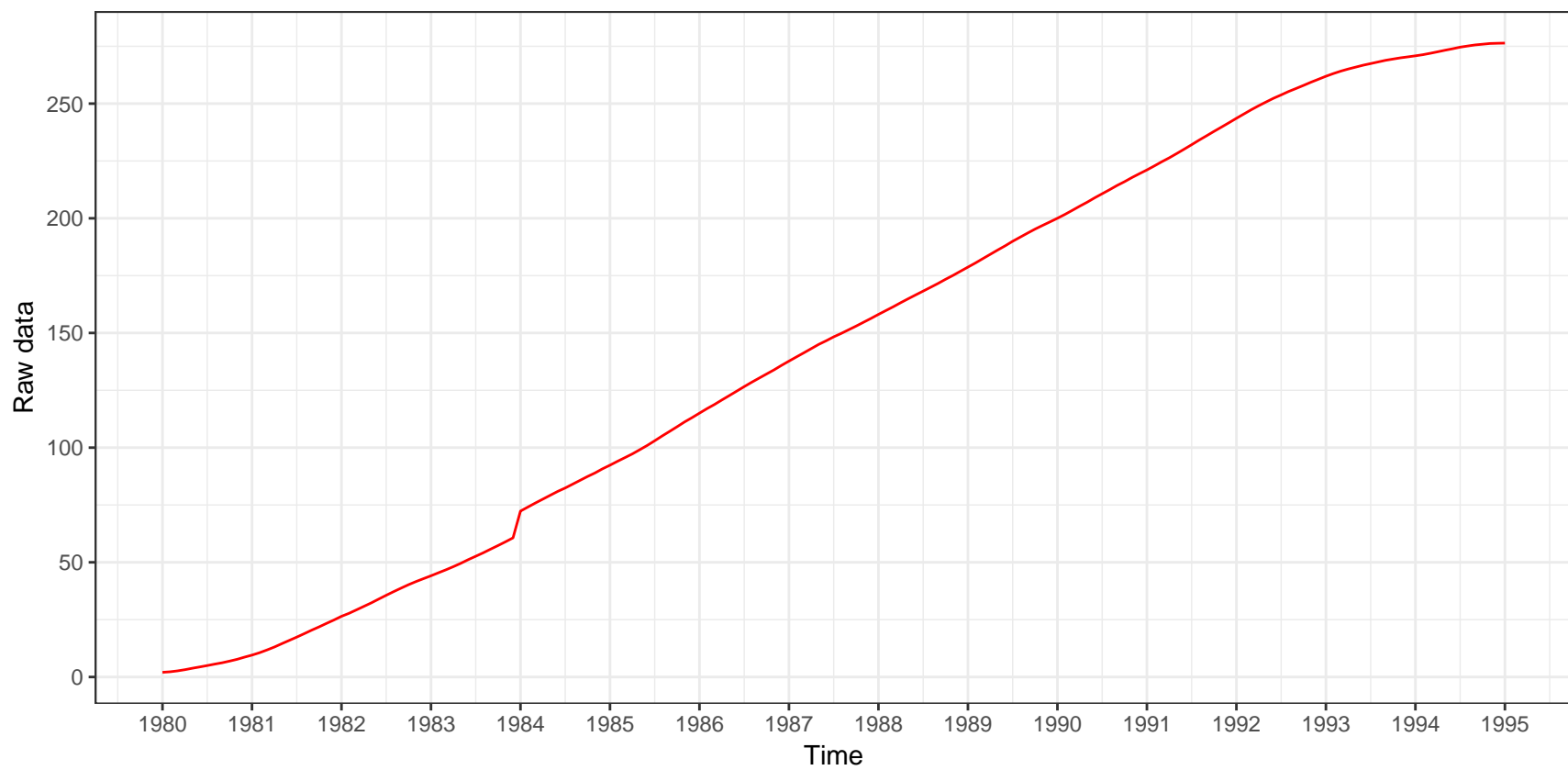


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Estimation of the outlier

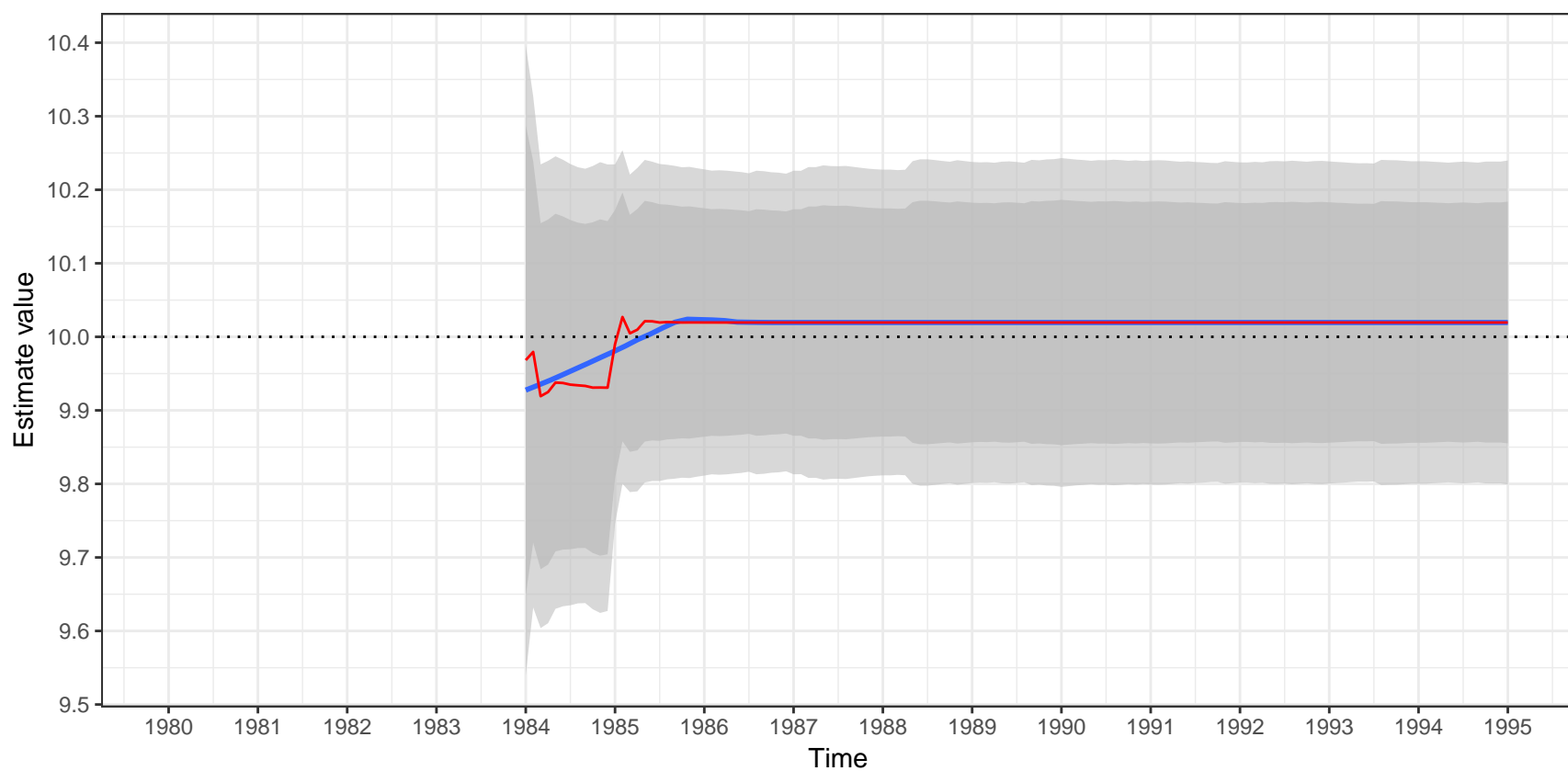


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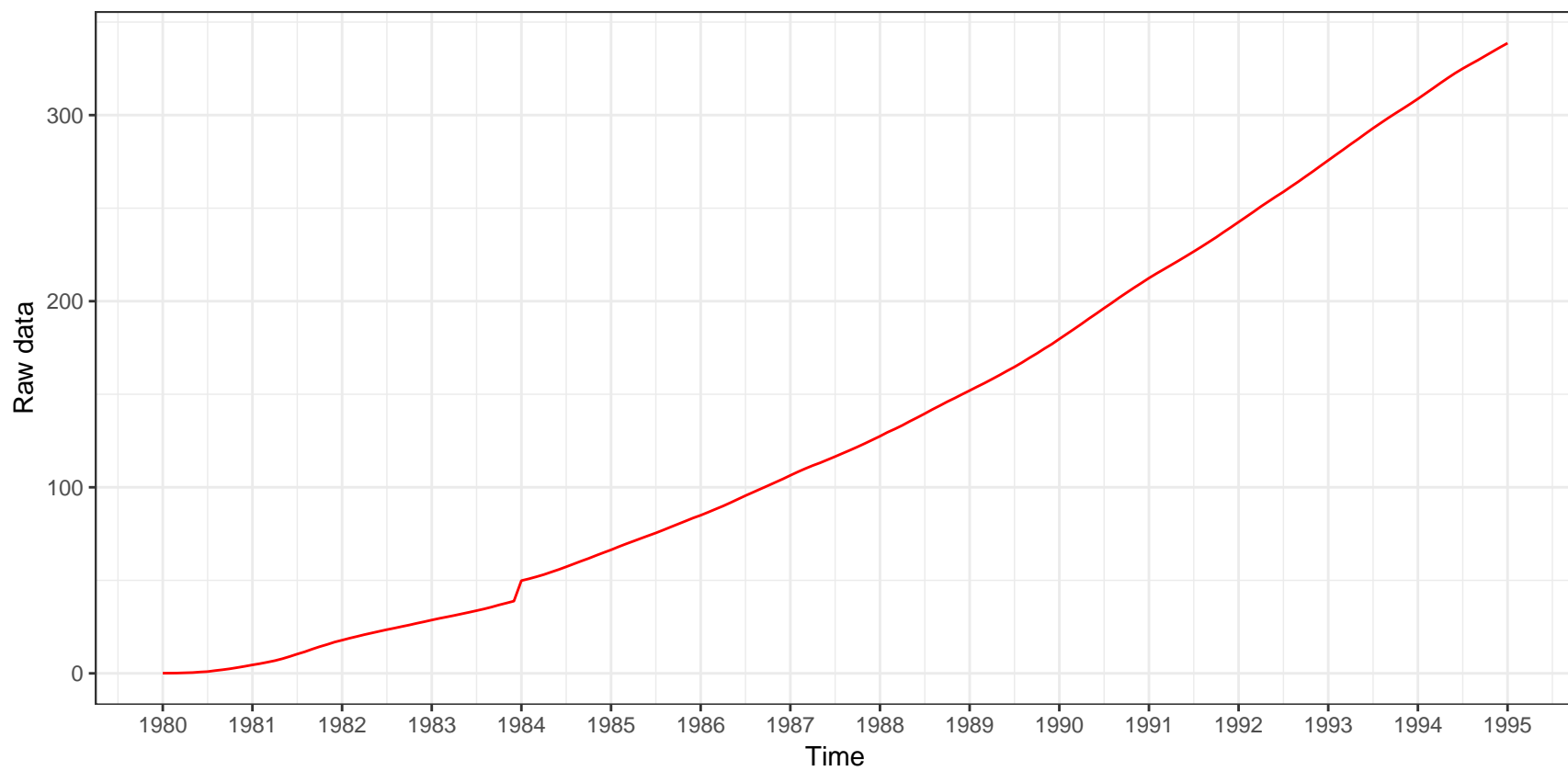


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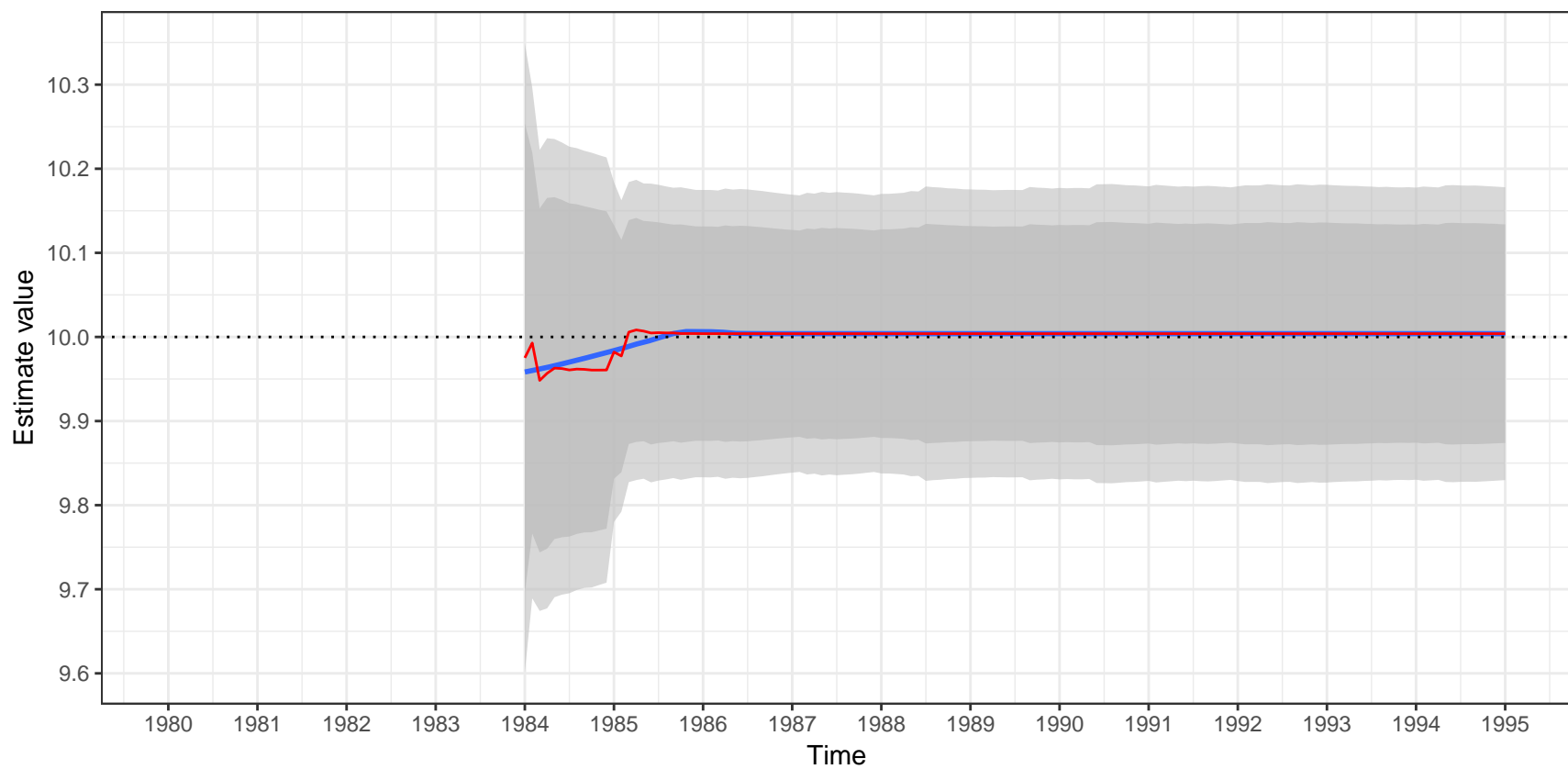


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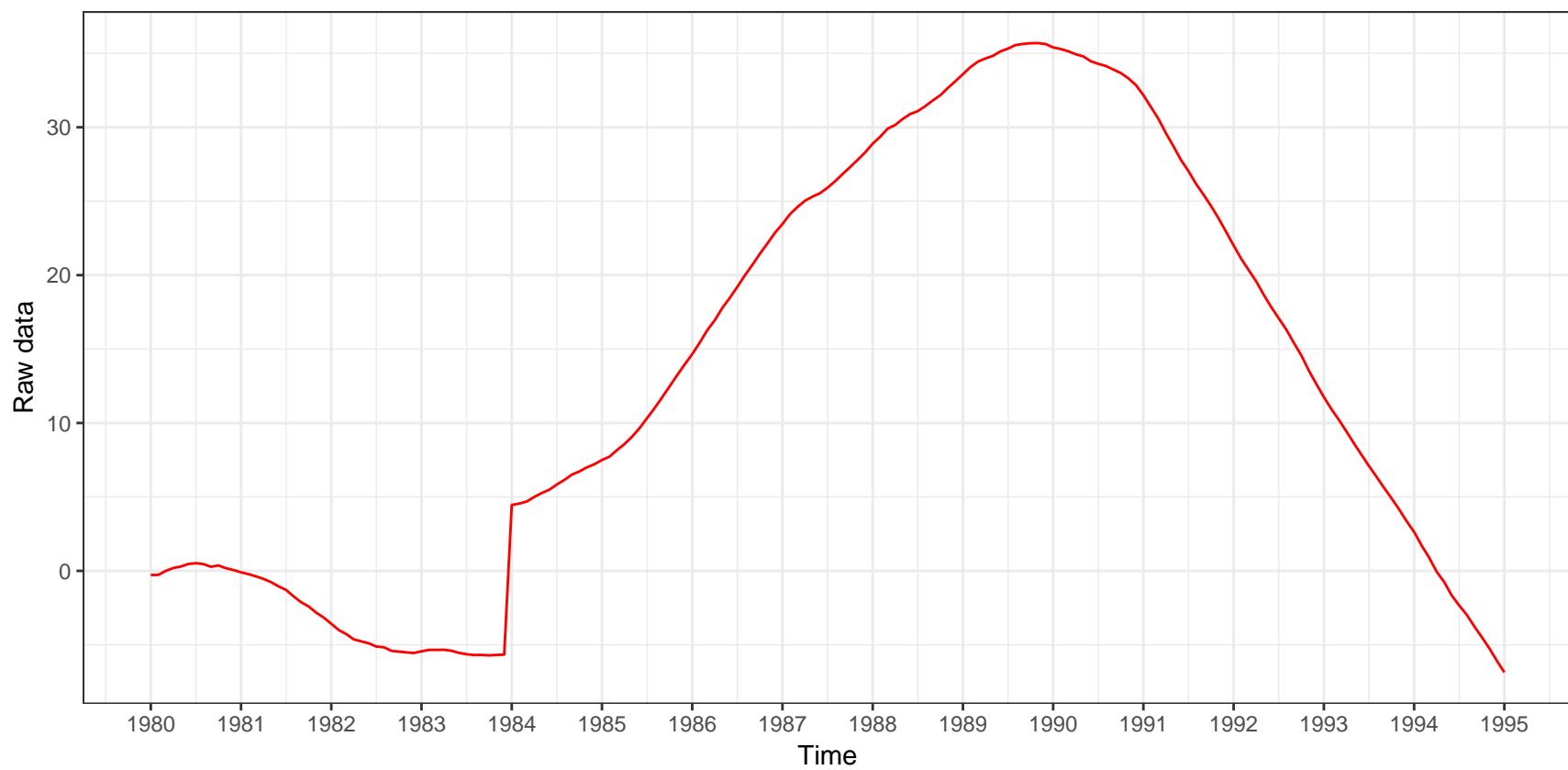


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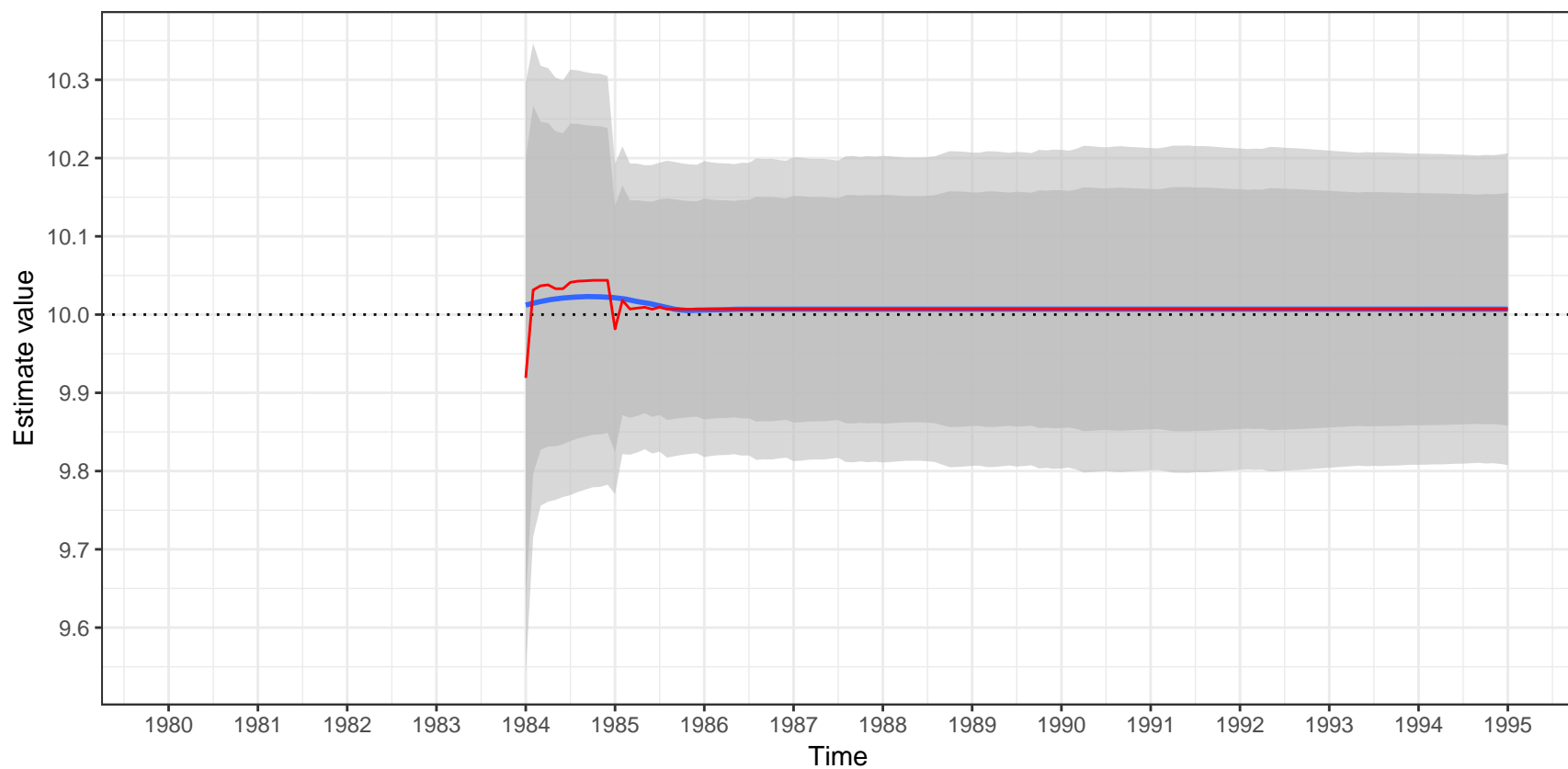


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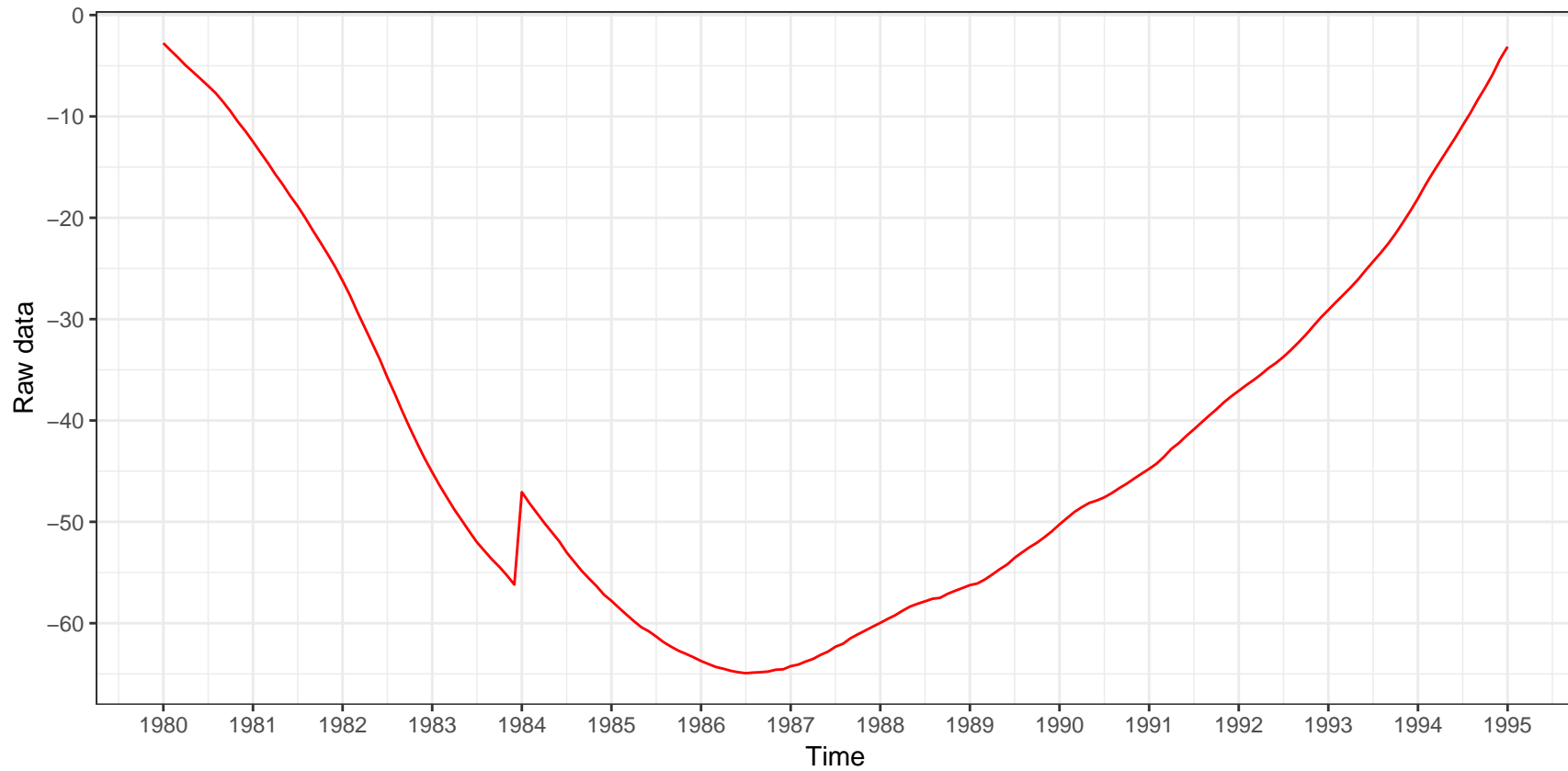


Estimate value of a LS(1984-01)
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Estimation of the outlier

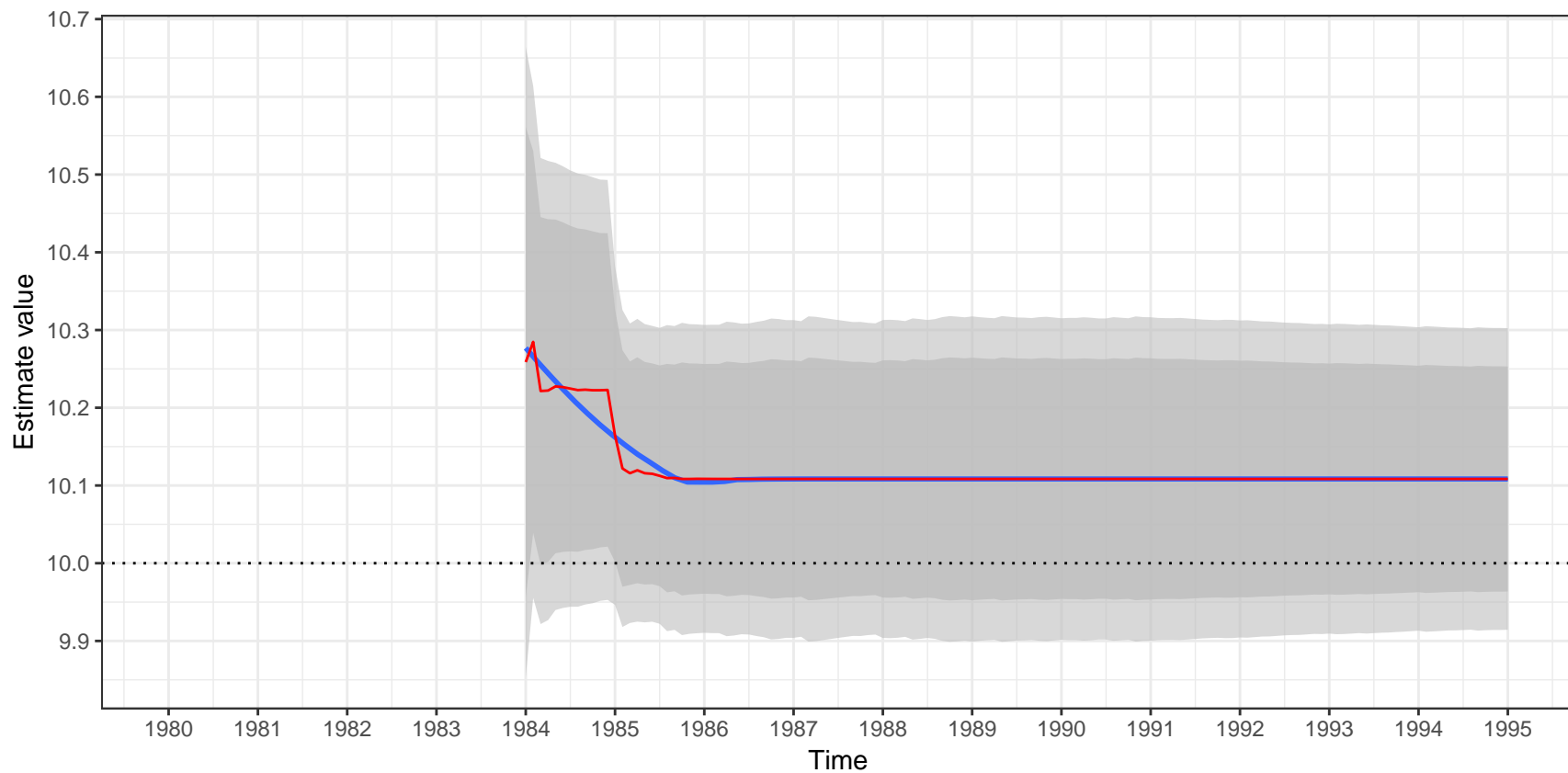


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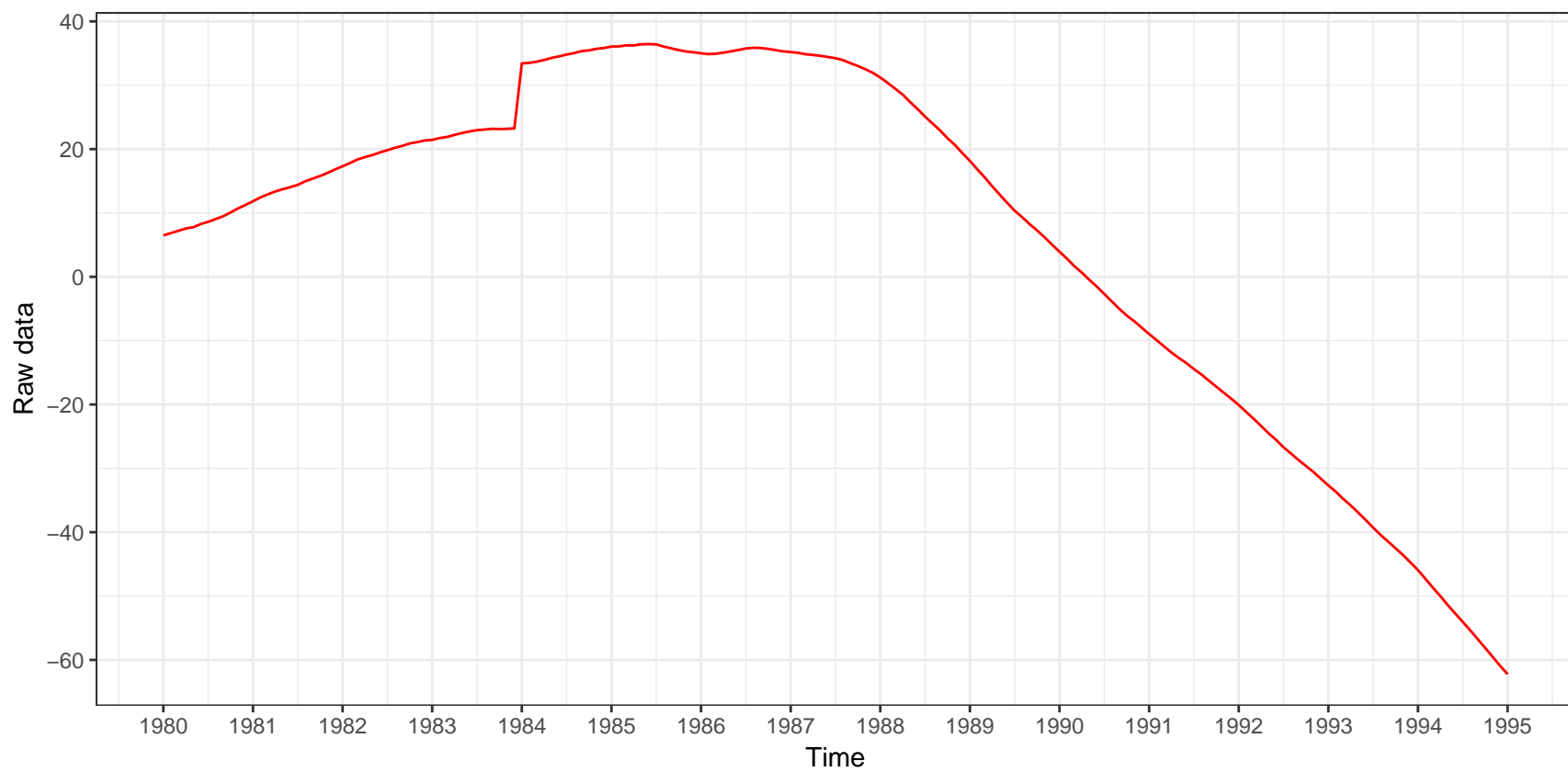


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.31B+0.36B^2)a_t$

Estimation of the outlier

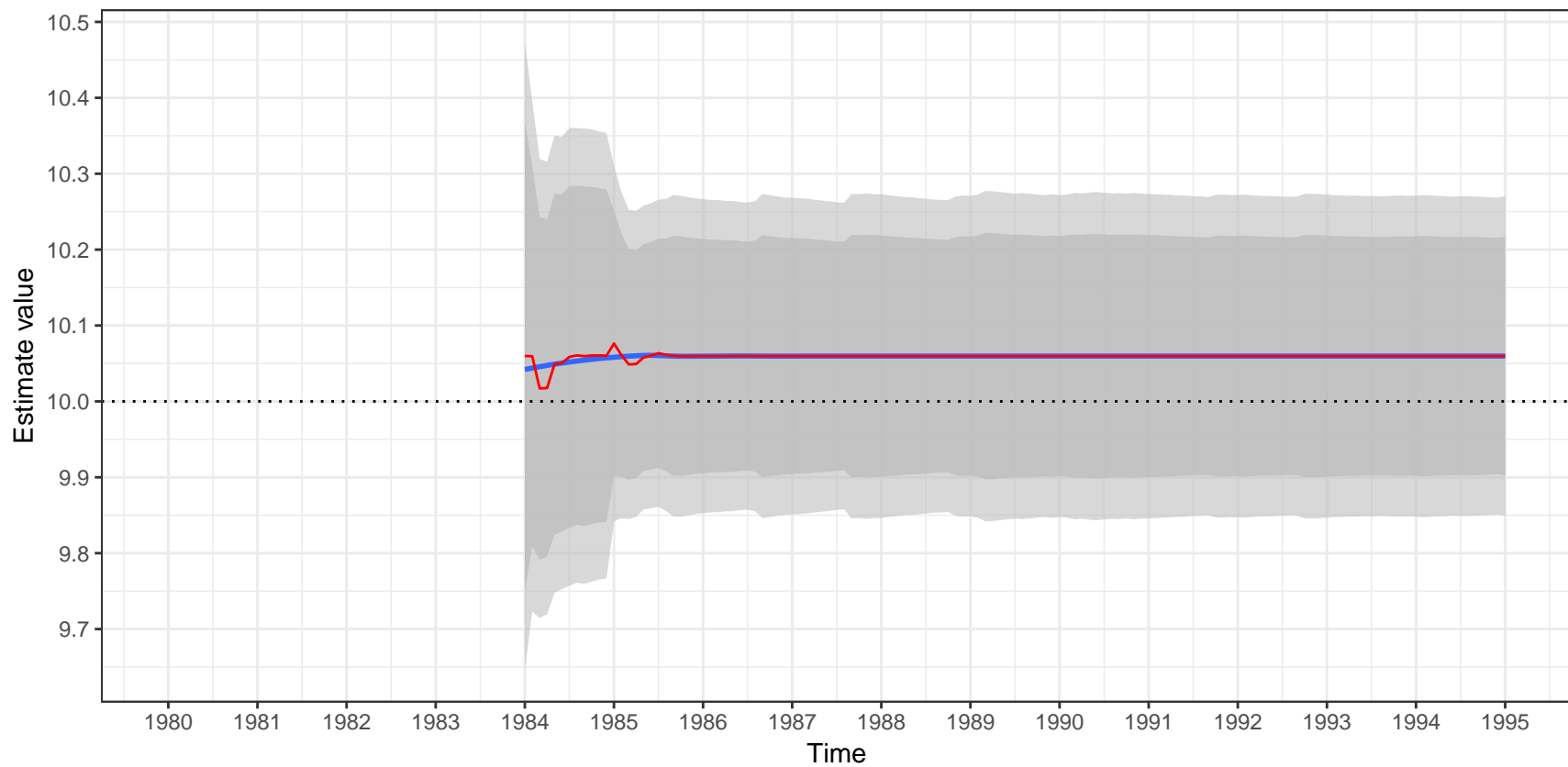


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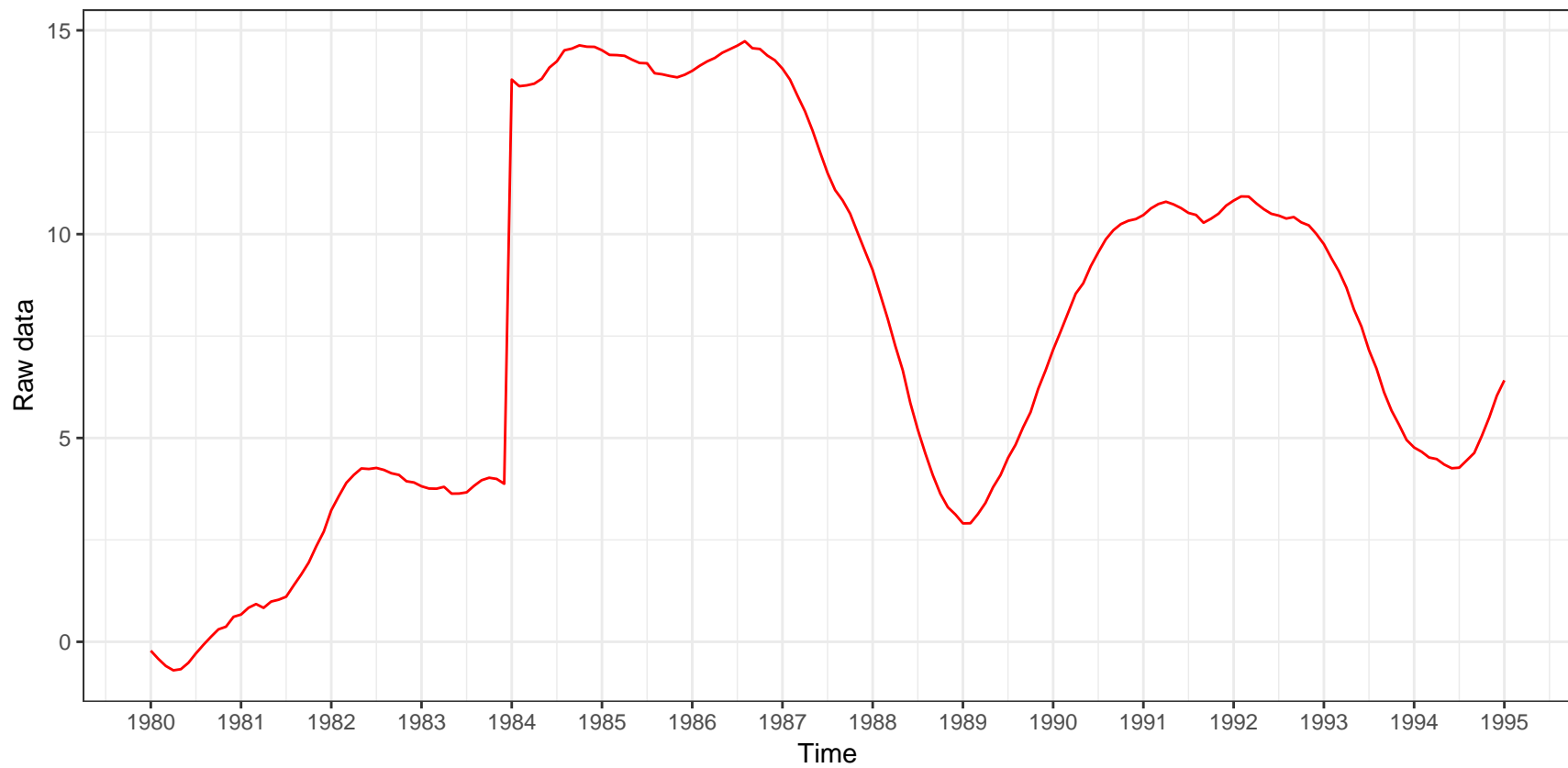


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.31B+0.36B^2)\epsilon_t$

Estimation of the outlier

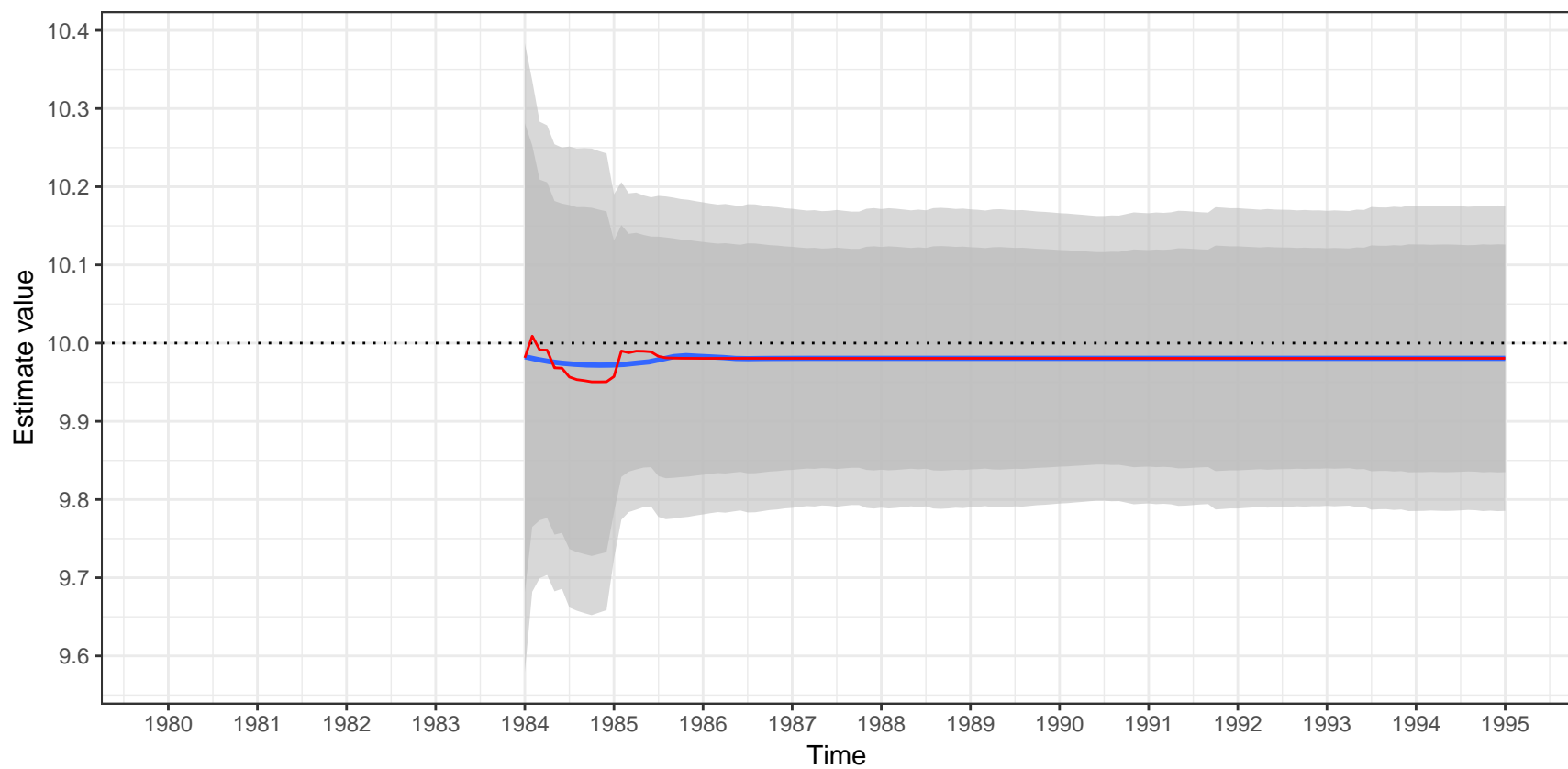


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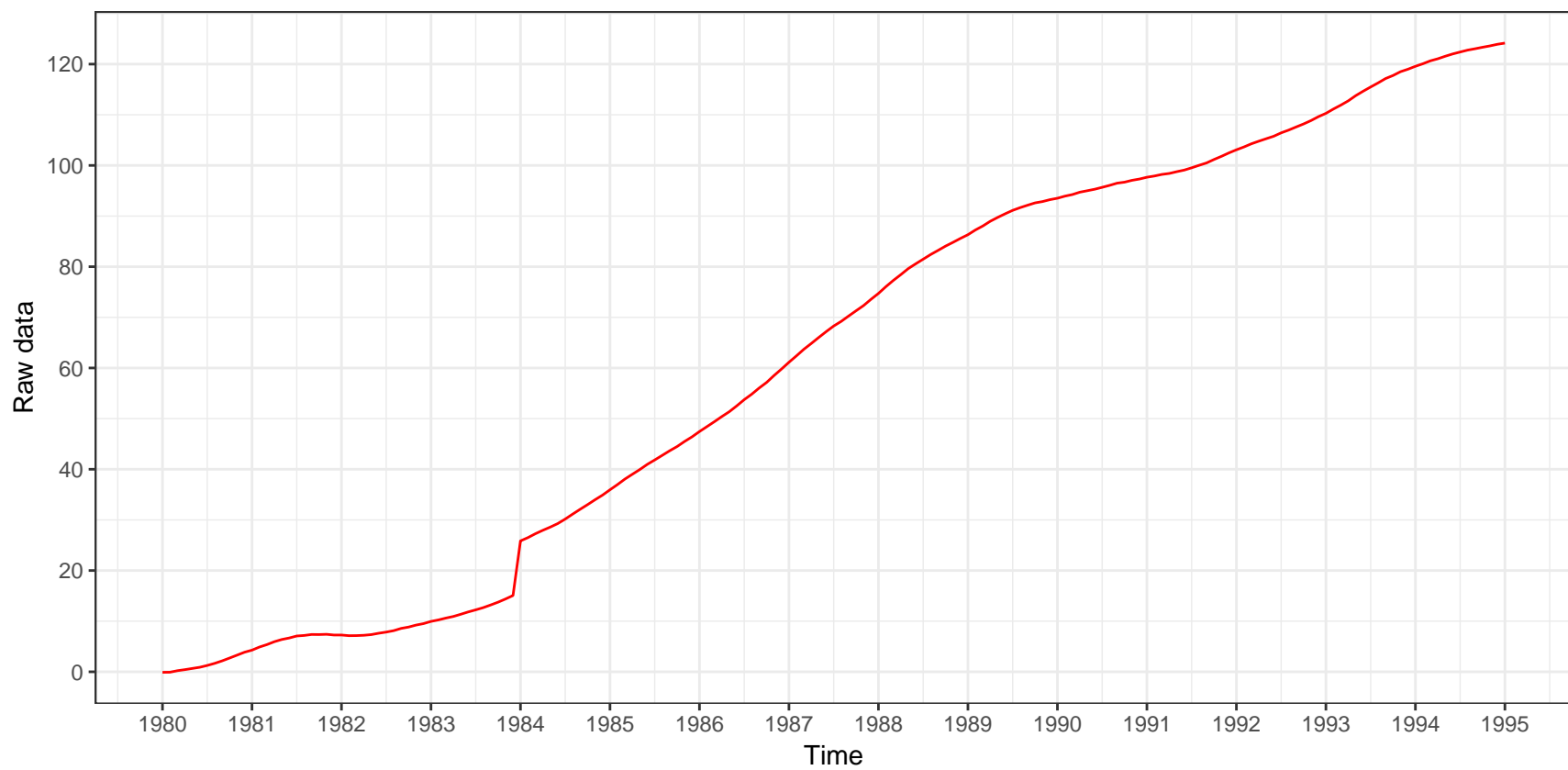


Estimate value of a LS(1984-01)
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Estimation of the outlier

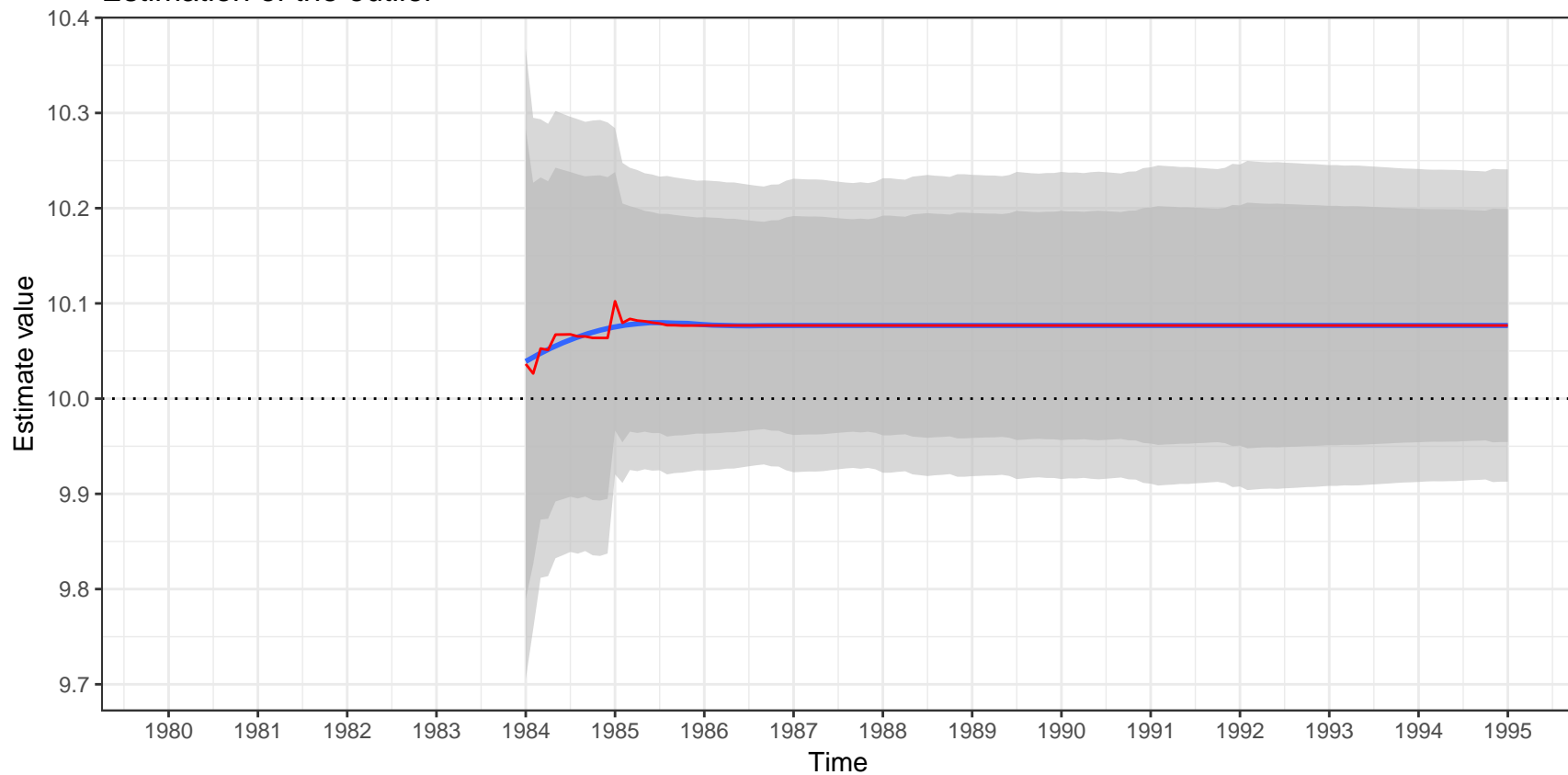


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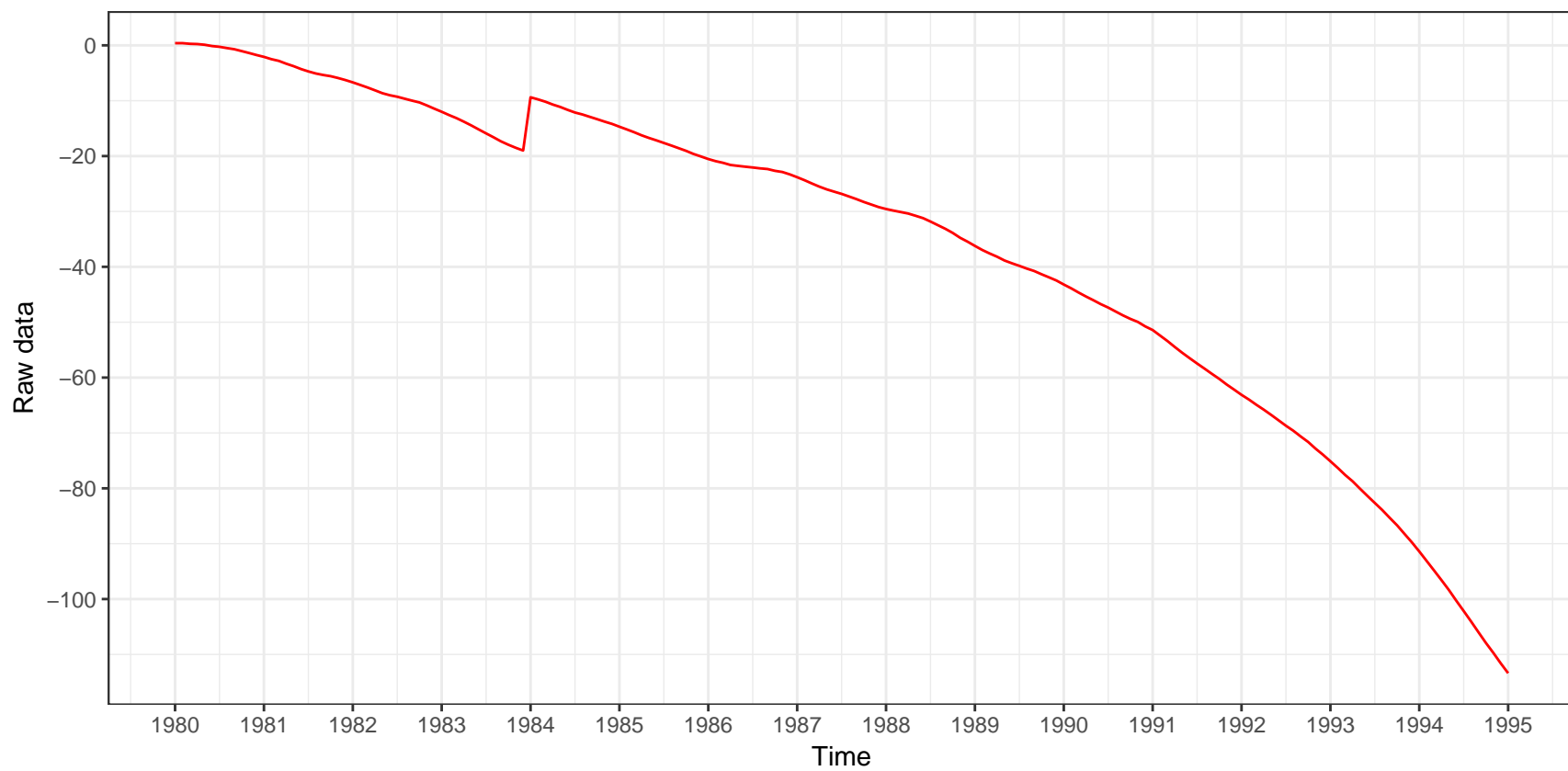


Estimate value of a LS(1984-01)
ARIMA (0,2,2)(0,0,0) – additive decomposition
 $(1-B)^2X_t=(1-0.31B+0.36B^2)a_t$

Estimation of the outlier

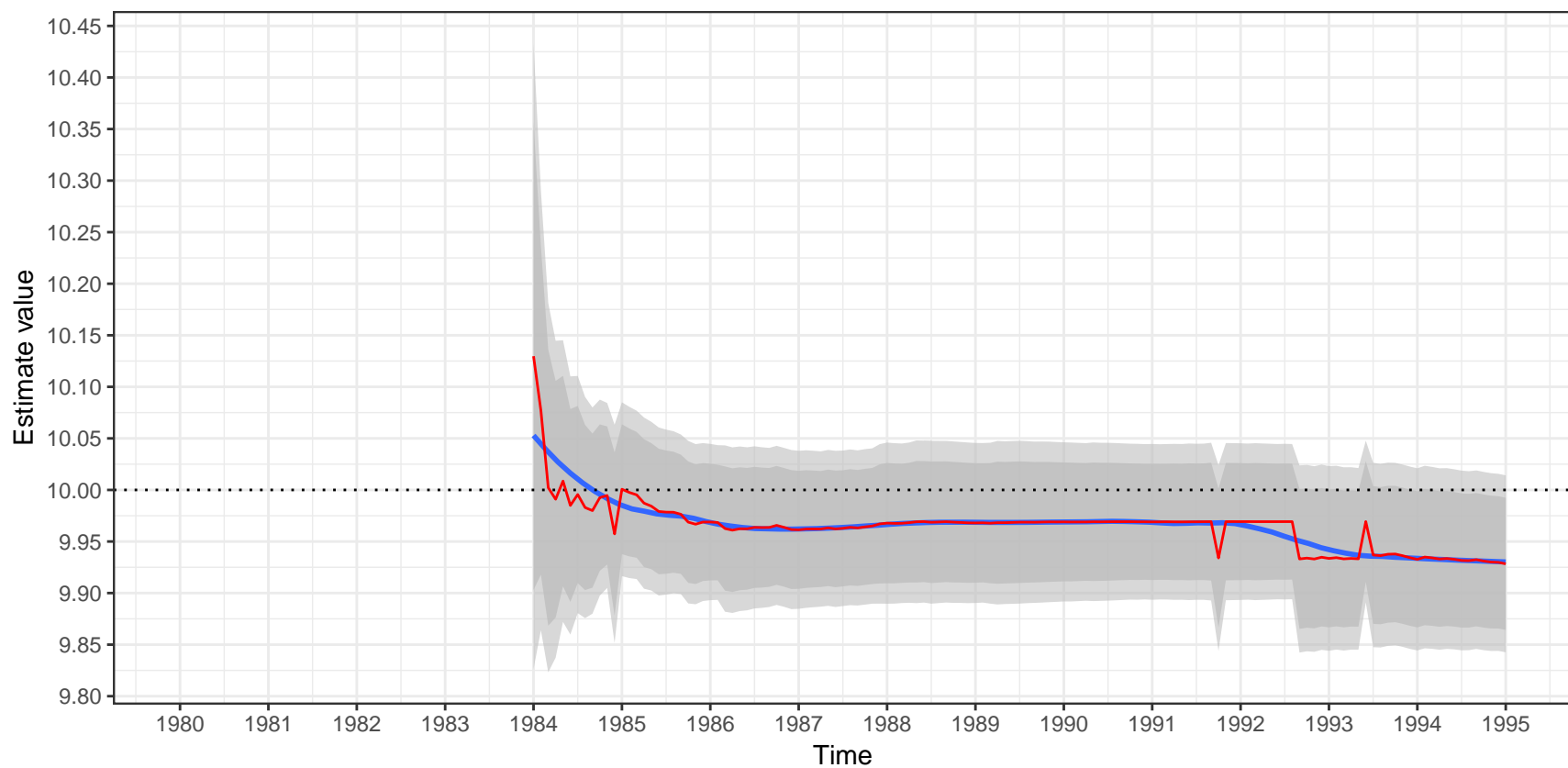


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

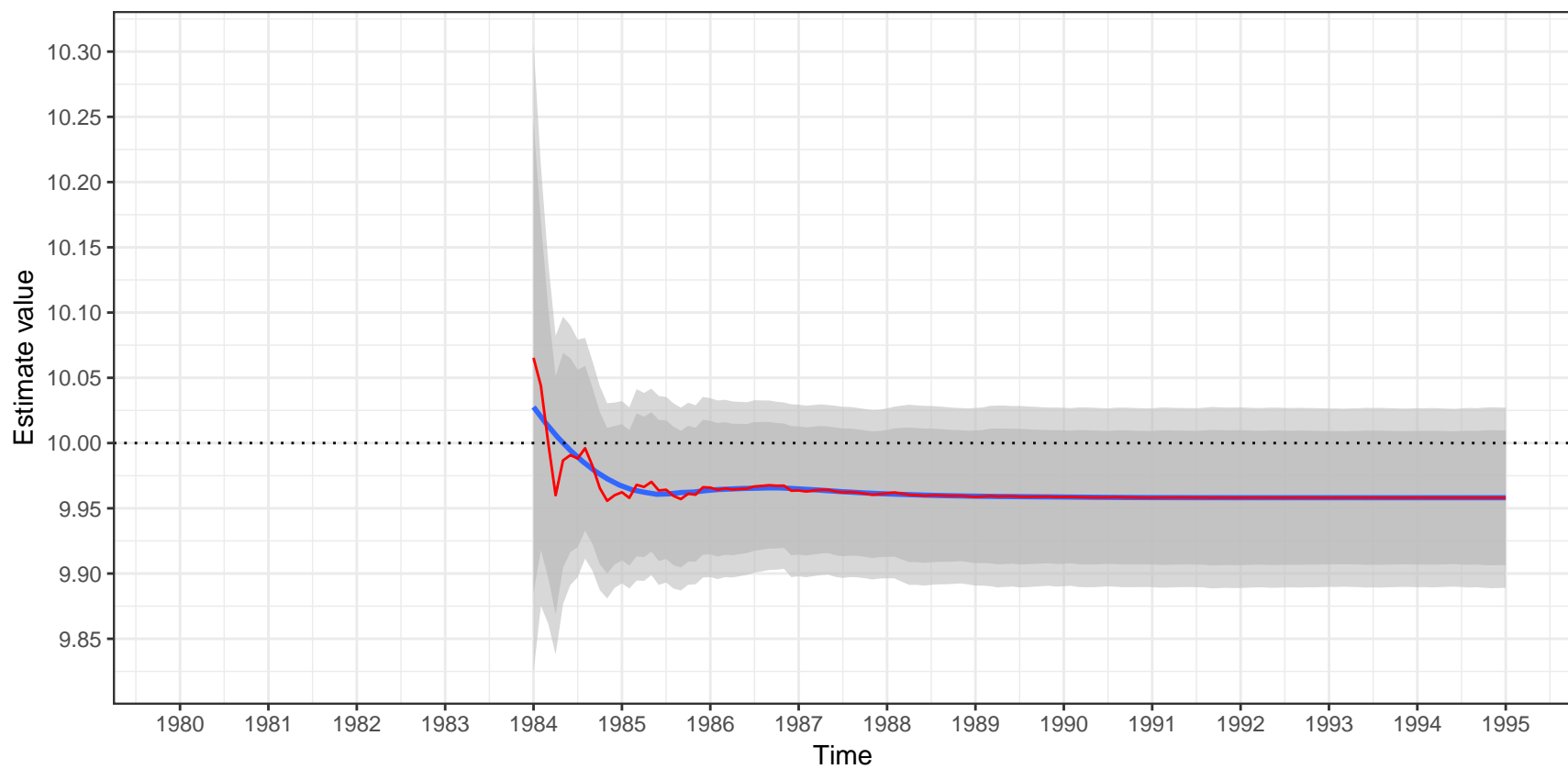


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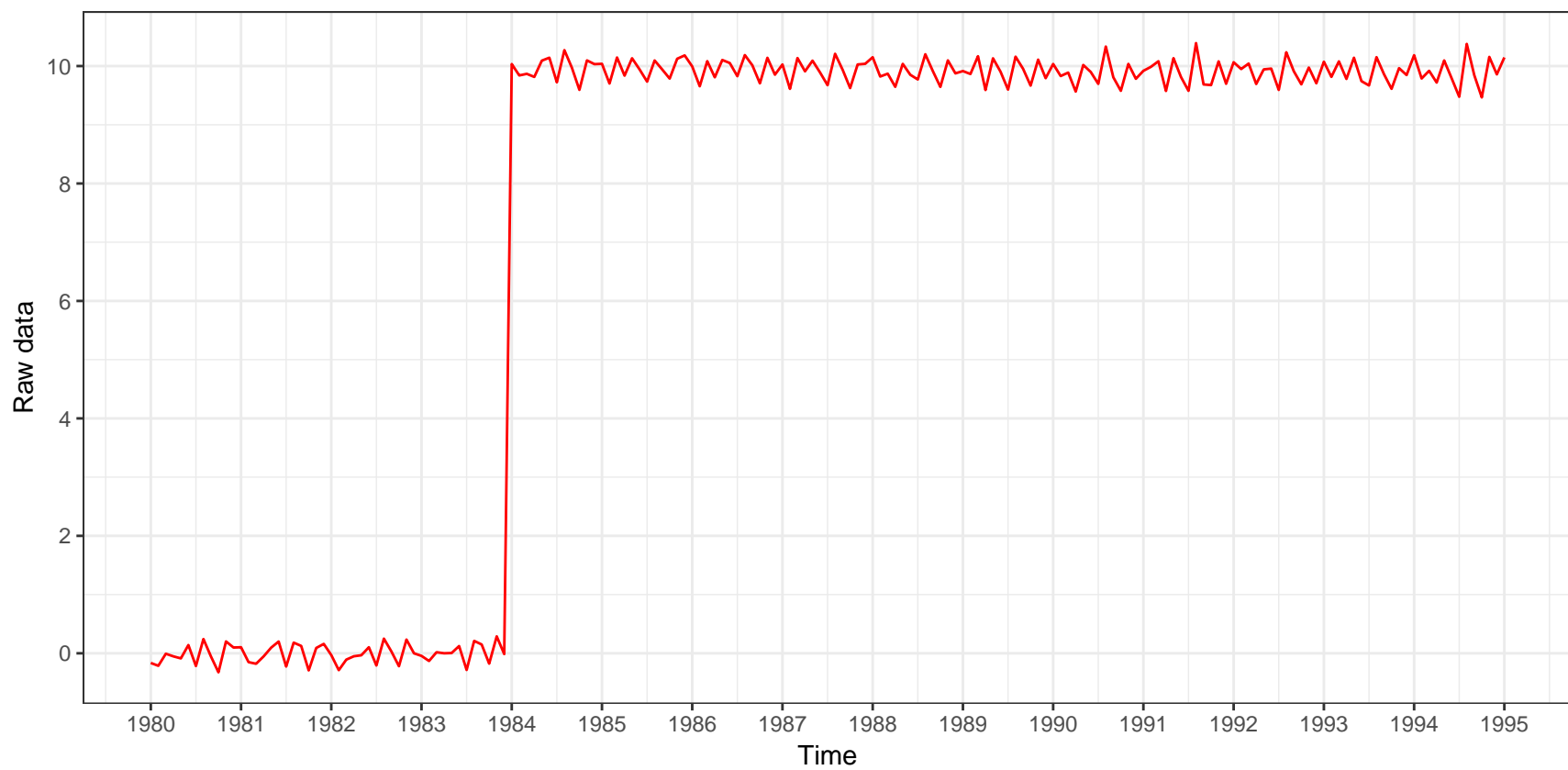


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ARIMA (0,0,0)(0,1,1) – additive decomposition
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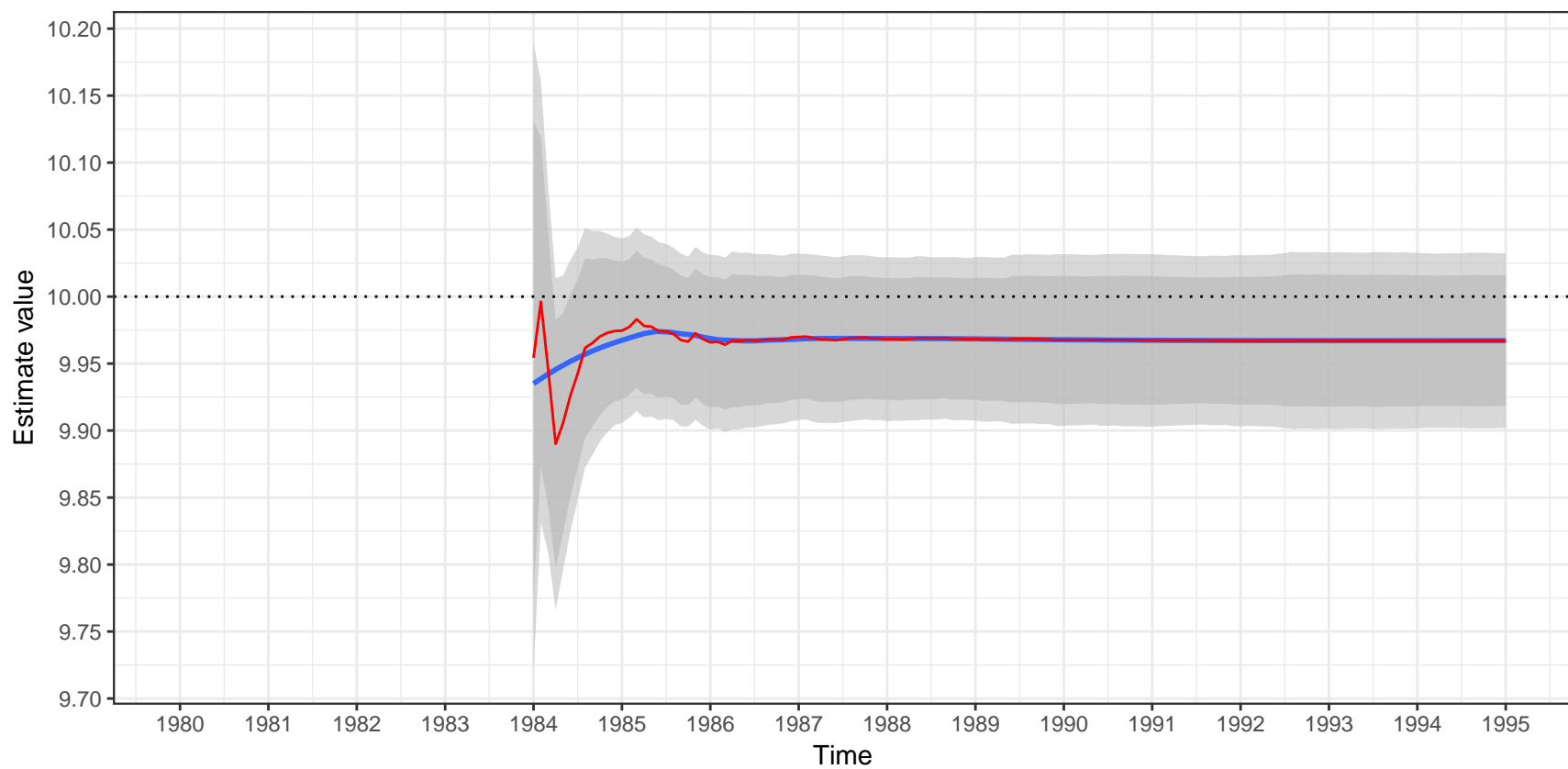


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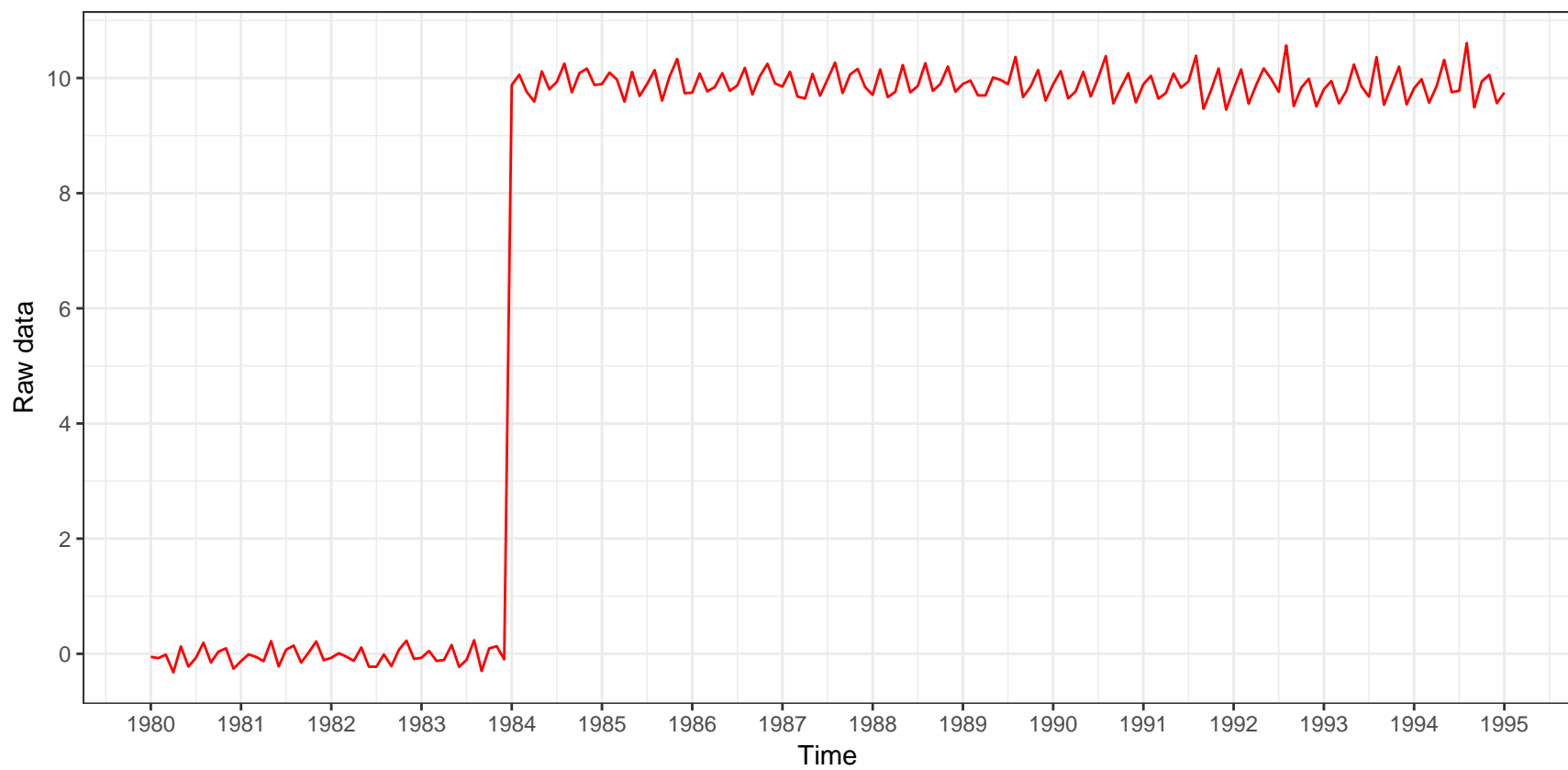


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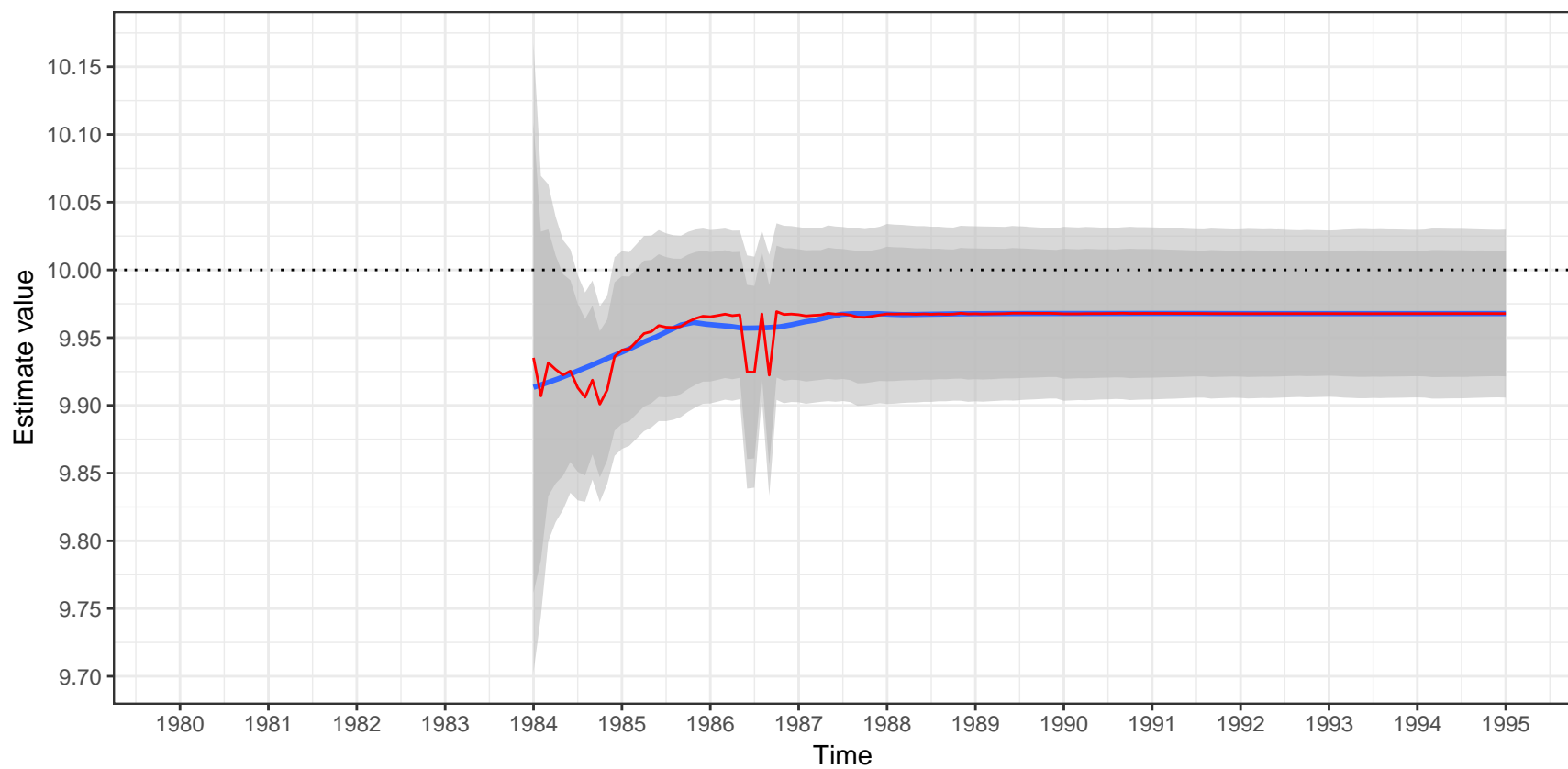


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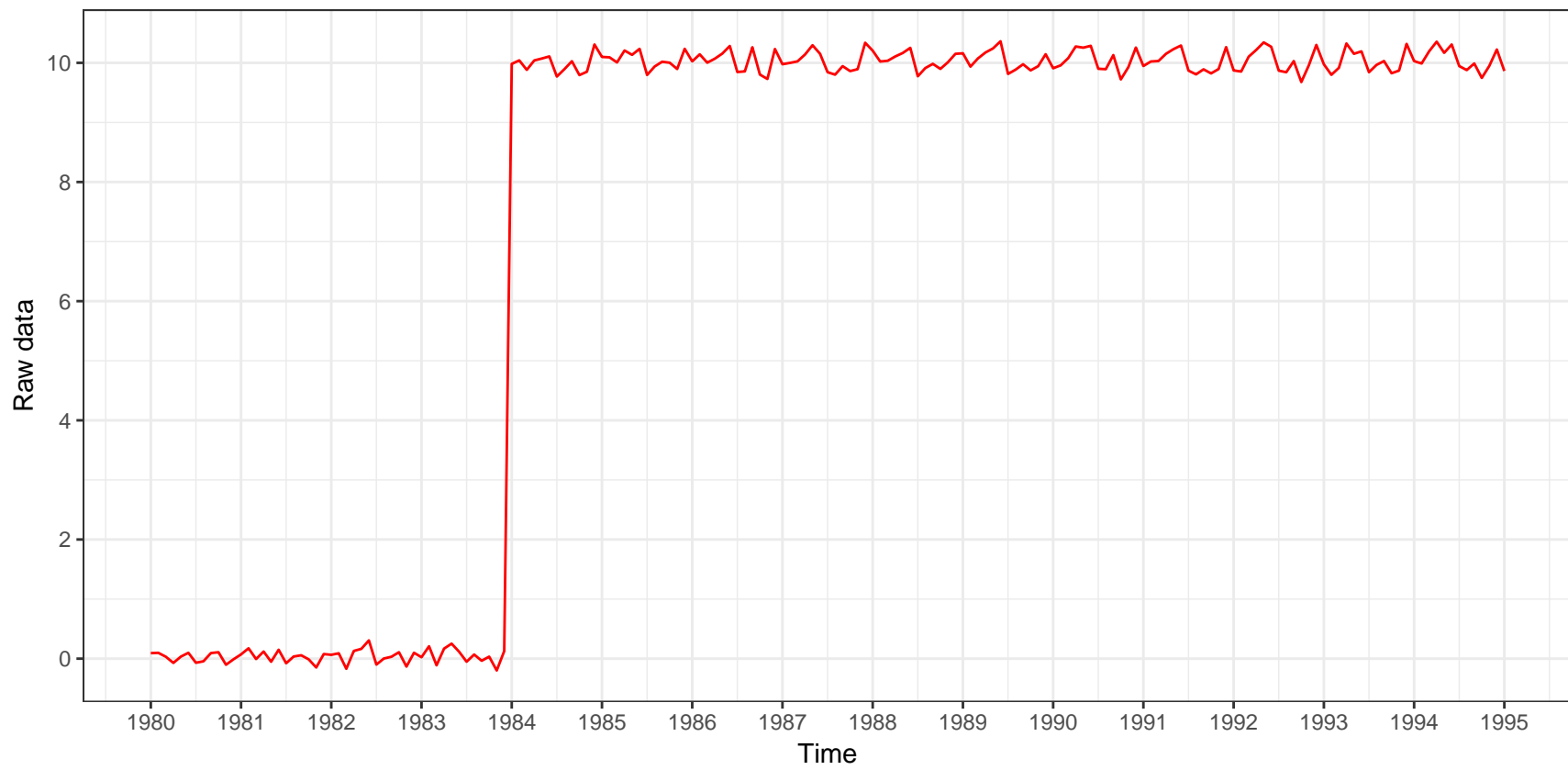


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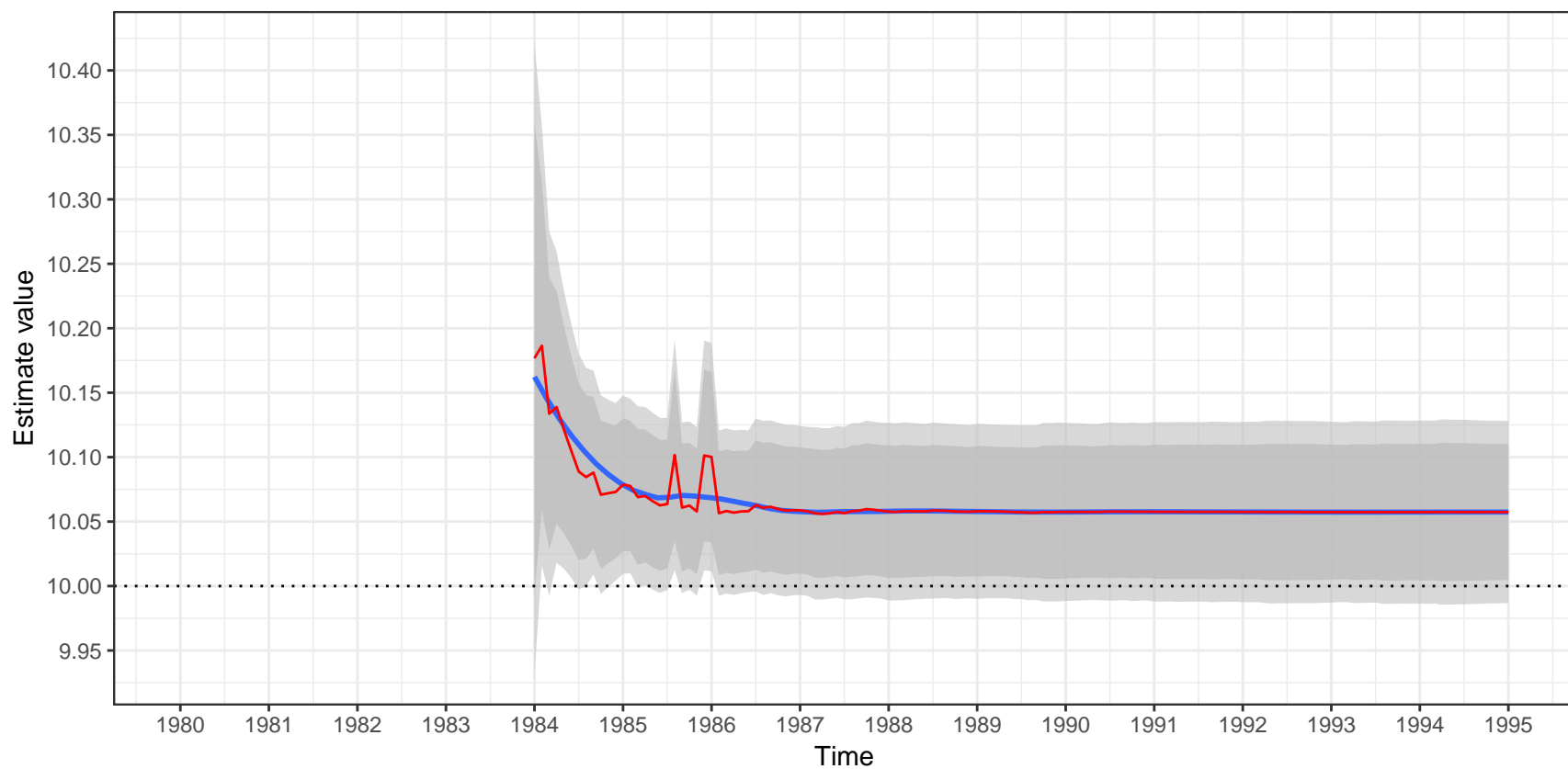


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Estimation of the outlier

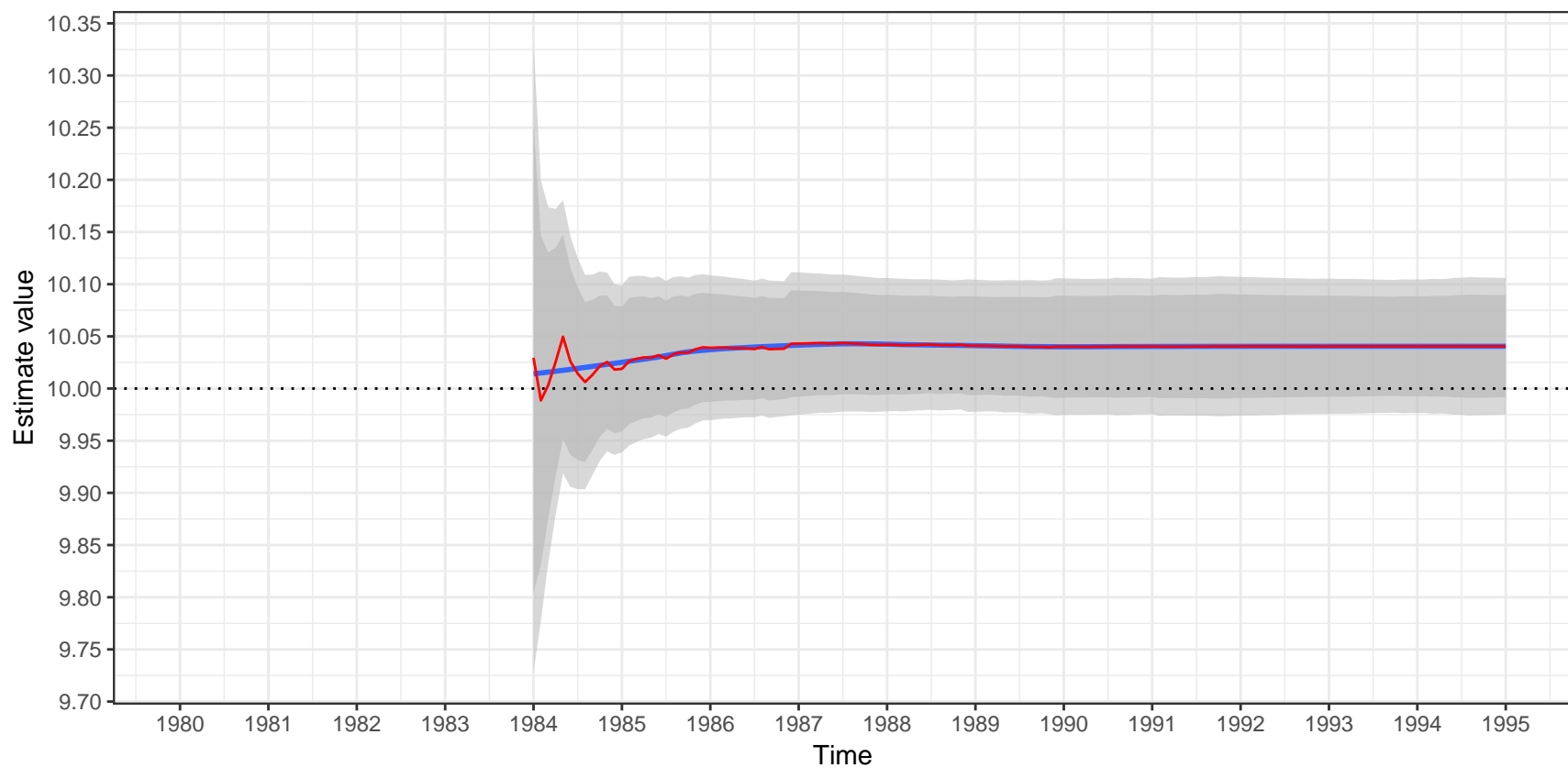


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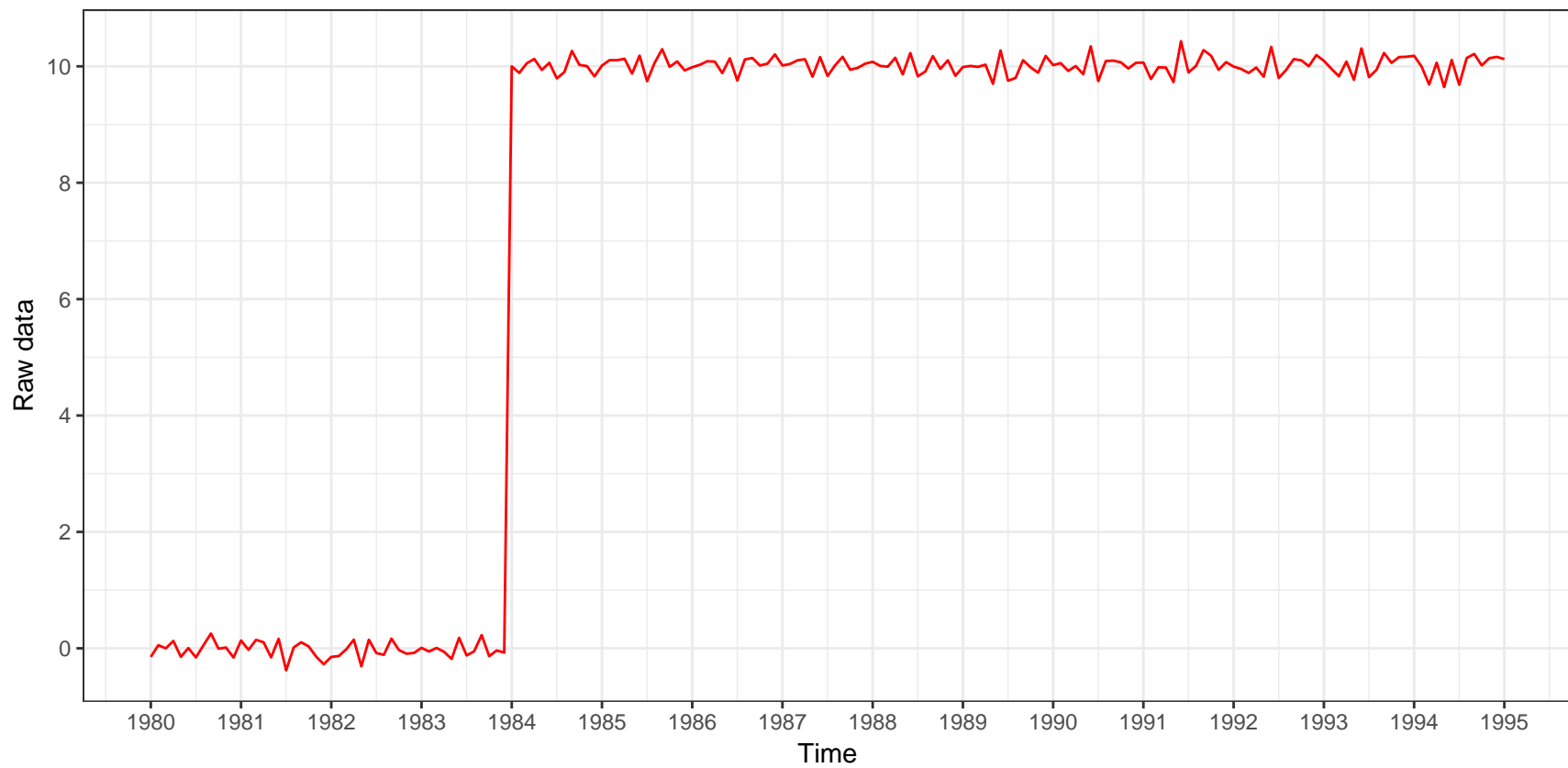


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Estimation of the outlier

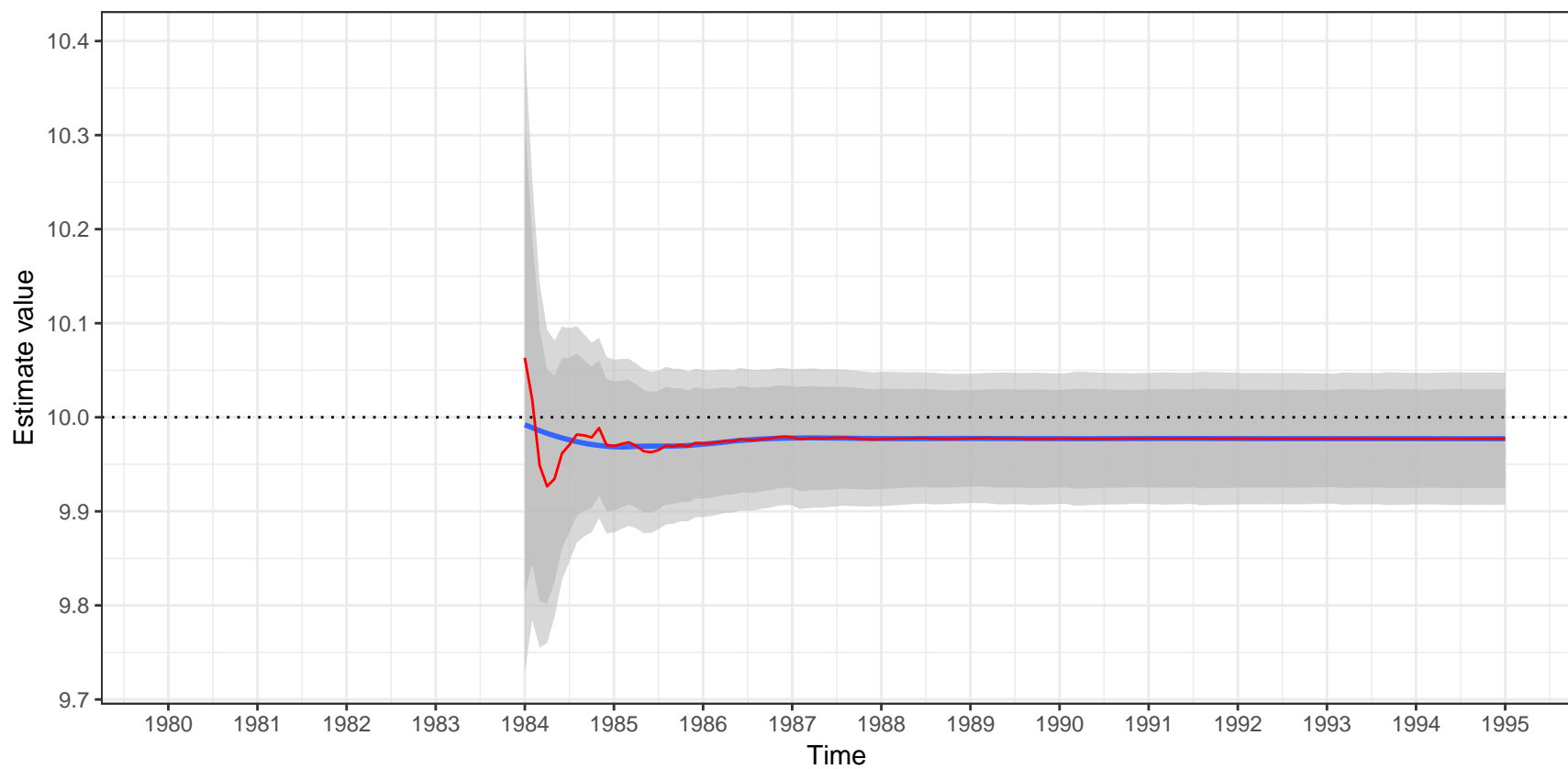


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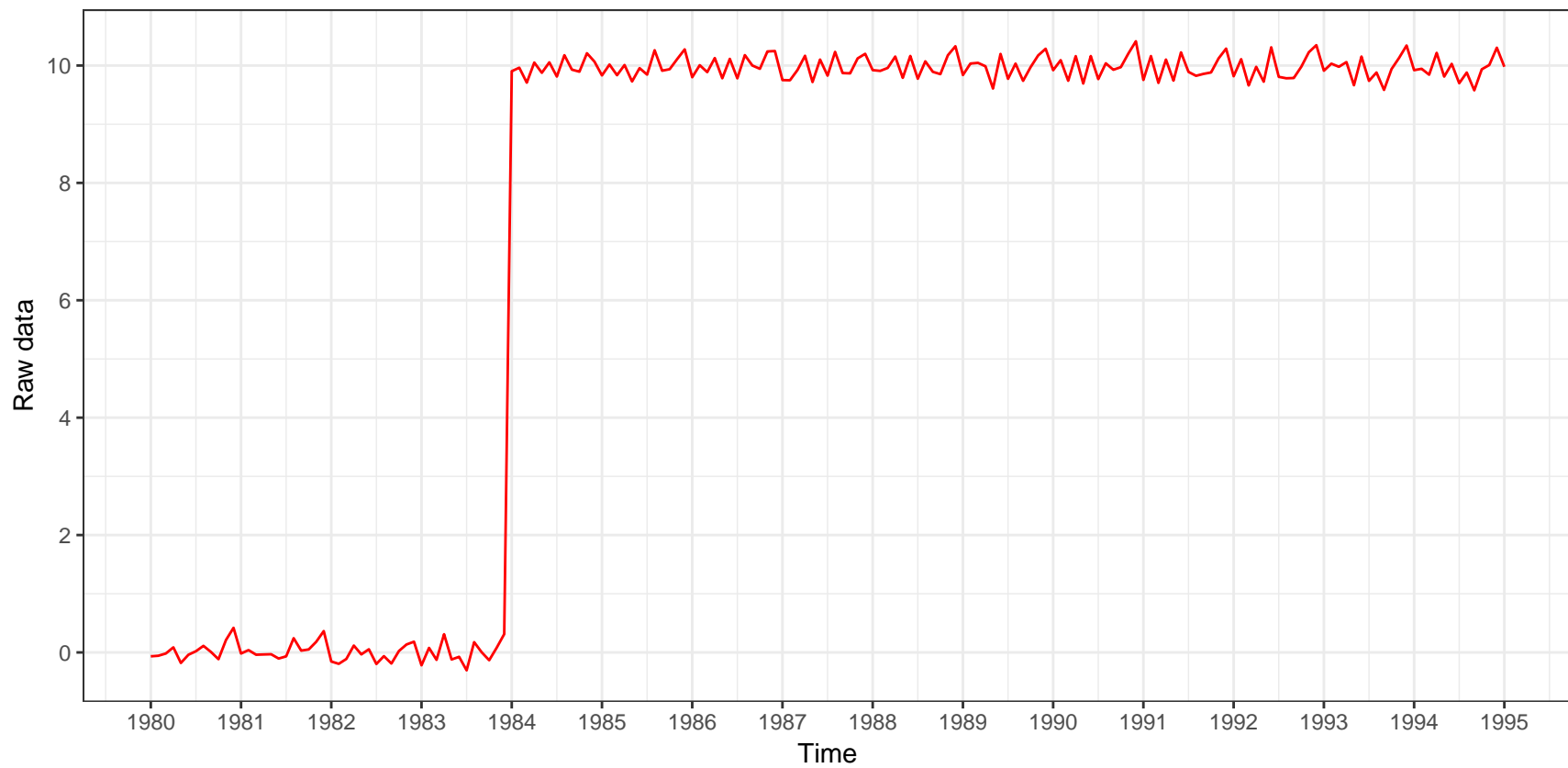


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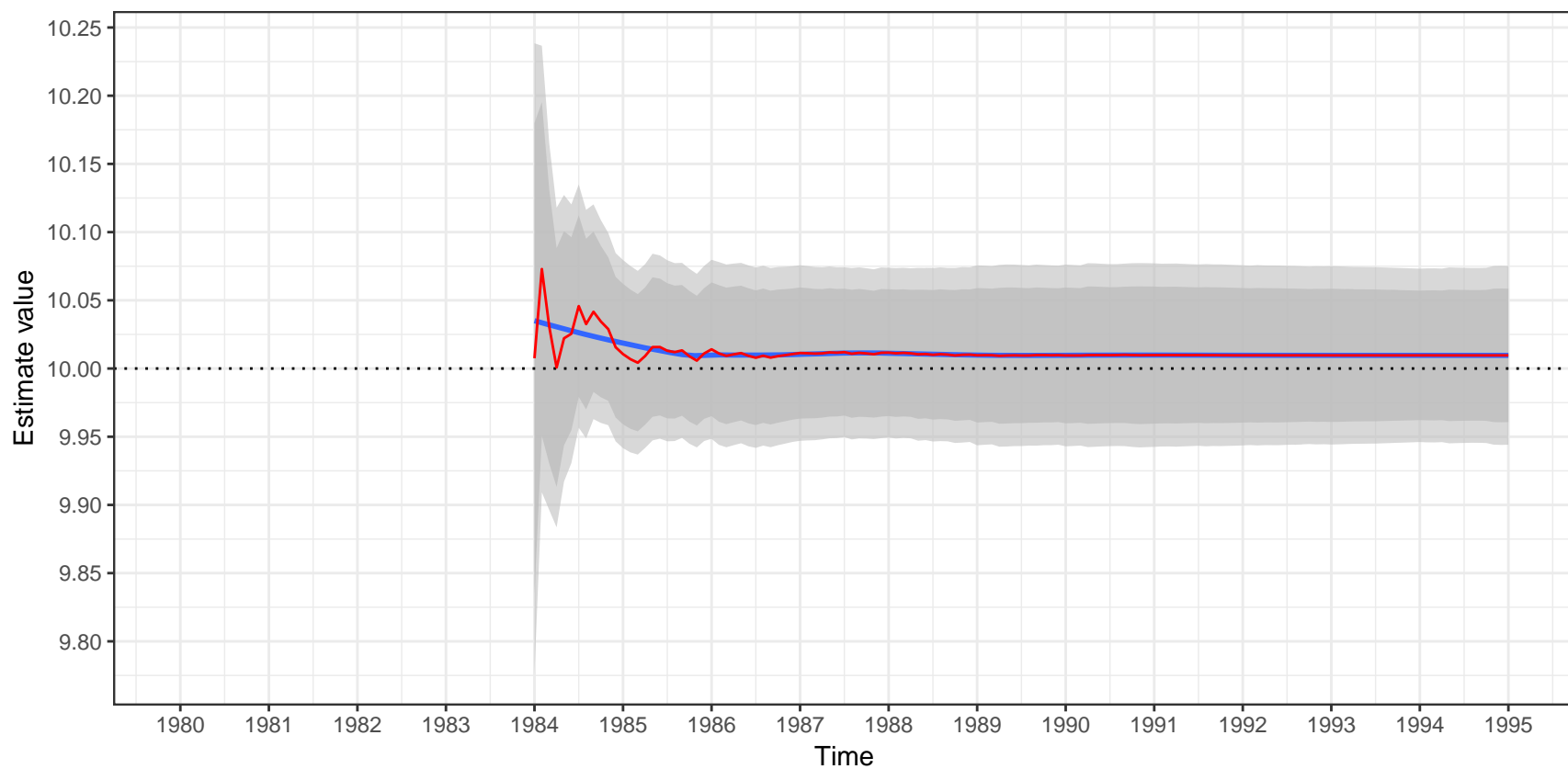


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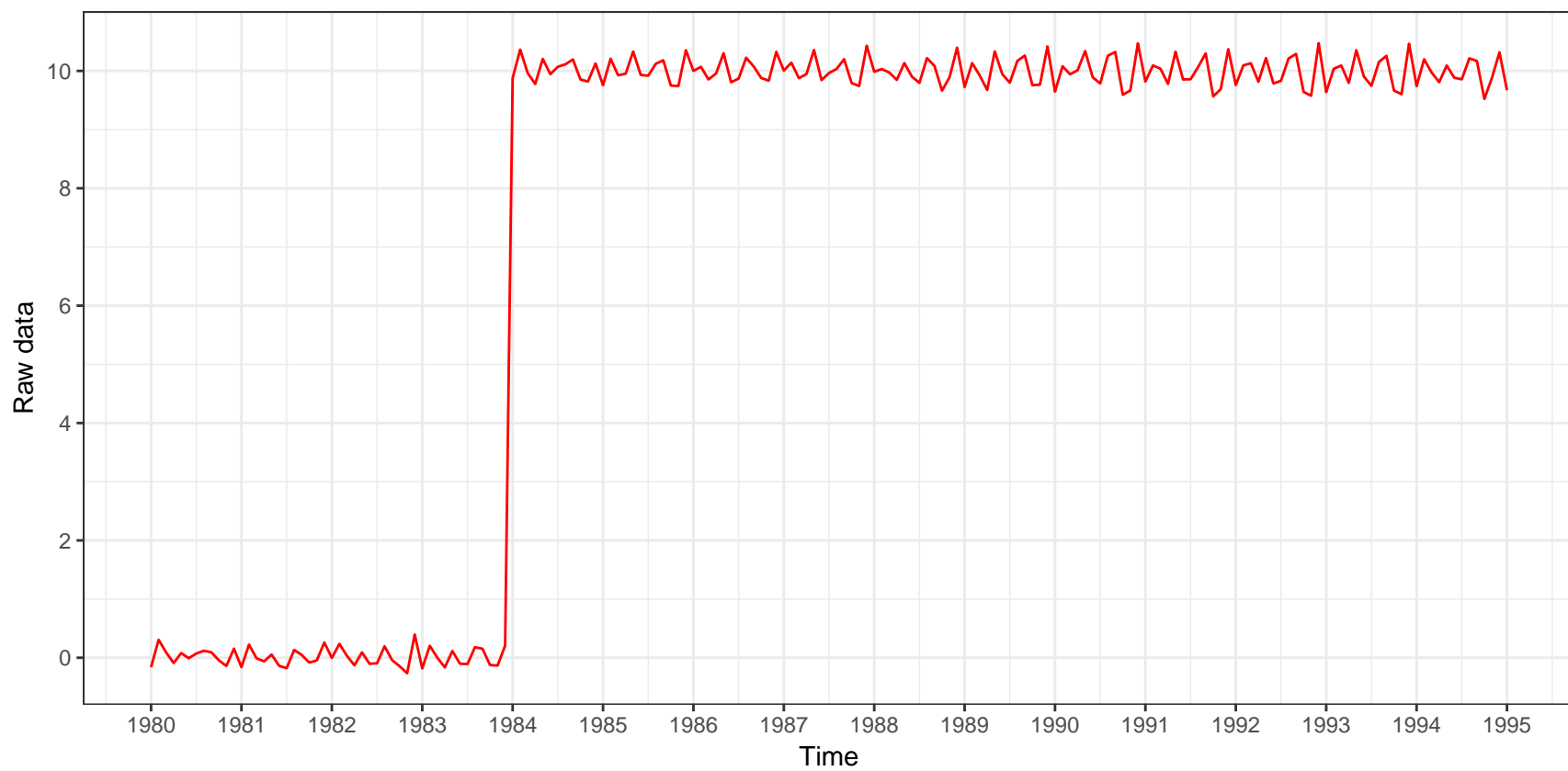


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Estimation of the outlier

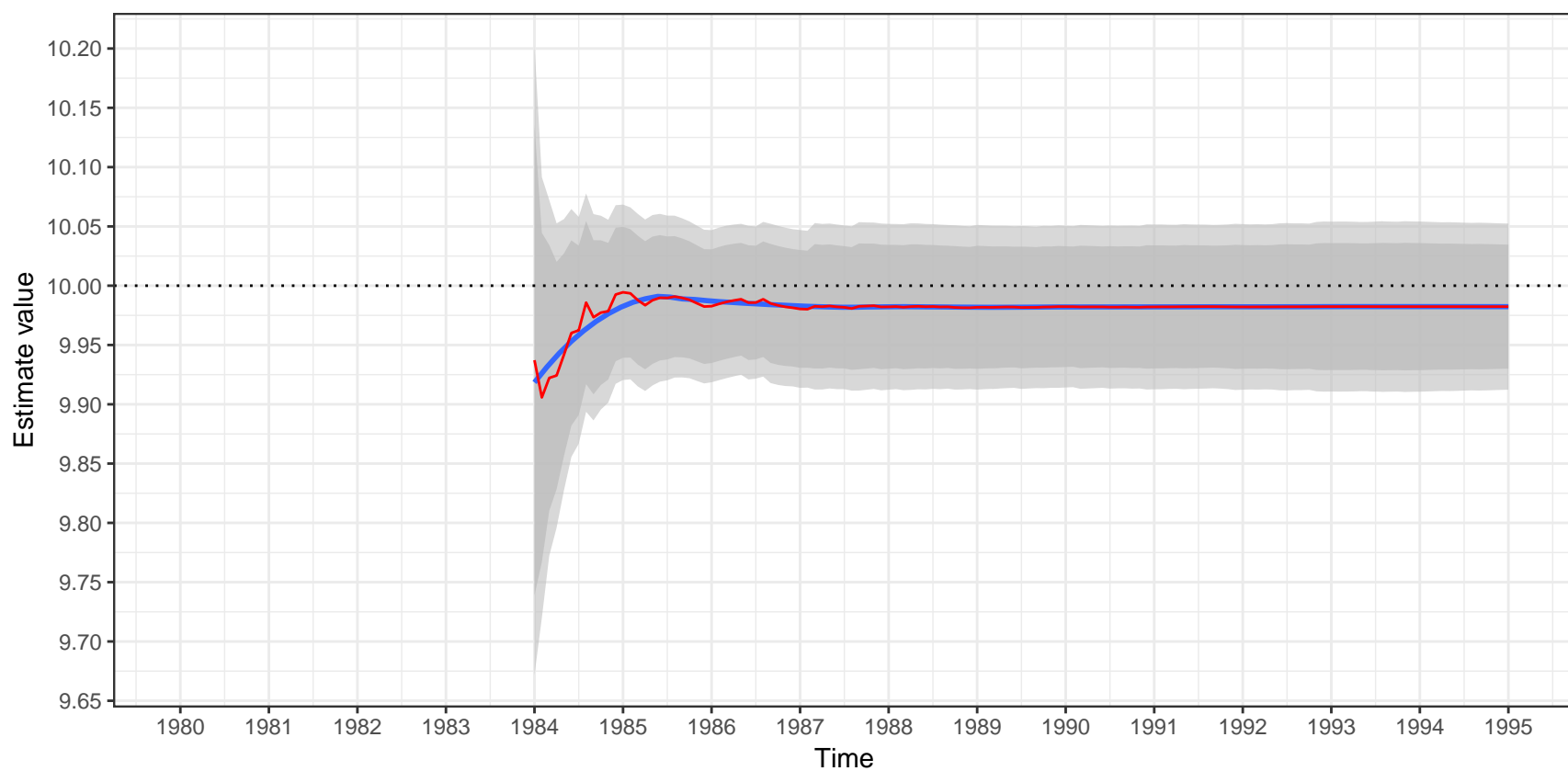


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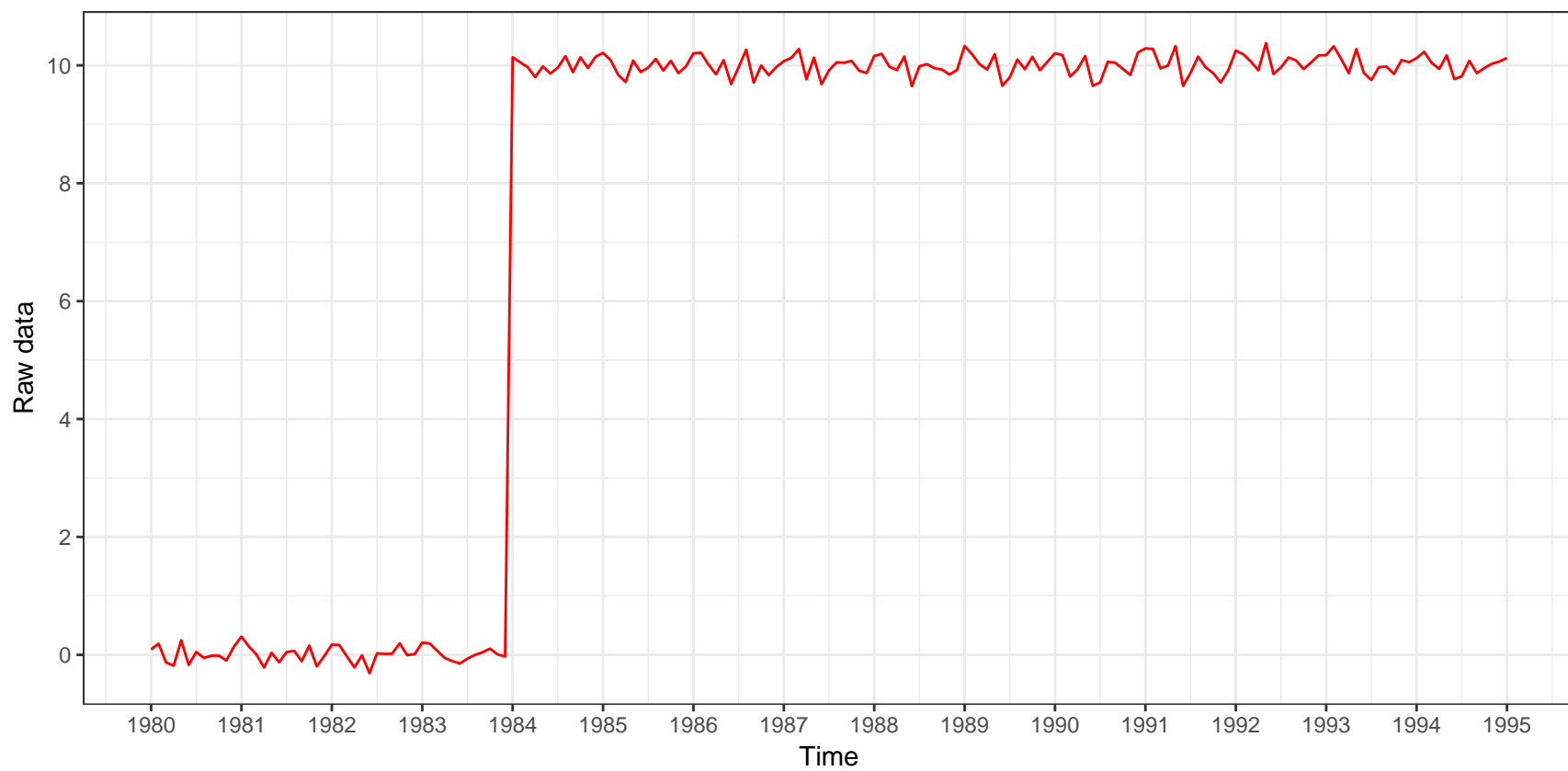


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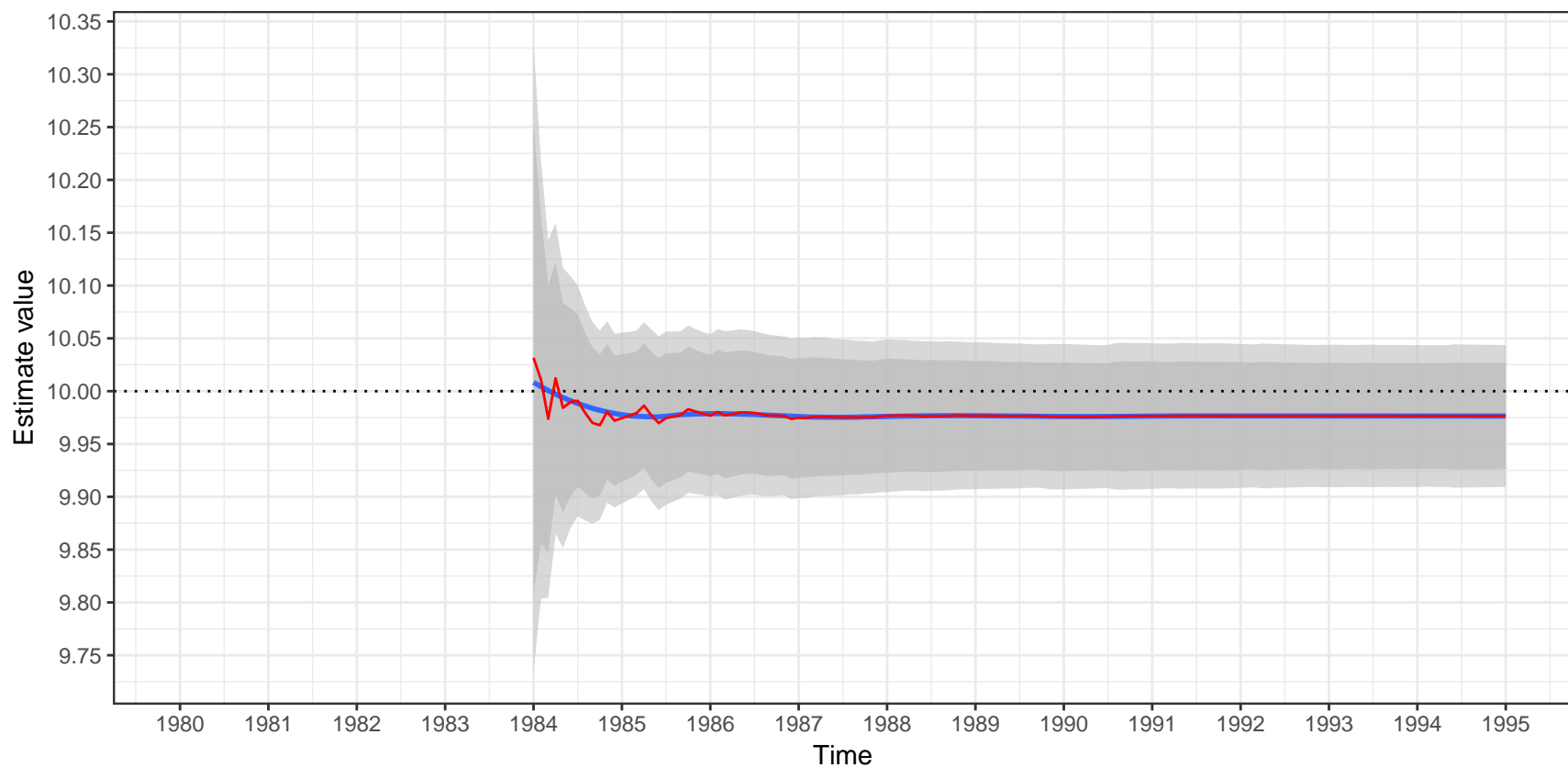


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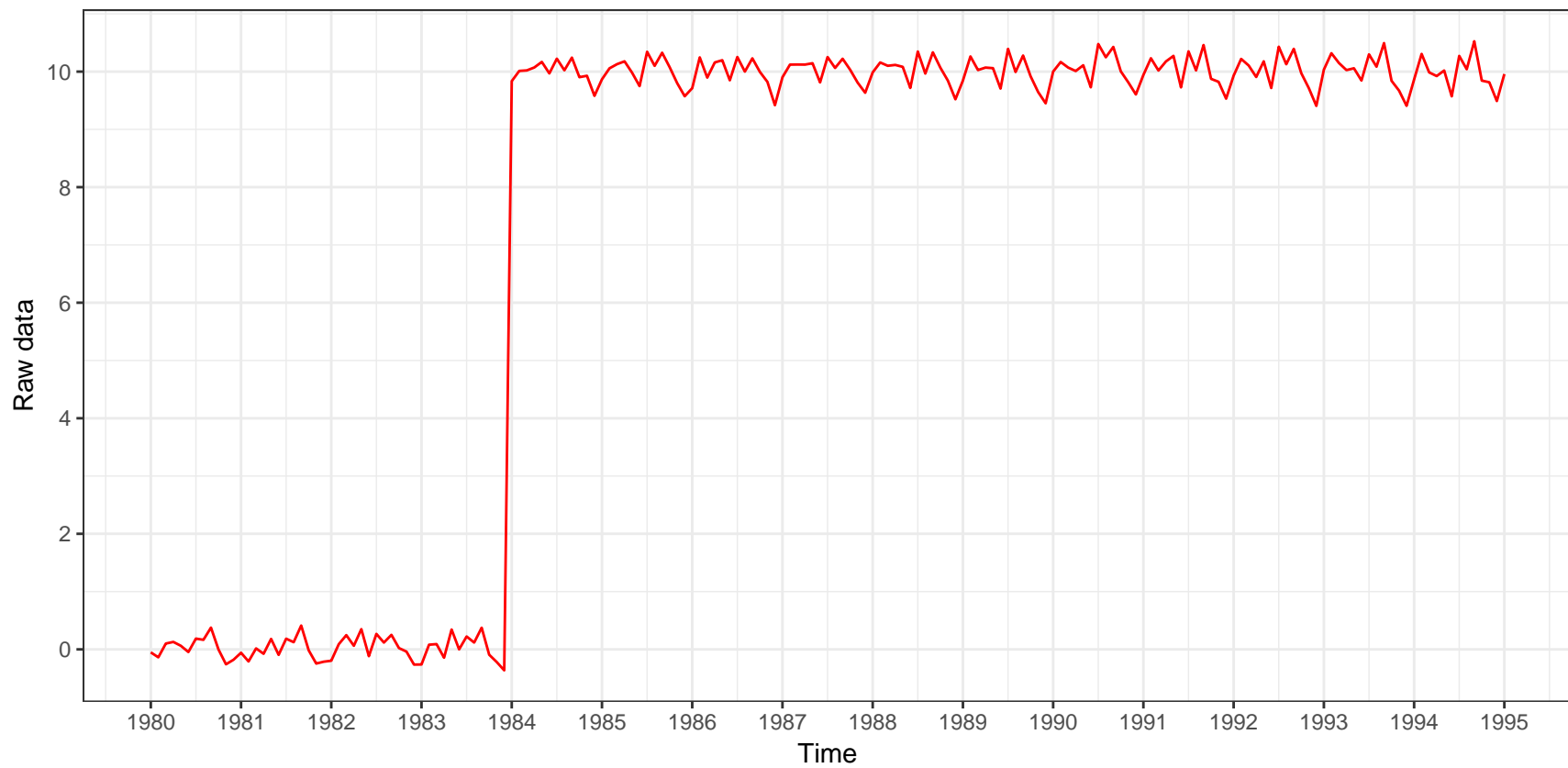


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

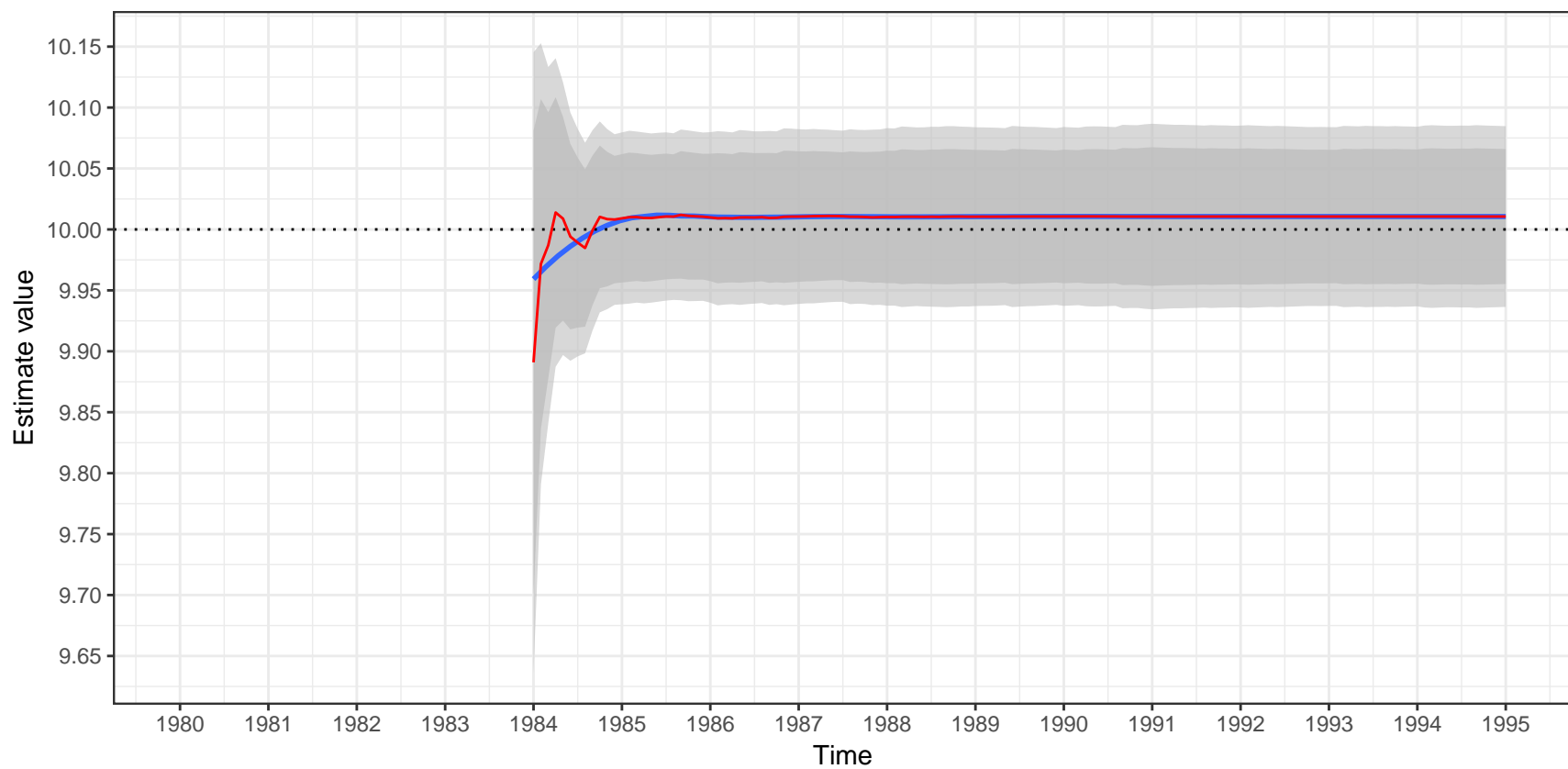


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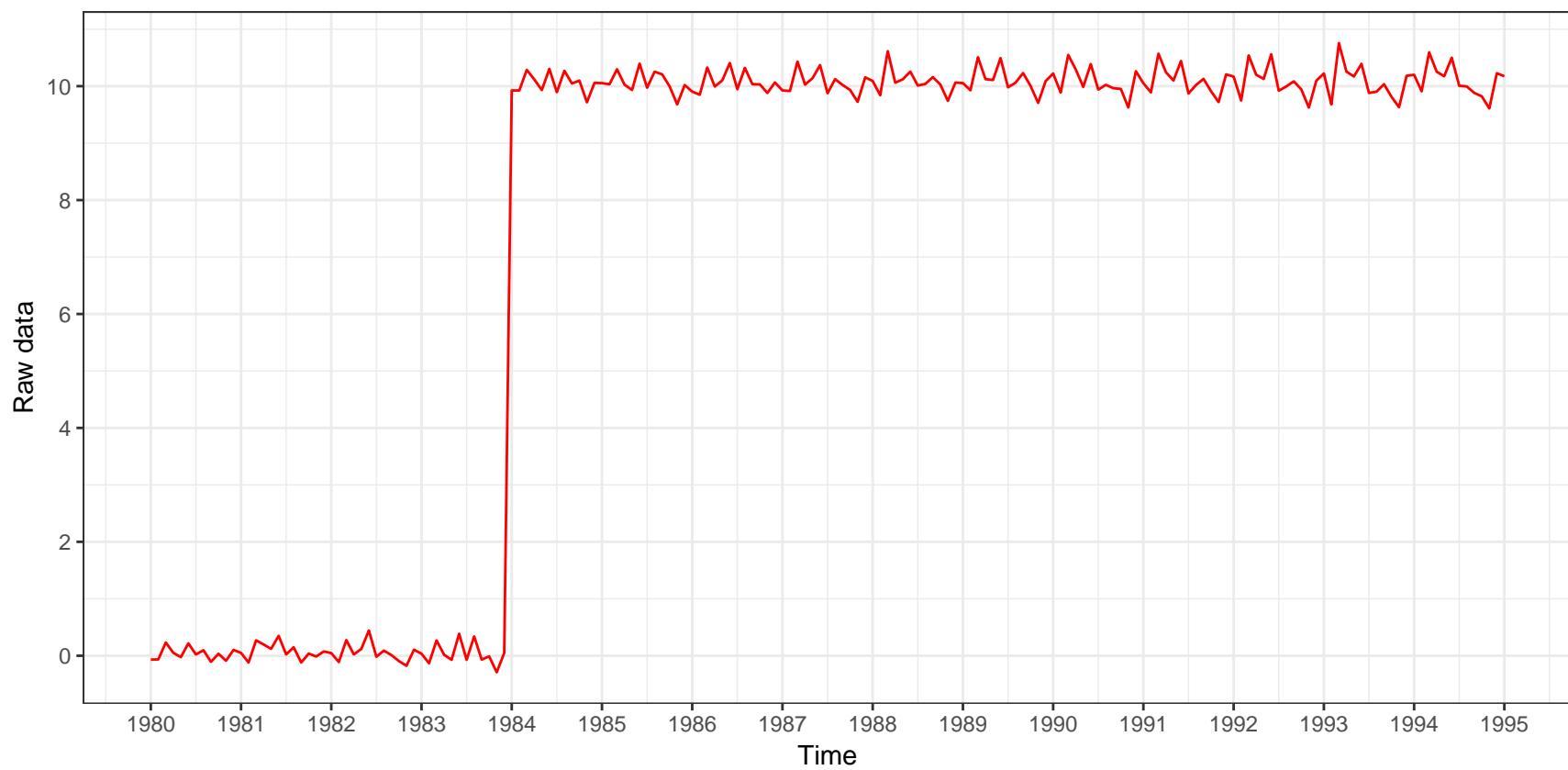


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,1,1) – additive decomposition
 $(1-B_{12})(1+0.4B_{12})X_t=(1-0.5B_{12})a_t$

Estimation of the outlier

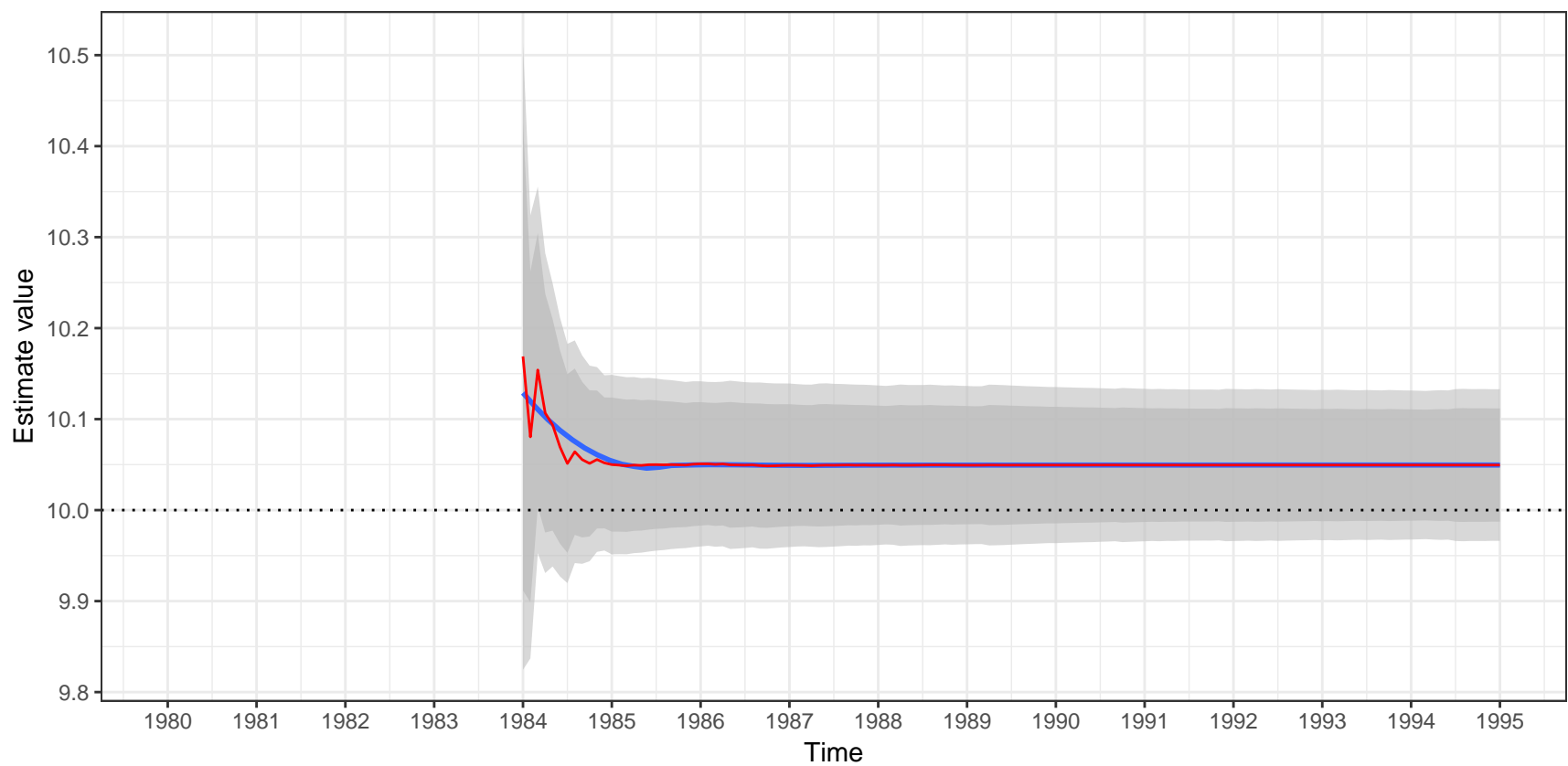


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Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,1,1) – additive decomposition
 $(1-B^{12})(1+0.4B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

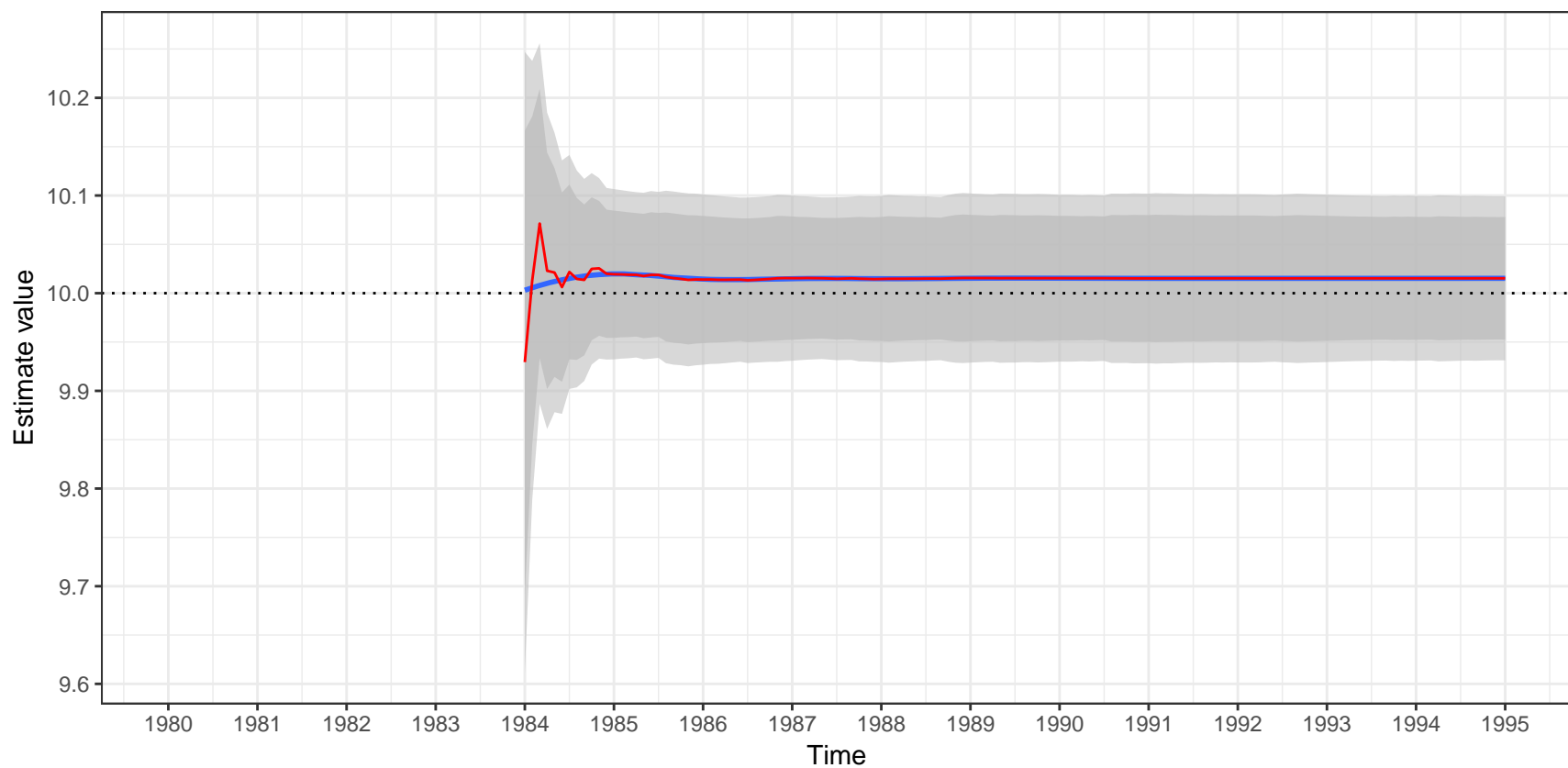


Raw data



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Estimation of the outlier

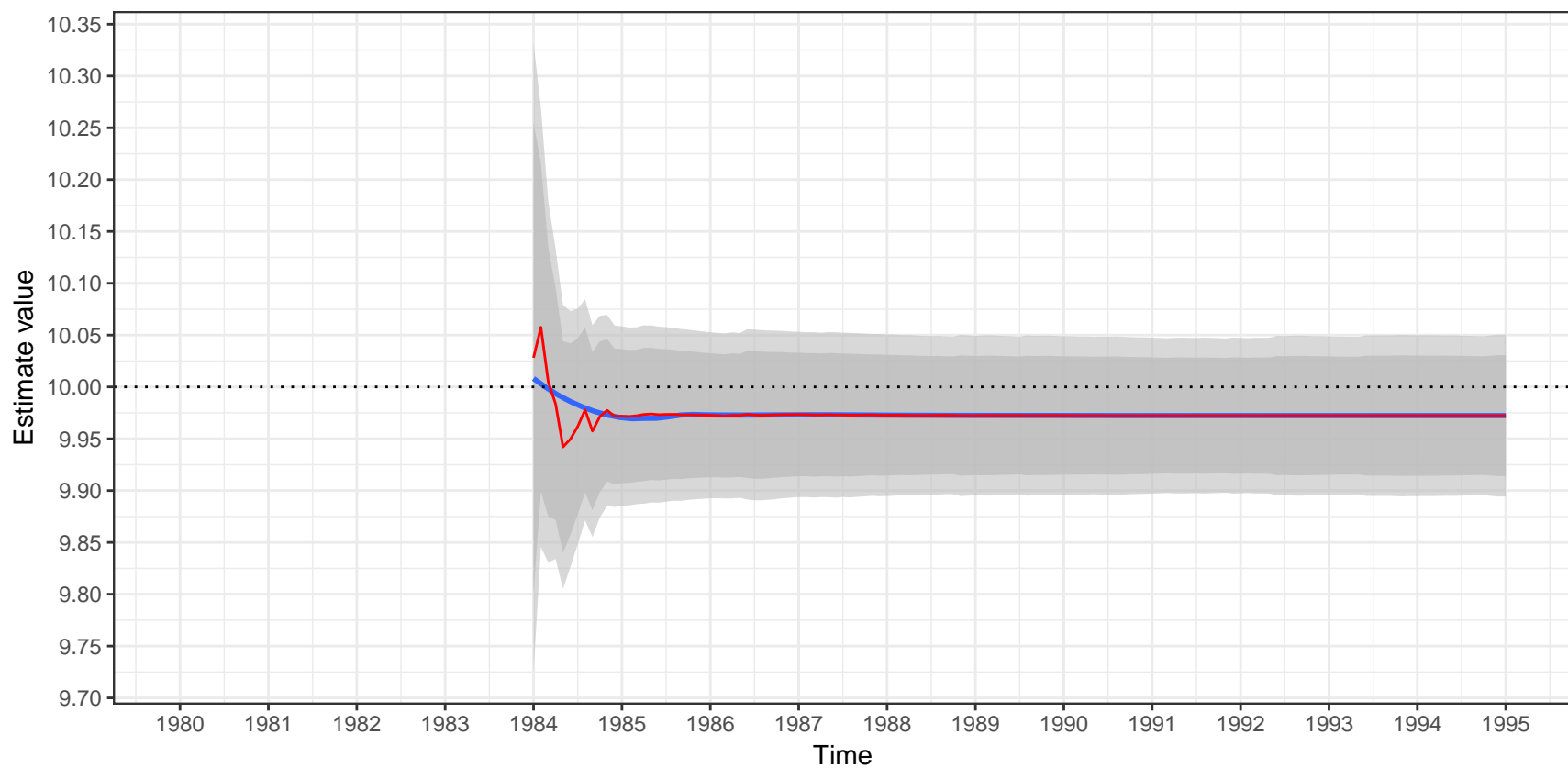


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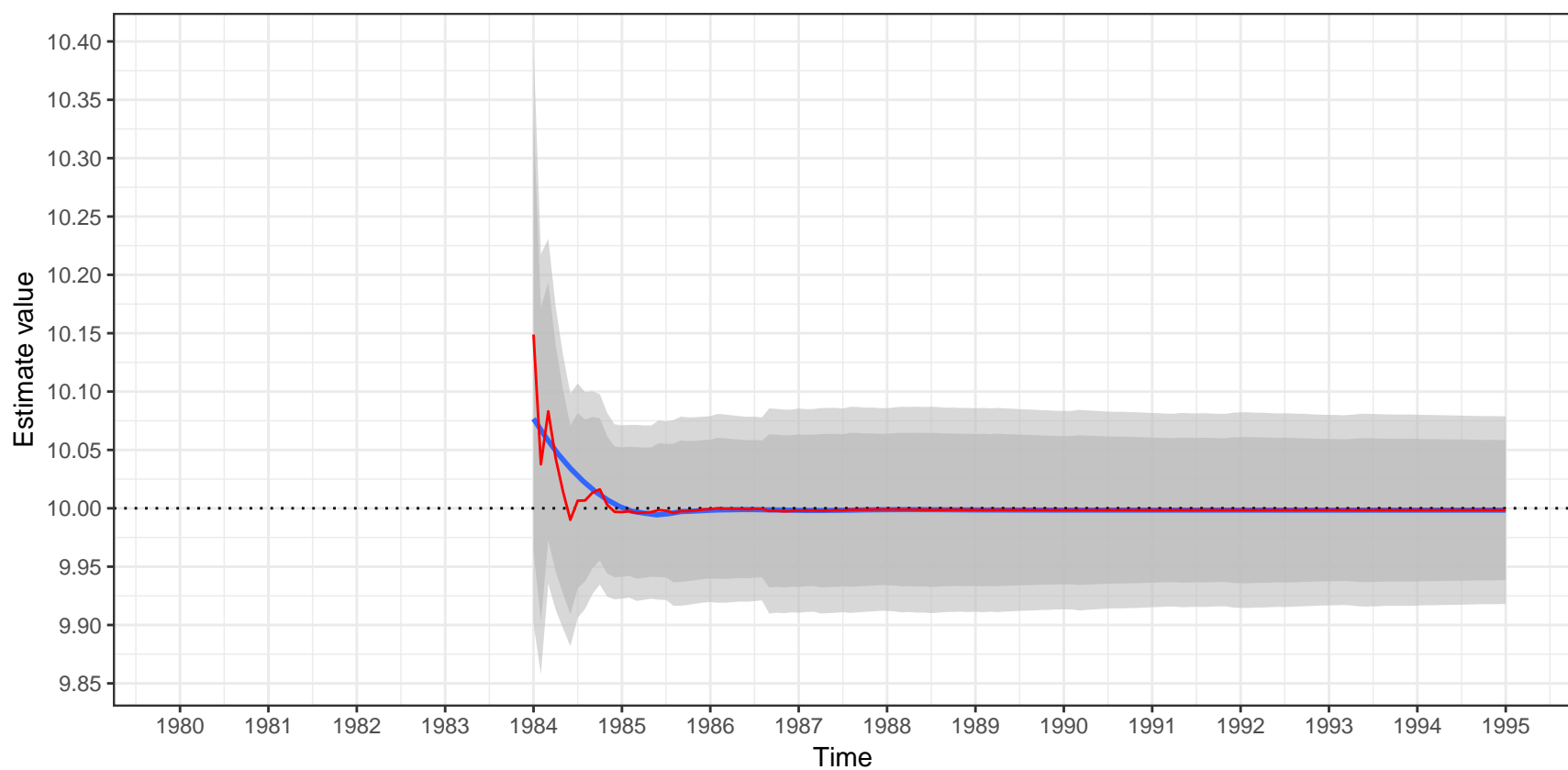


Raw data



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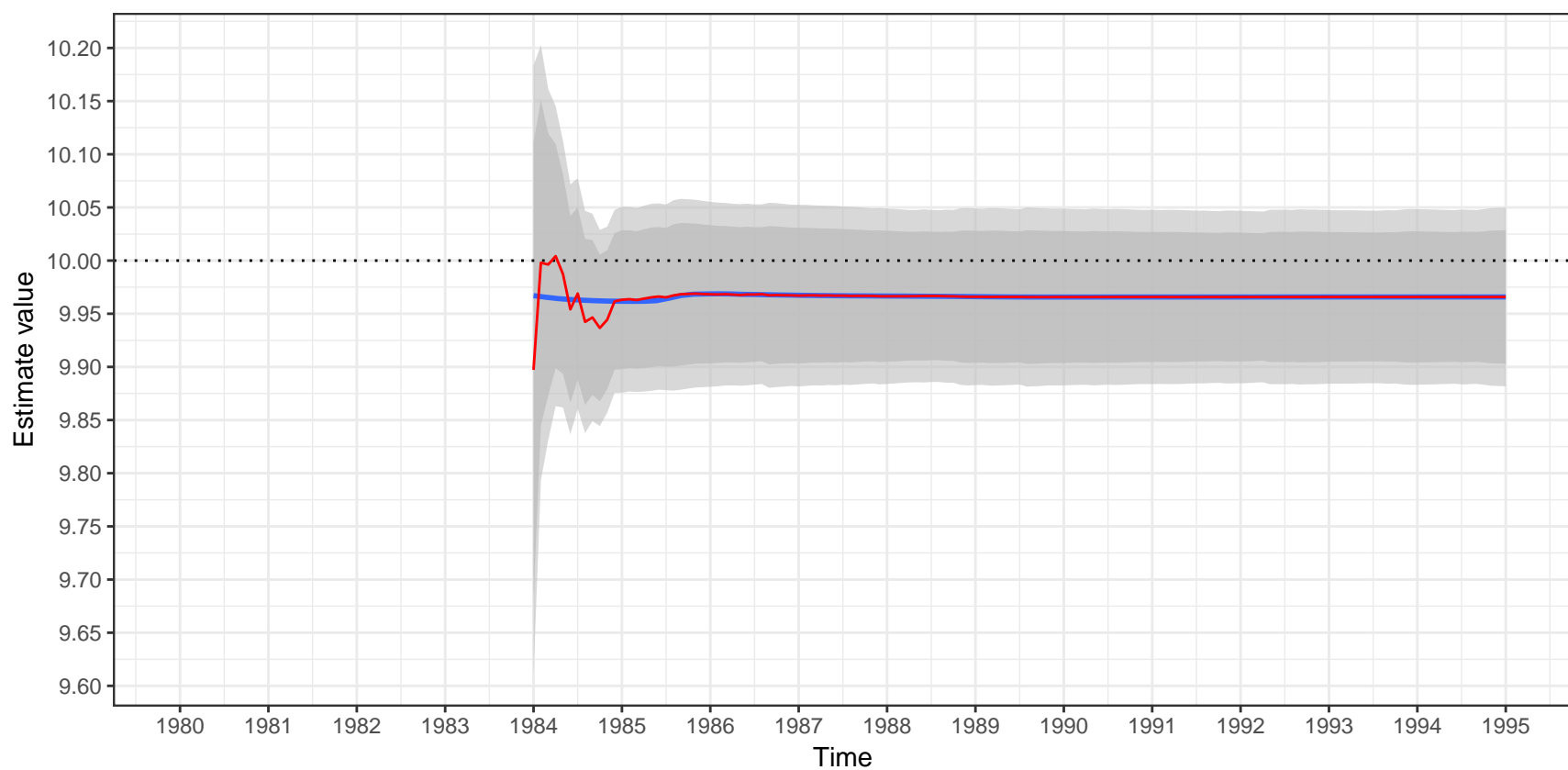


Raw data

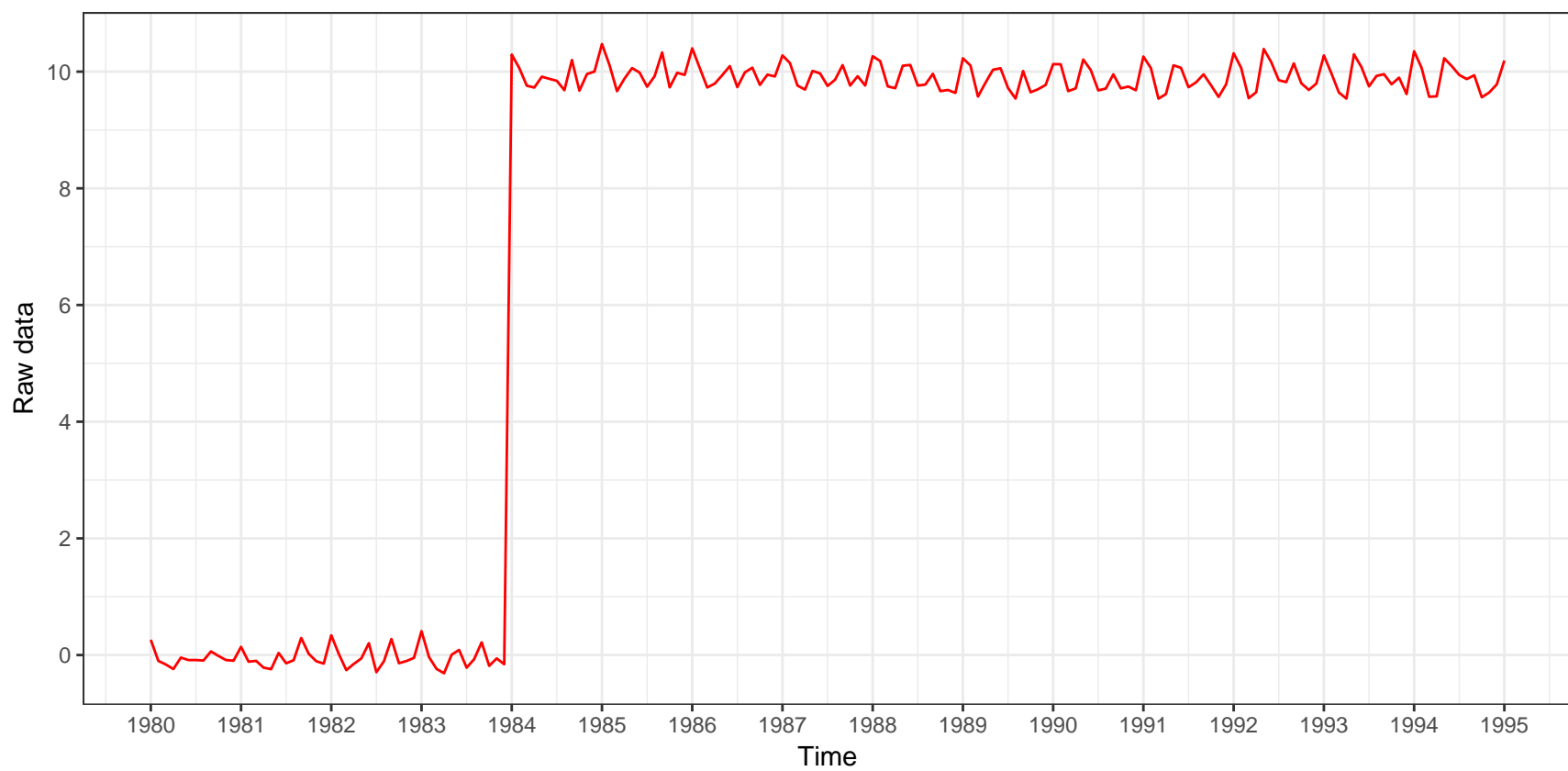


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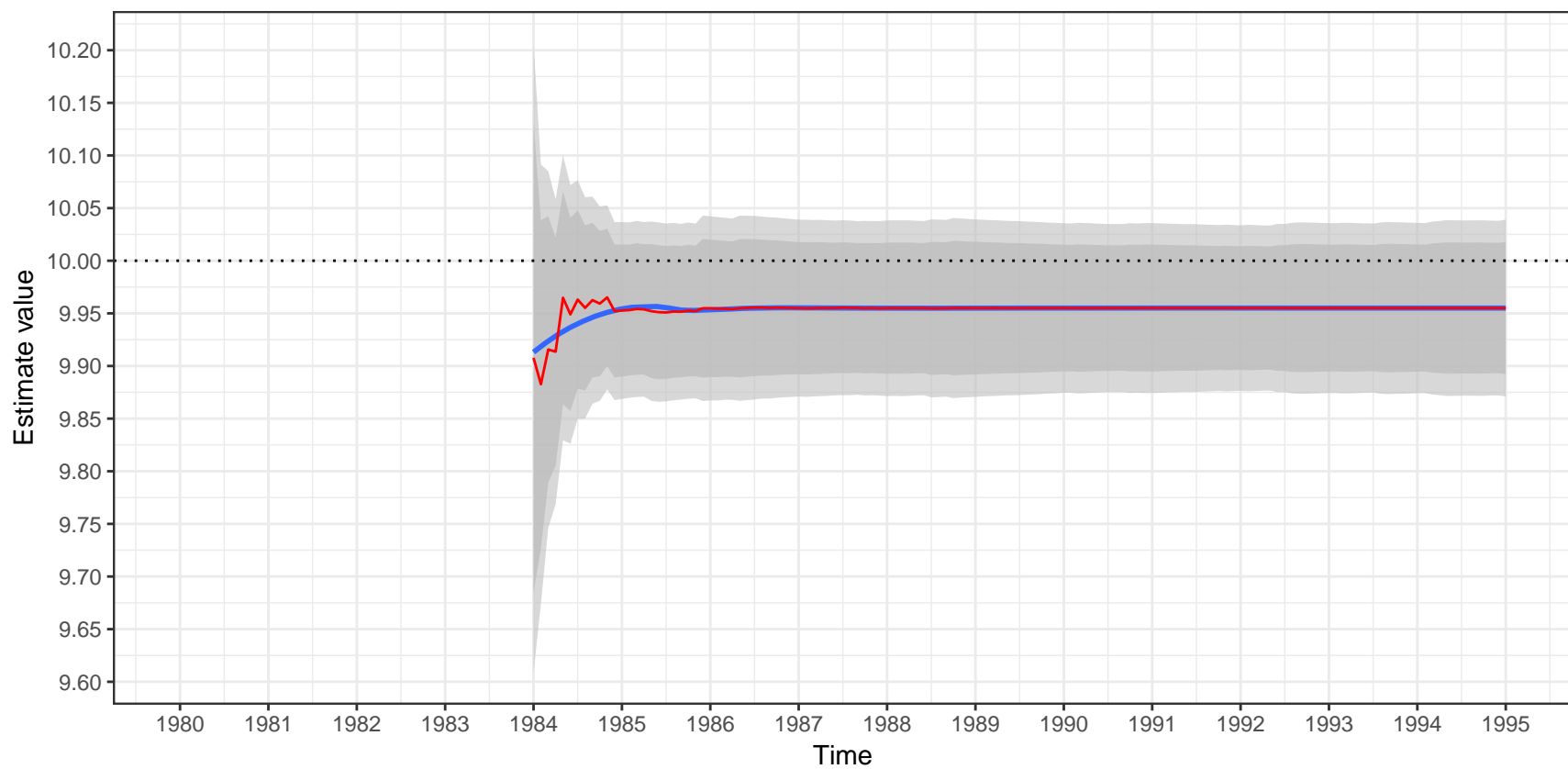


Raw data



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ARIMA (0,0,0)(1,1,1) – additive decomposition
 $(1-B_{12})(1+0.4B_{12})X_t=(1-0.5B_{12})a_t$

Estimation of the outlier

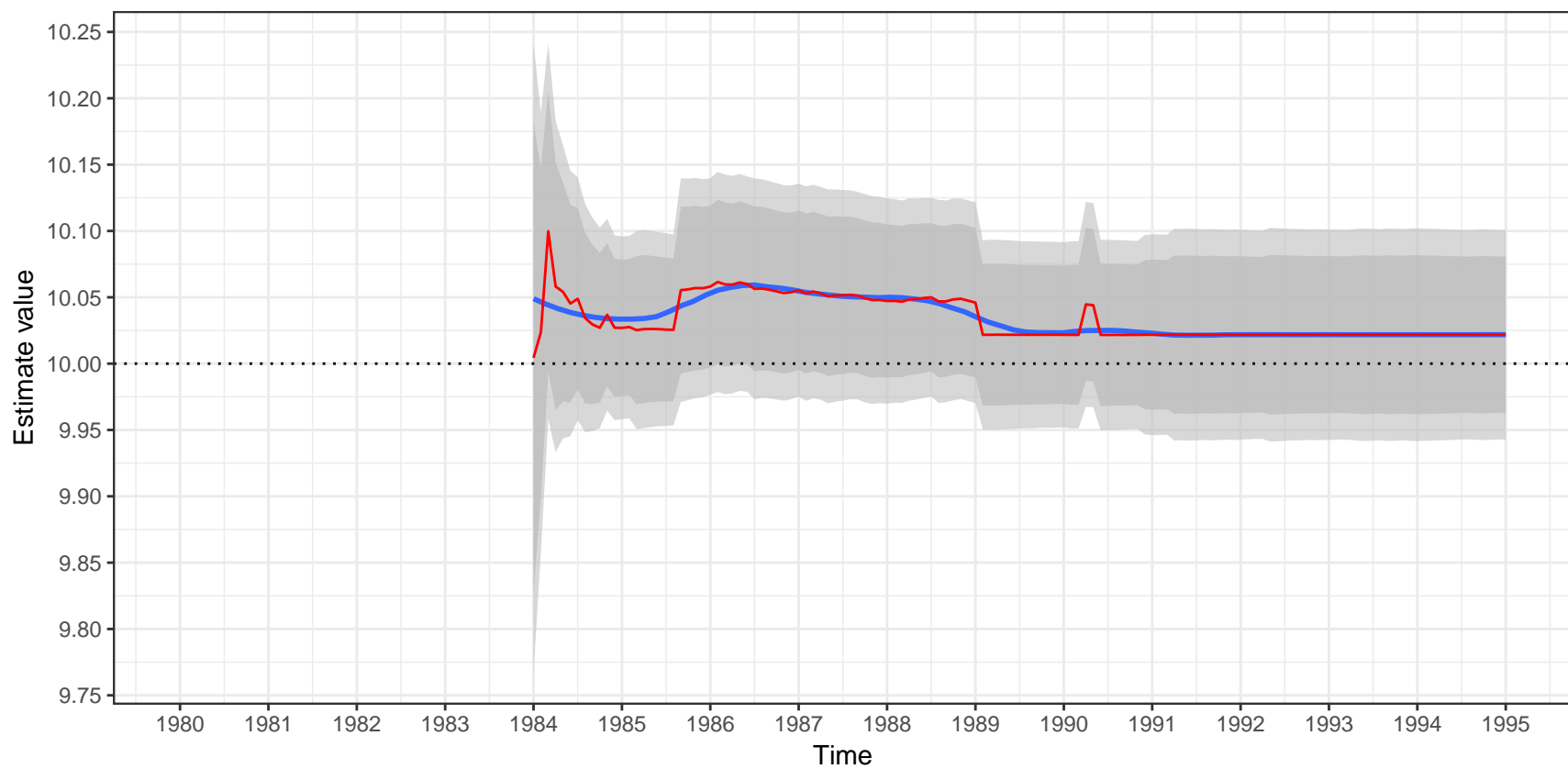


Raw data

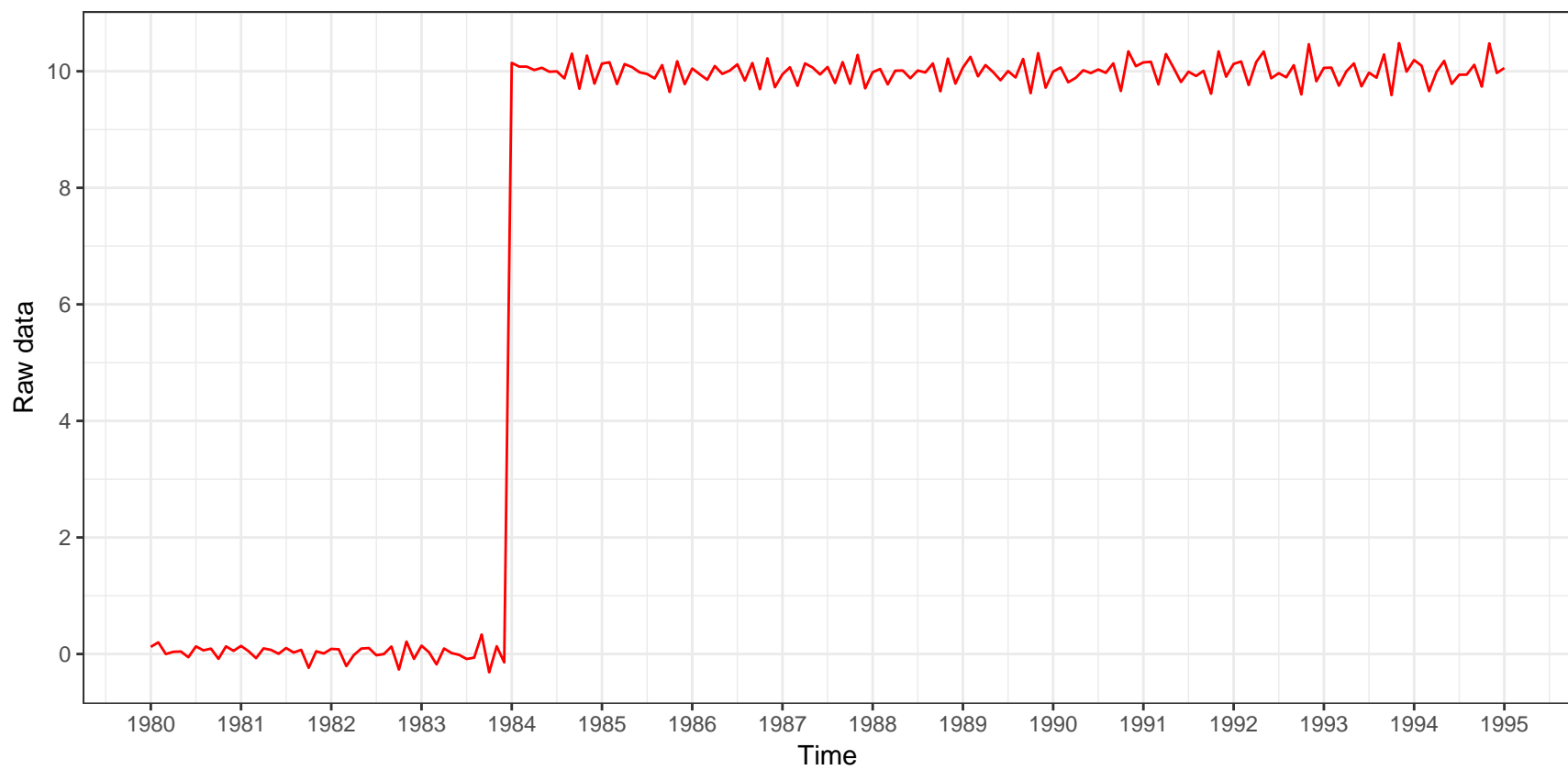


Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,1,1) – additive decomposition
 $(1-B^{12})(1+0.4B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

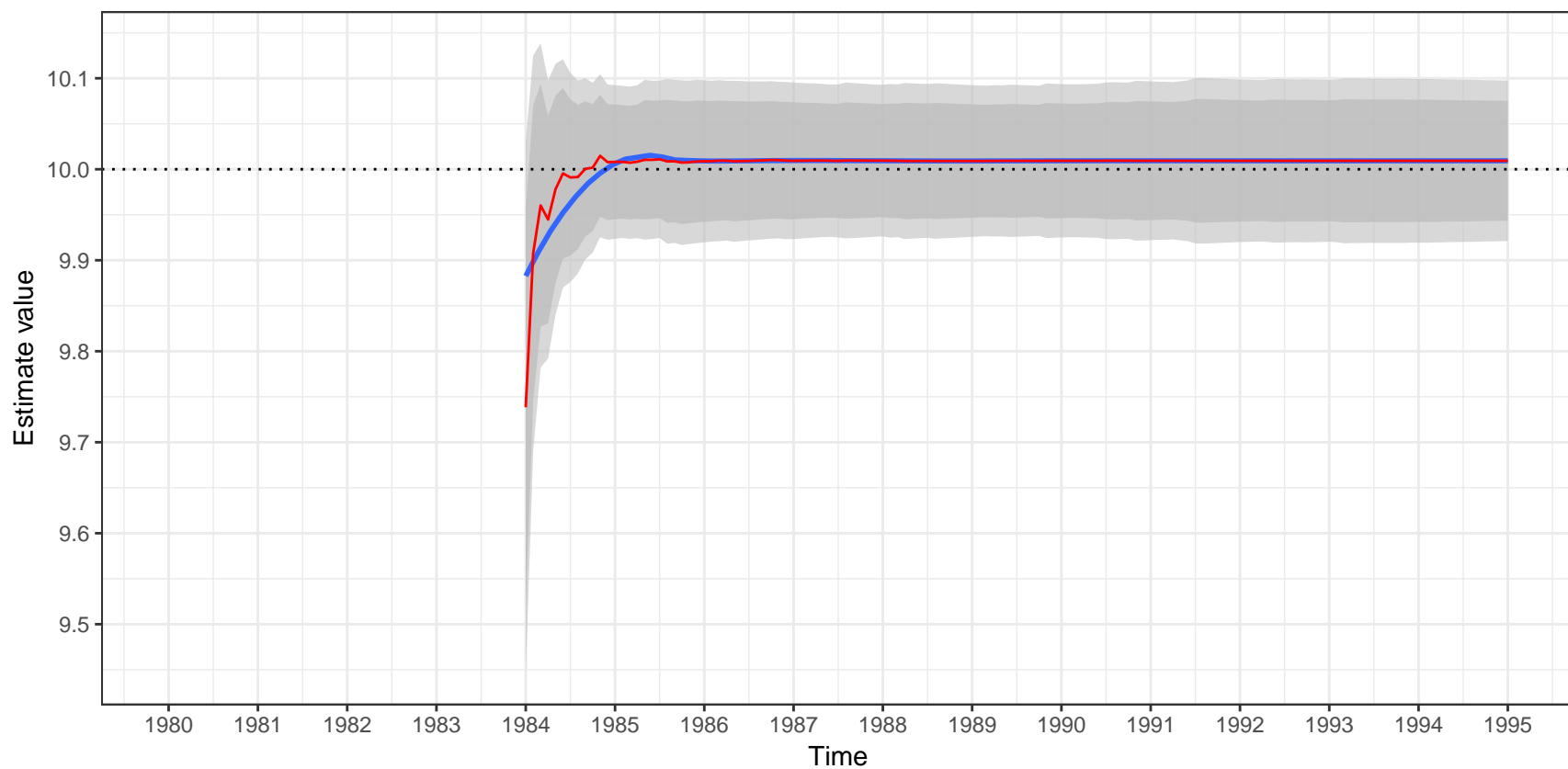


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,1,1) – additive decomposition
 $(1-B_{12})(1+0.4B_{12})X_t=(1-0.5B_{12})a_t$

Estimation of the outlier

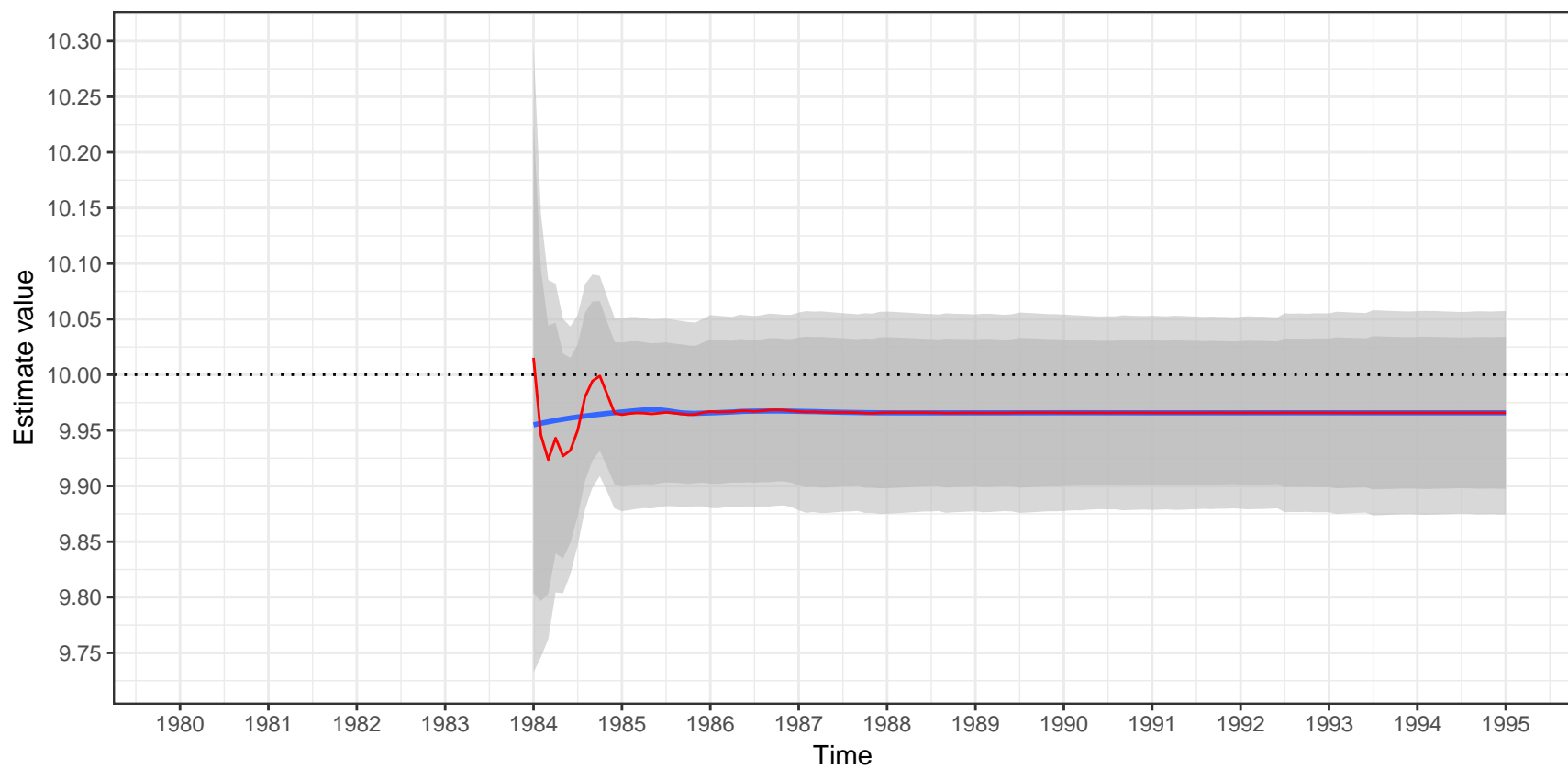


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Estimate value of a LS(1984-01)
ARIMA (0,0,0)(1,1,1) – additive decomposition
 $(1-B_{12})(1+0.4B_{12})X_t=(1-0.5B_{12})a_t$

Estimation of the outlier

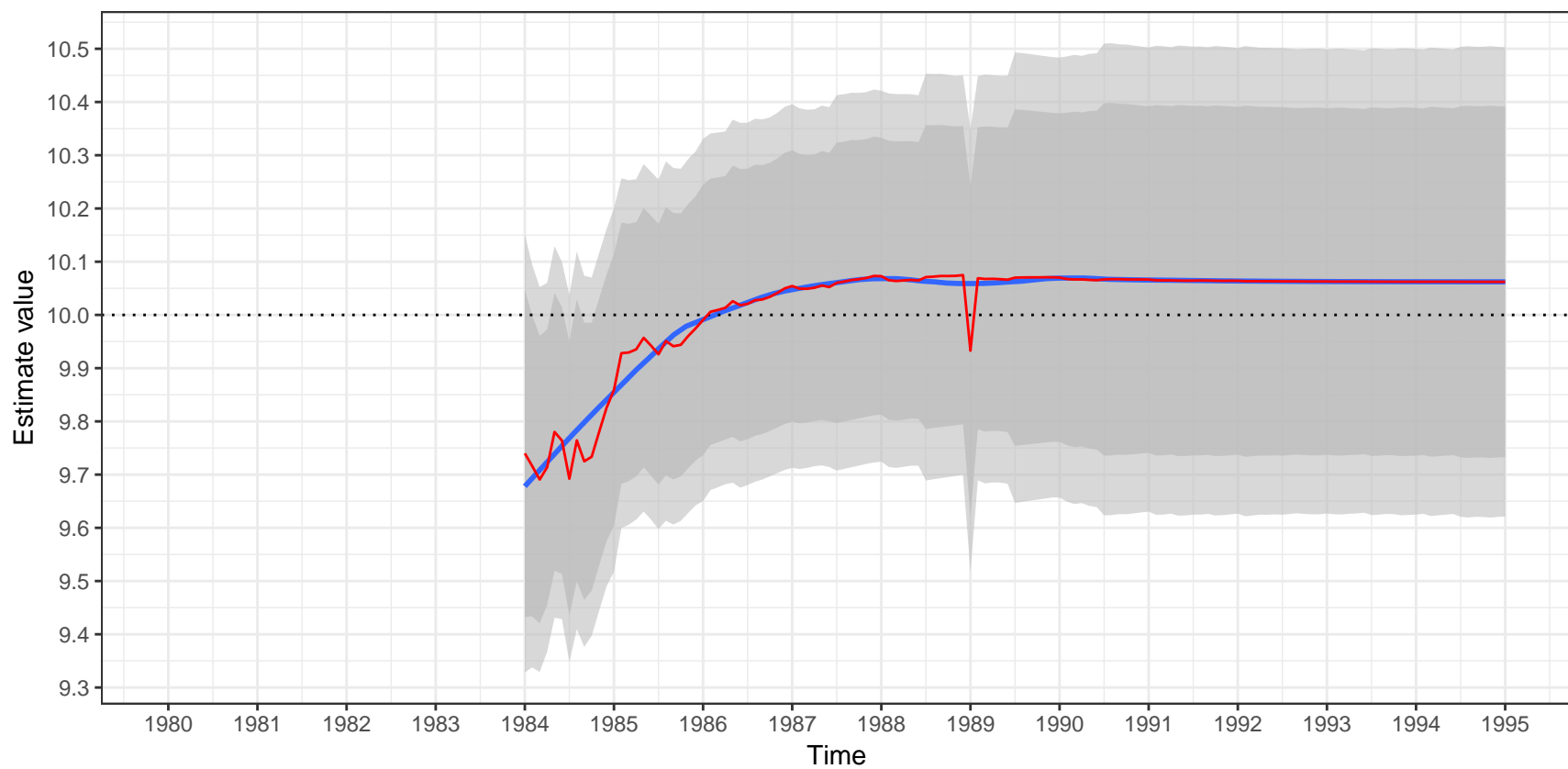


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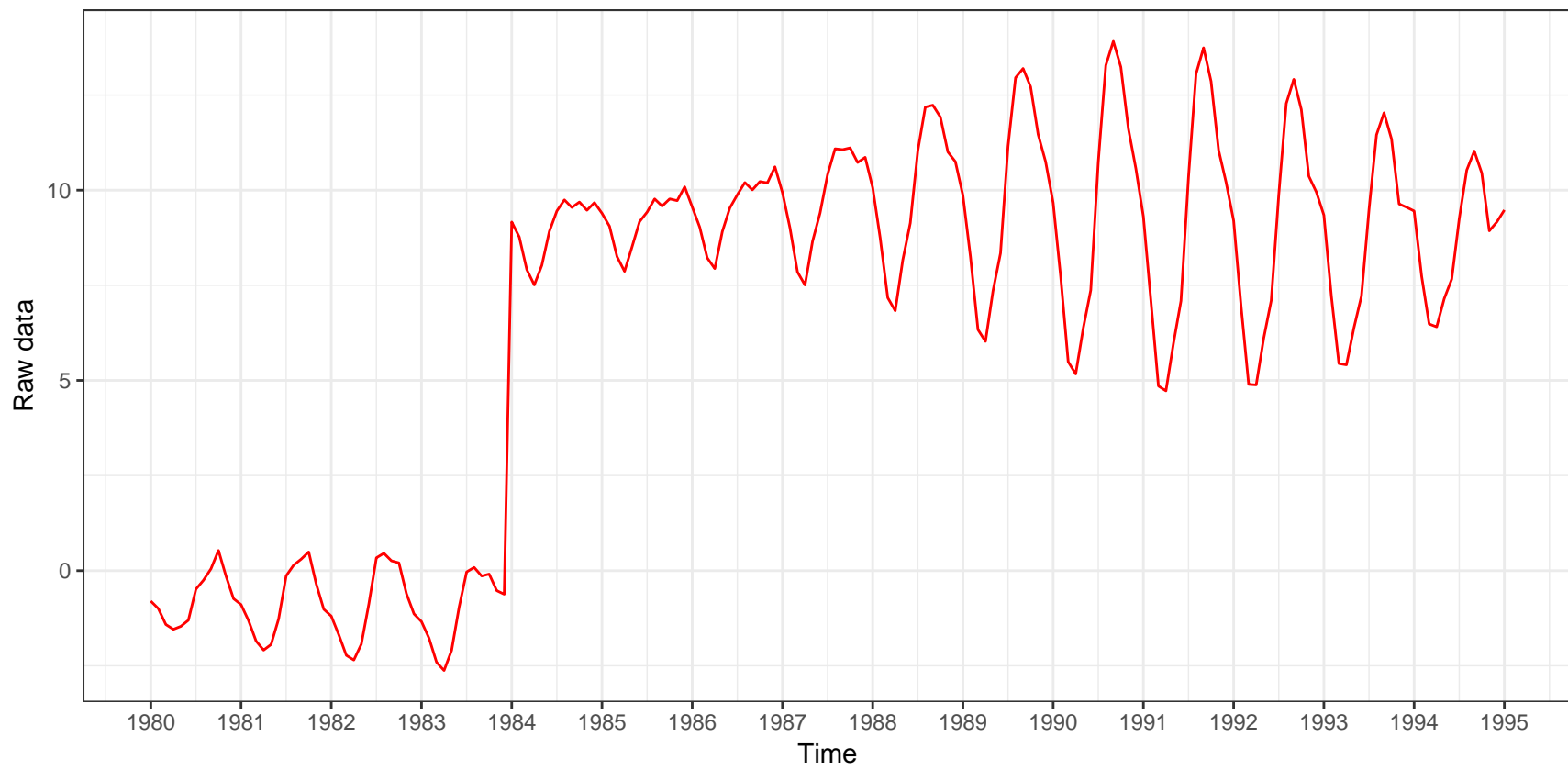


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

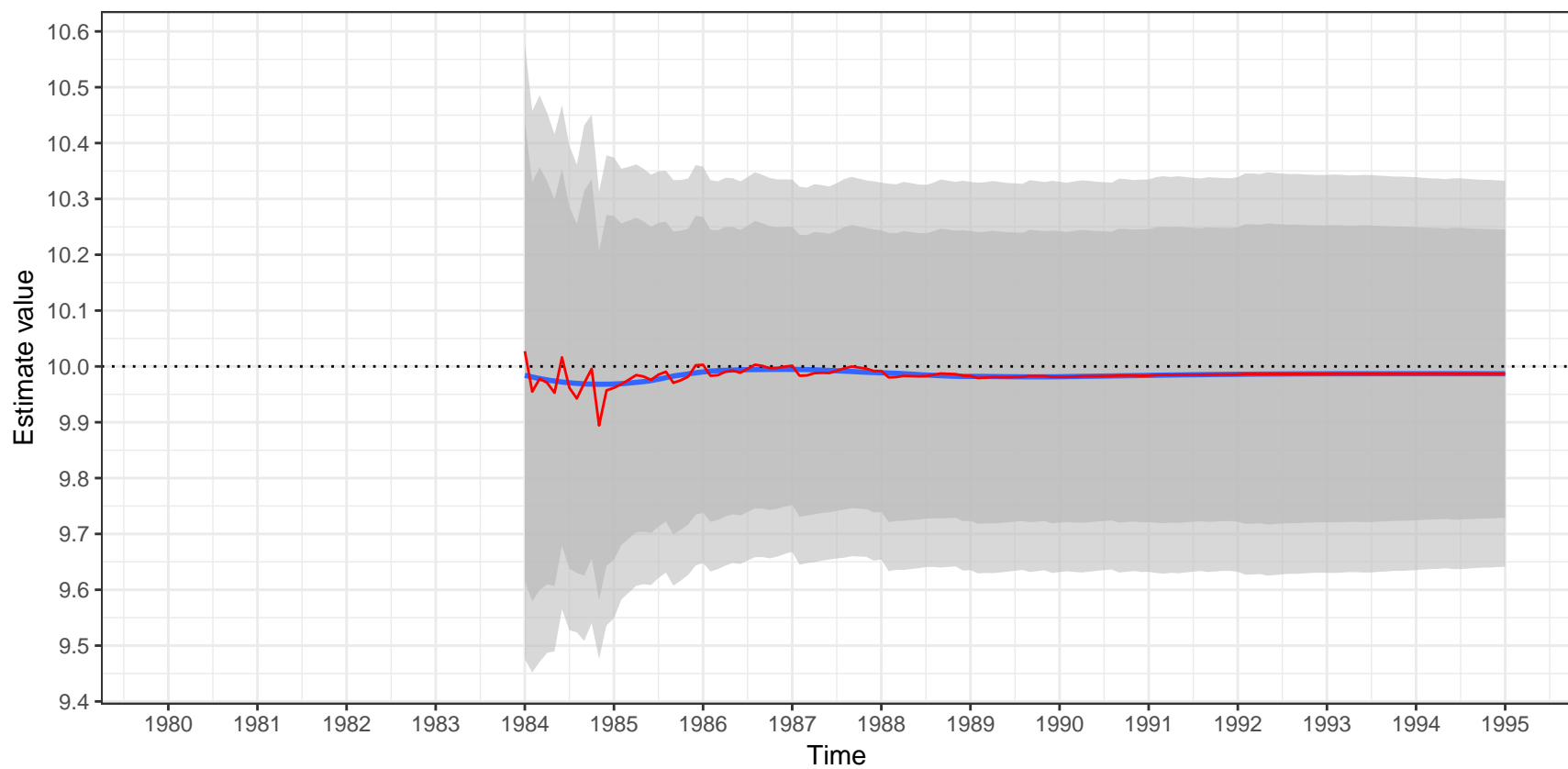


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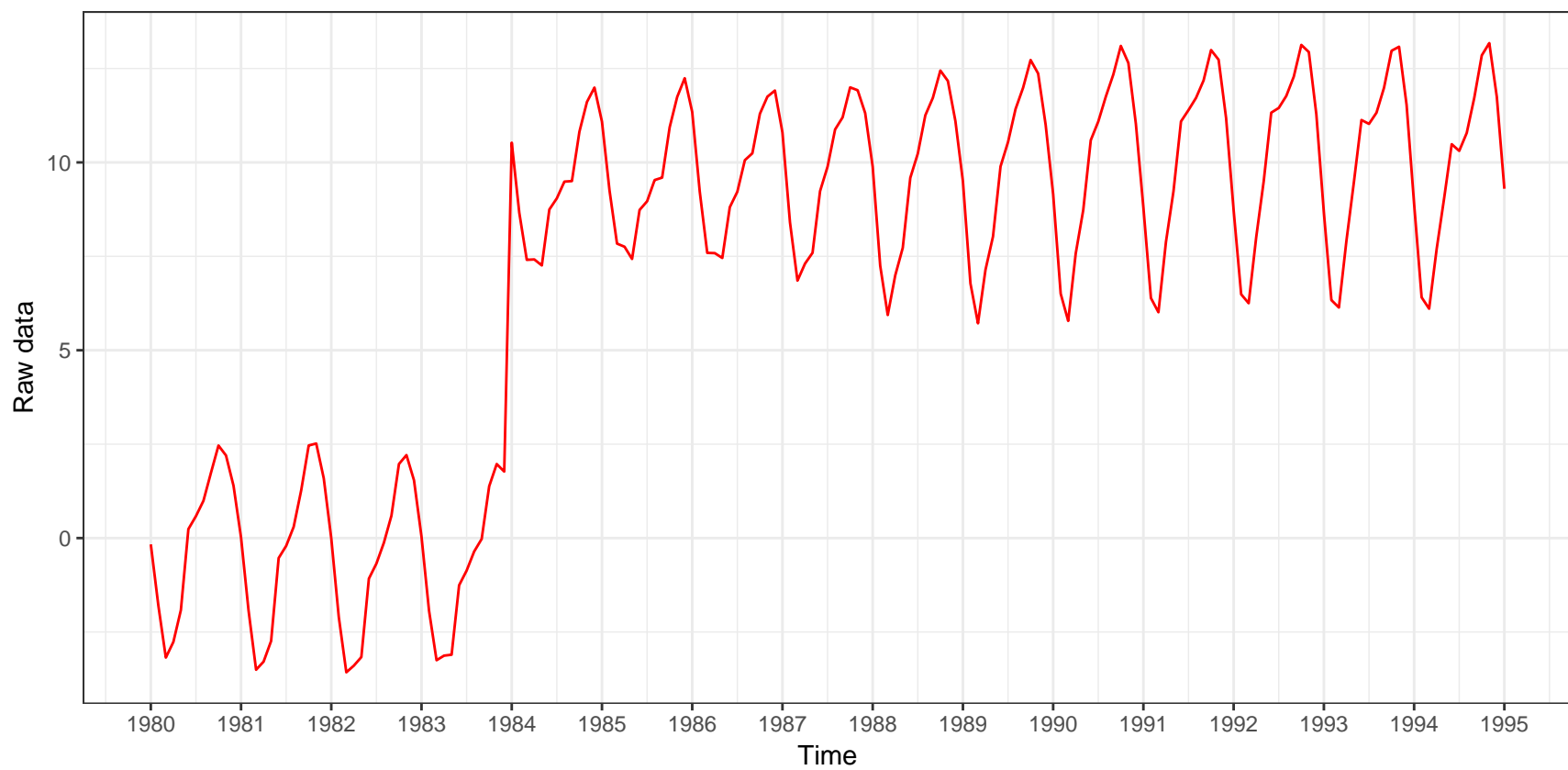


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

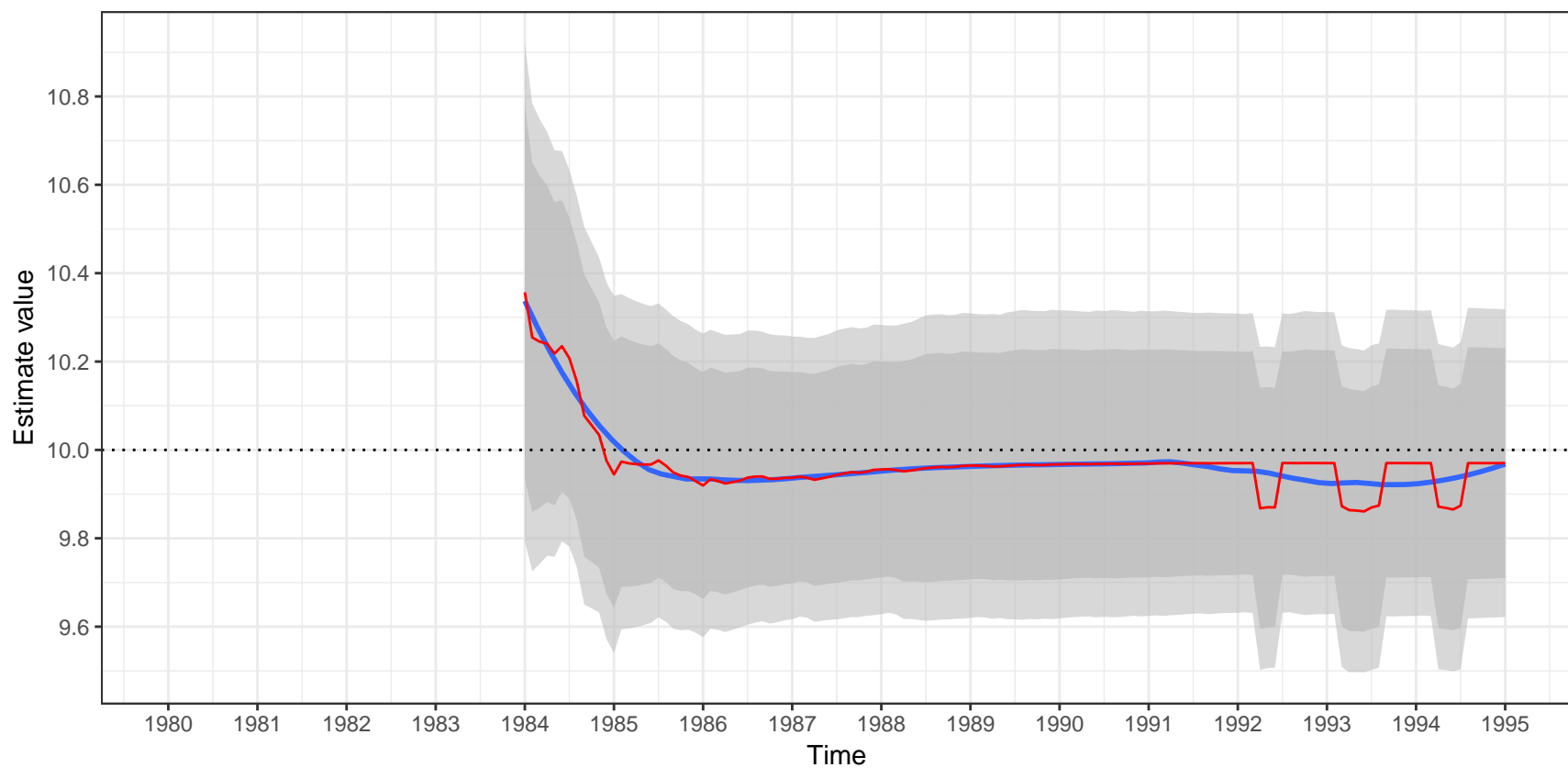


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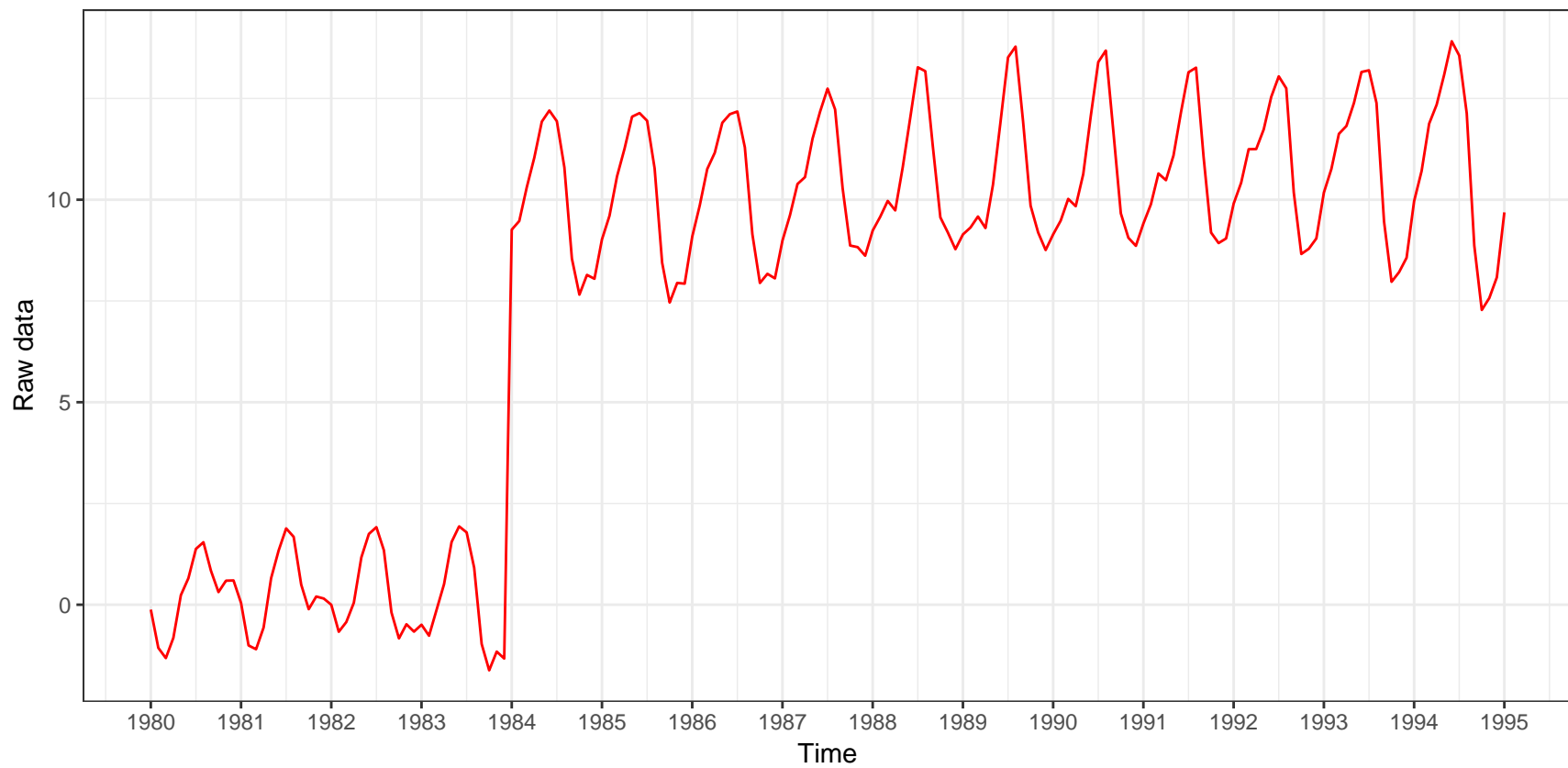


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

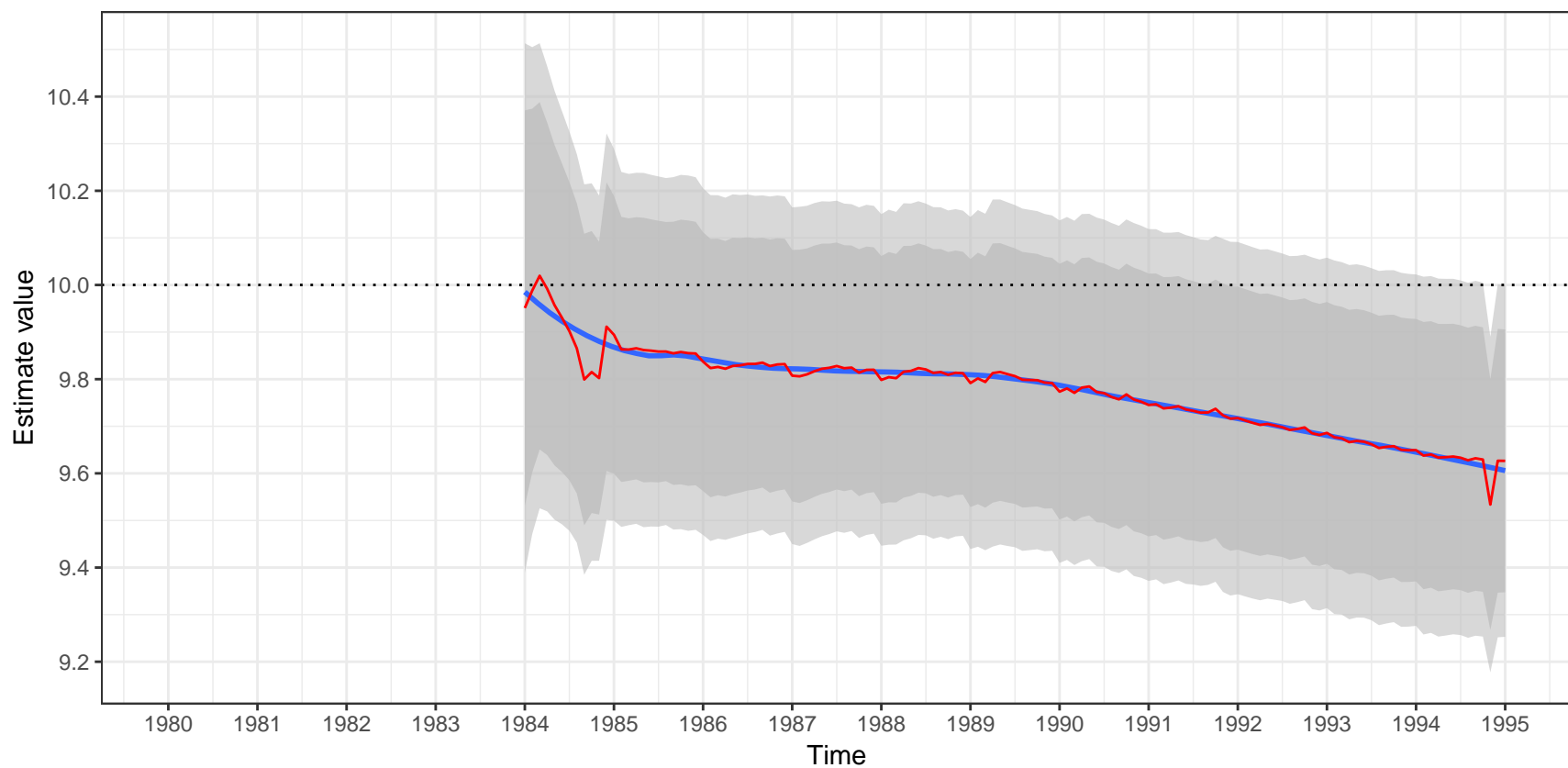


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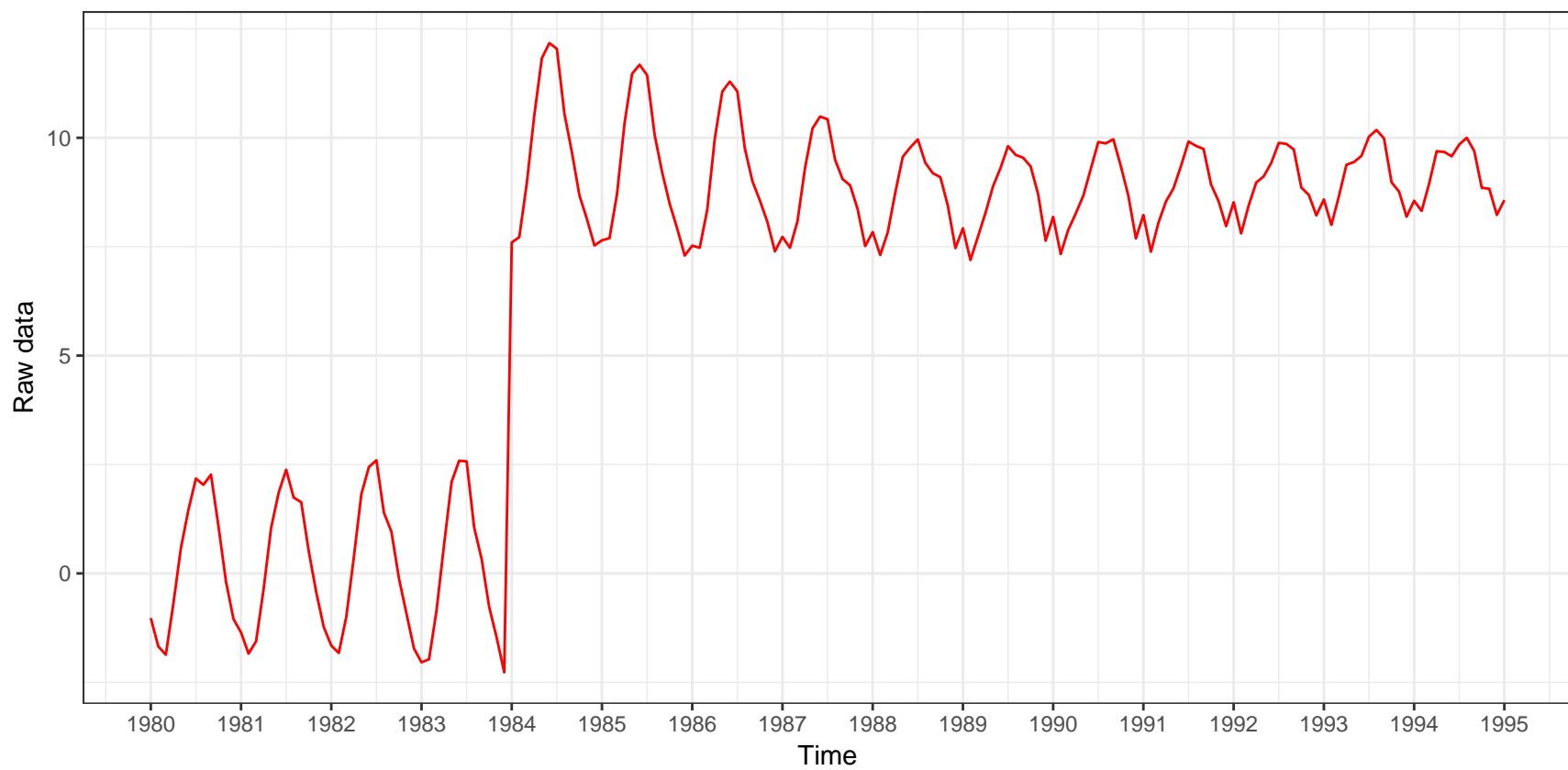


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

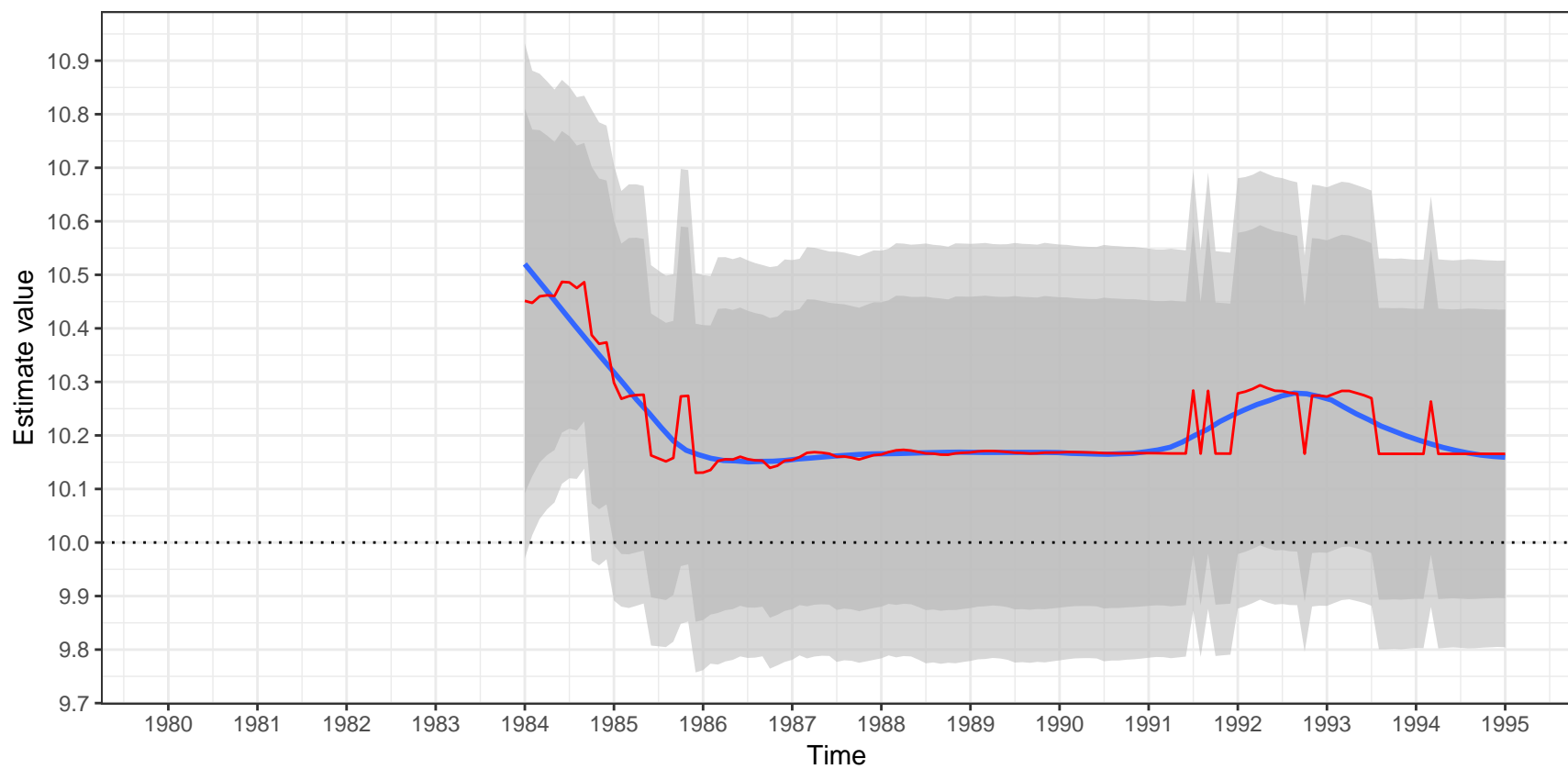


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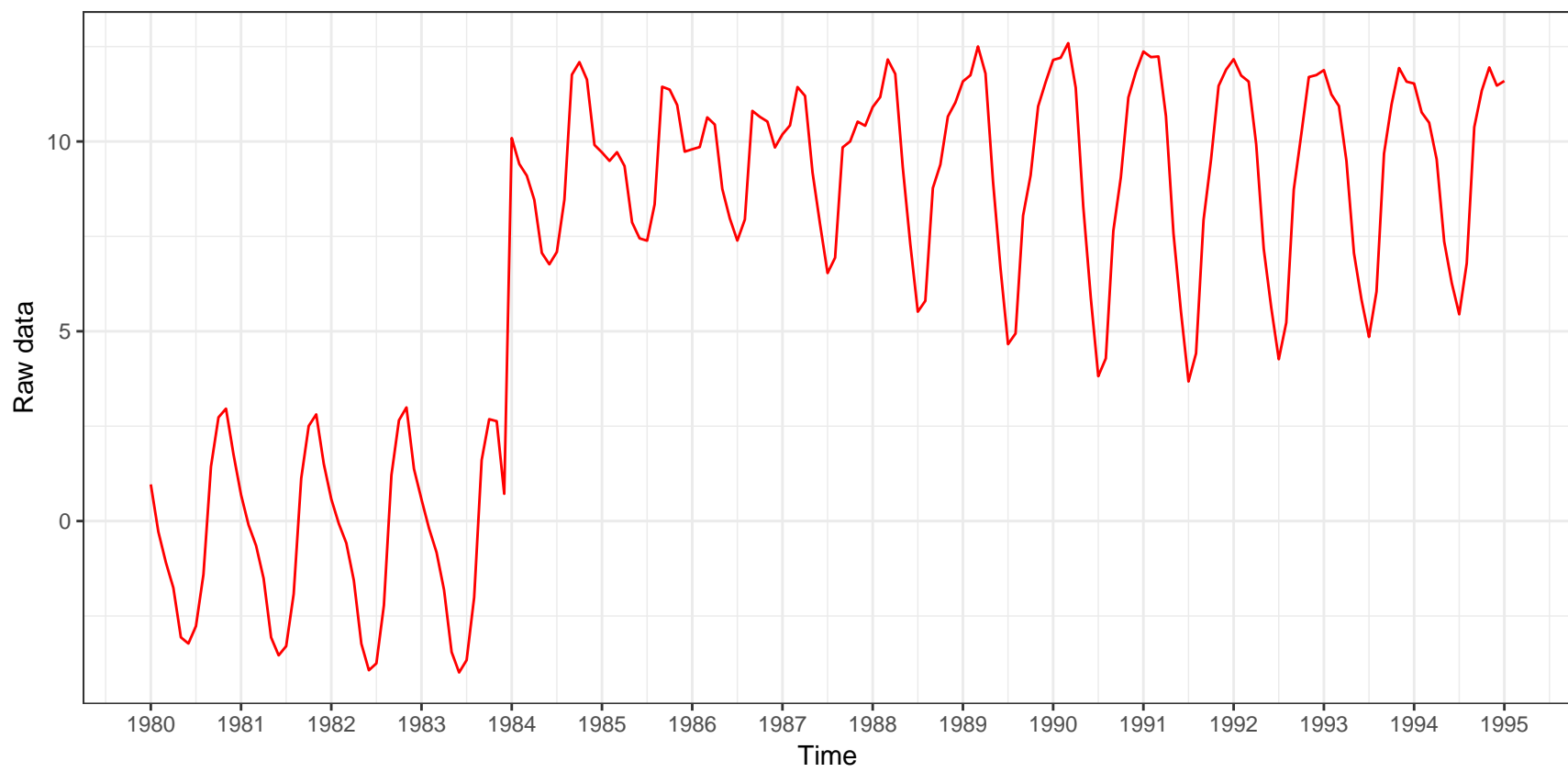


Estimate value of a LS(1984-01)
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 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

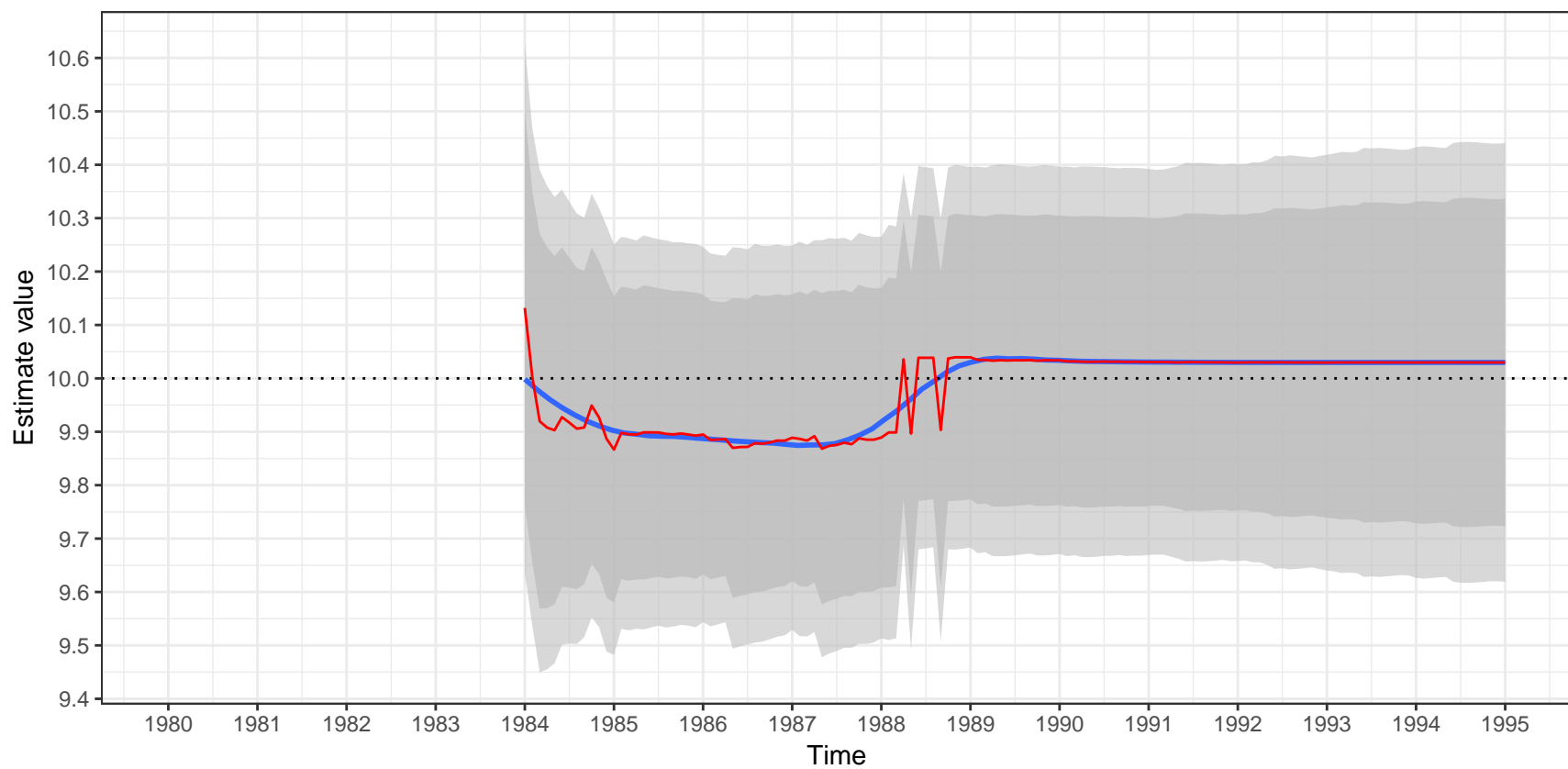


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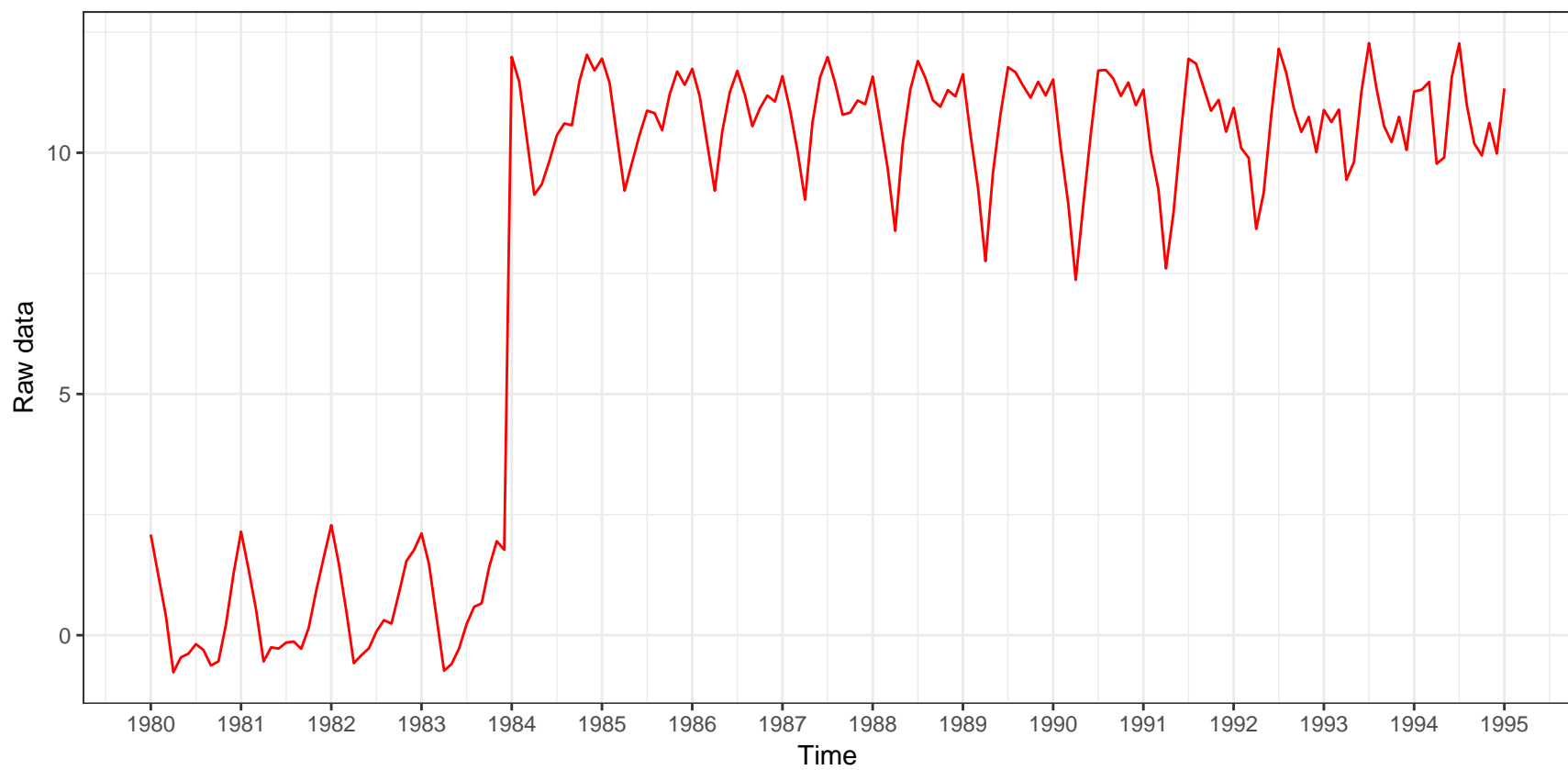


Estimate value of a LS(1984-01)
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 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

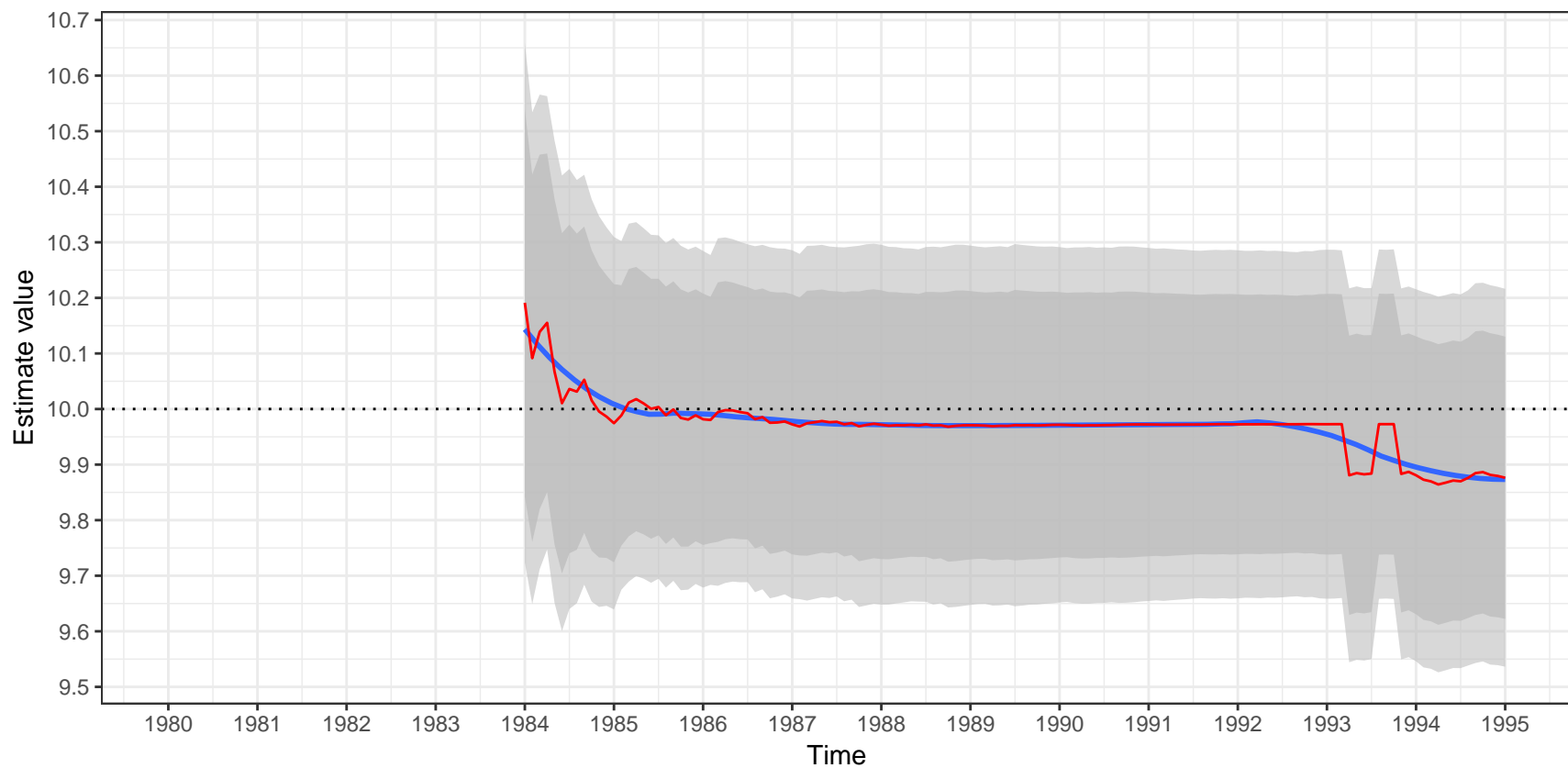


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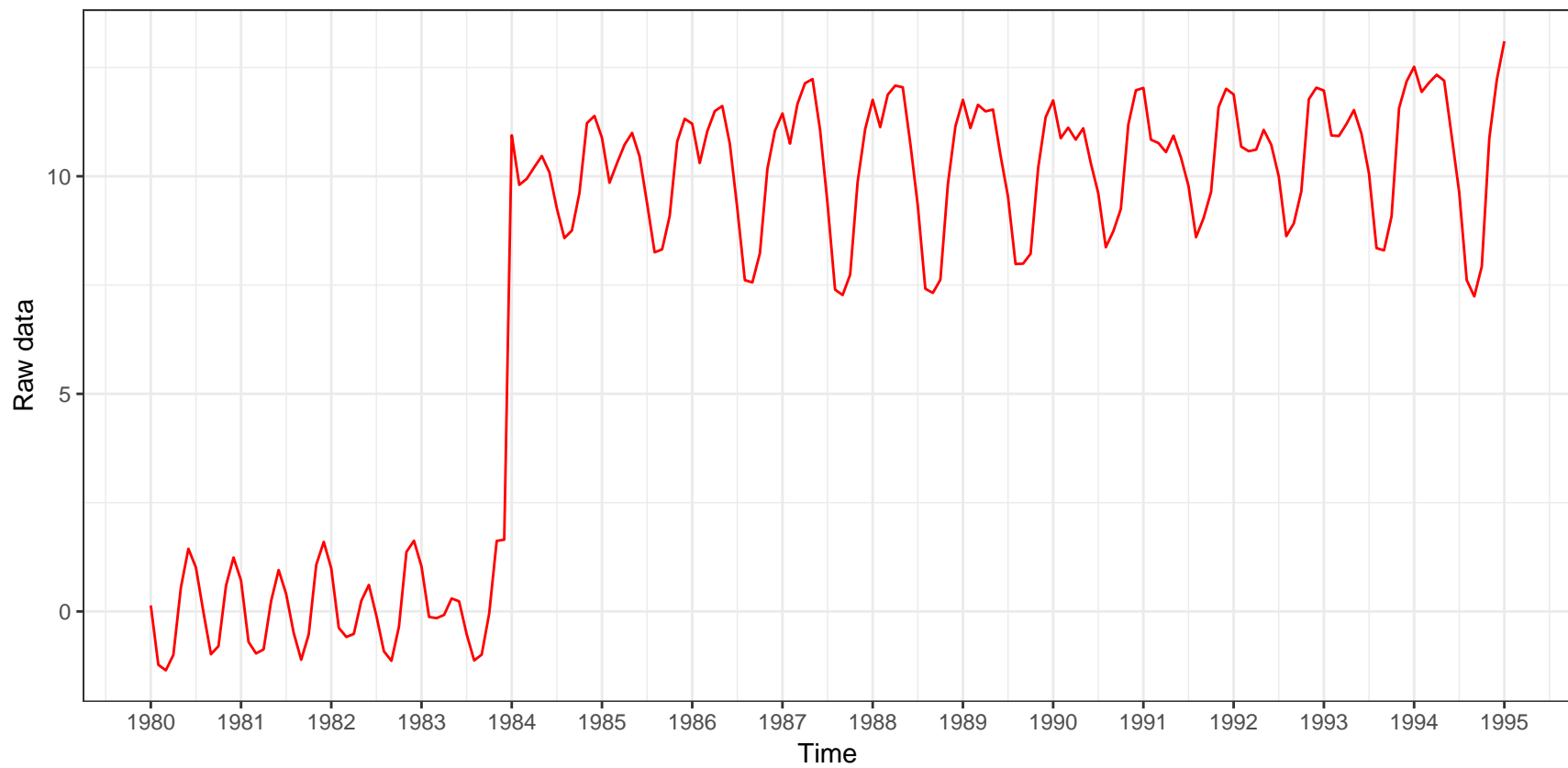


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

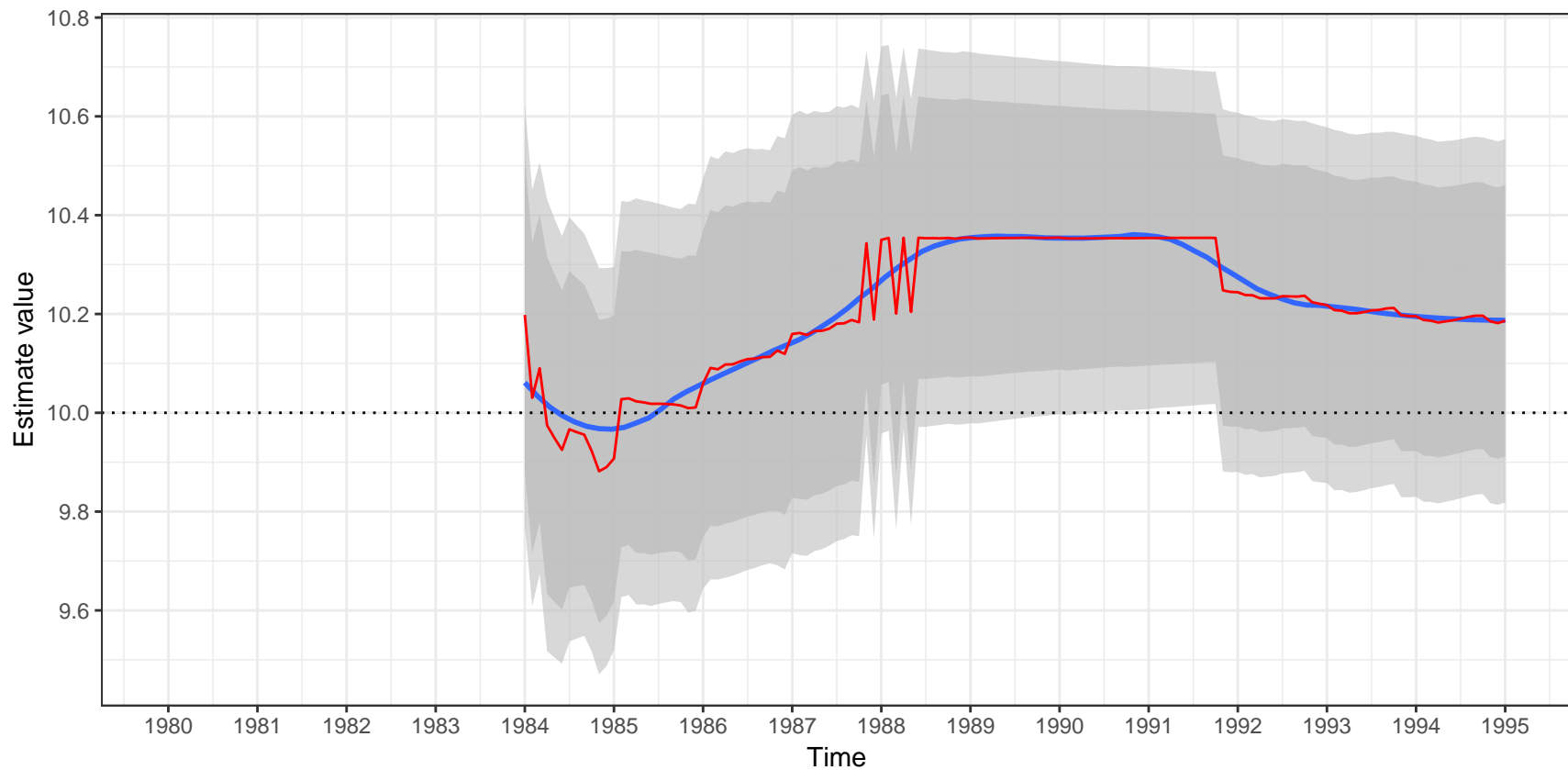


Raw data

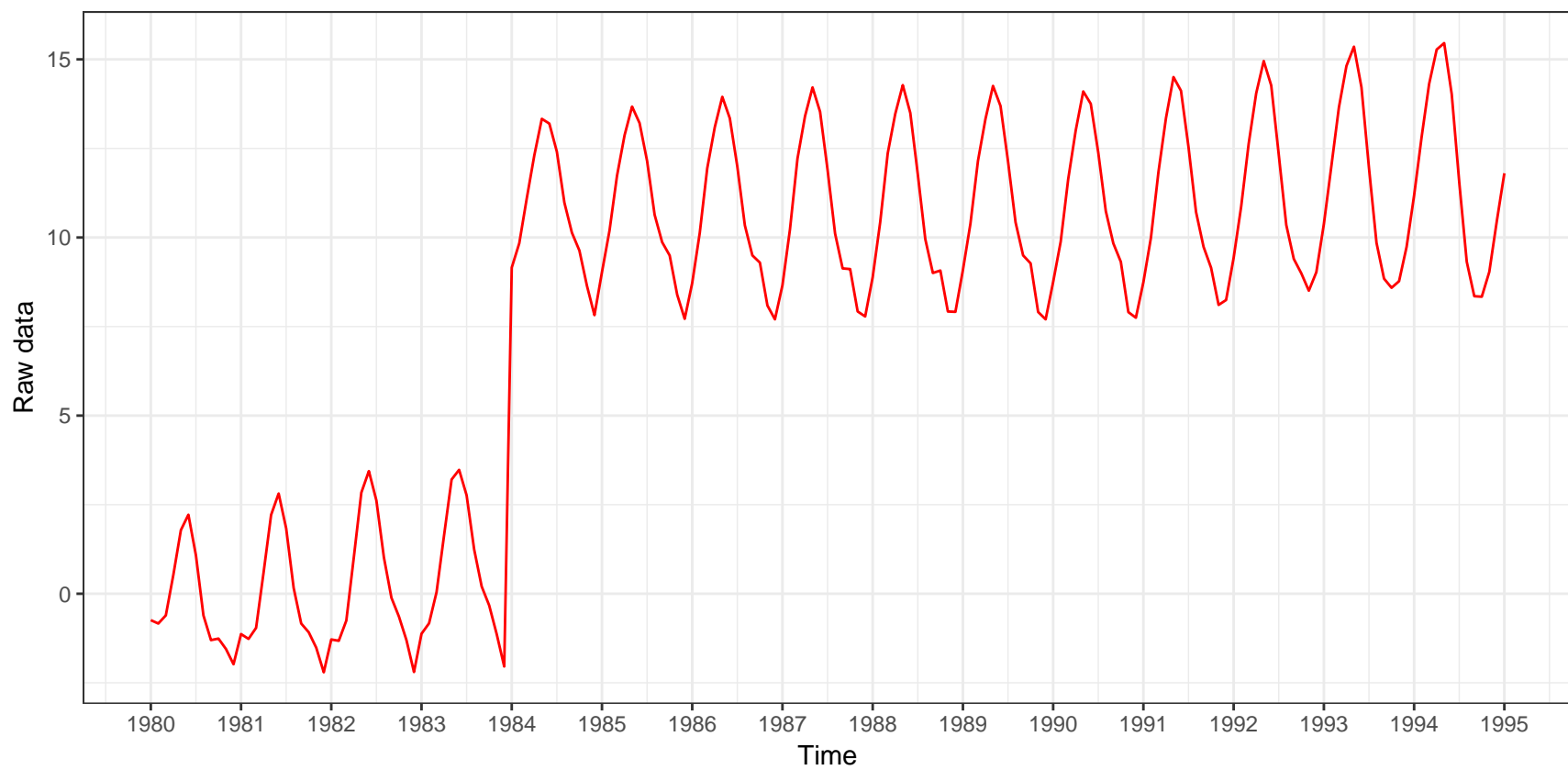


Estimate value of a LS(1984-01)
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Estimation of the outlier

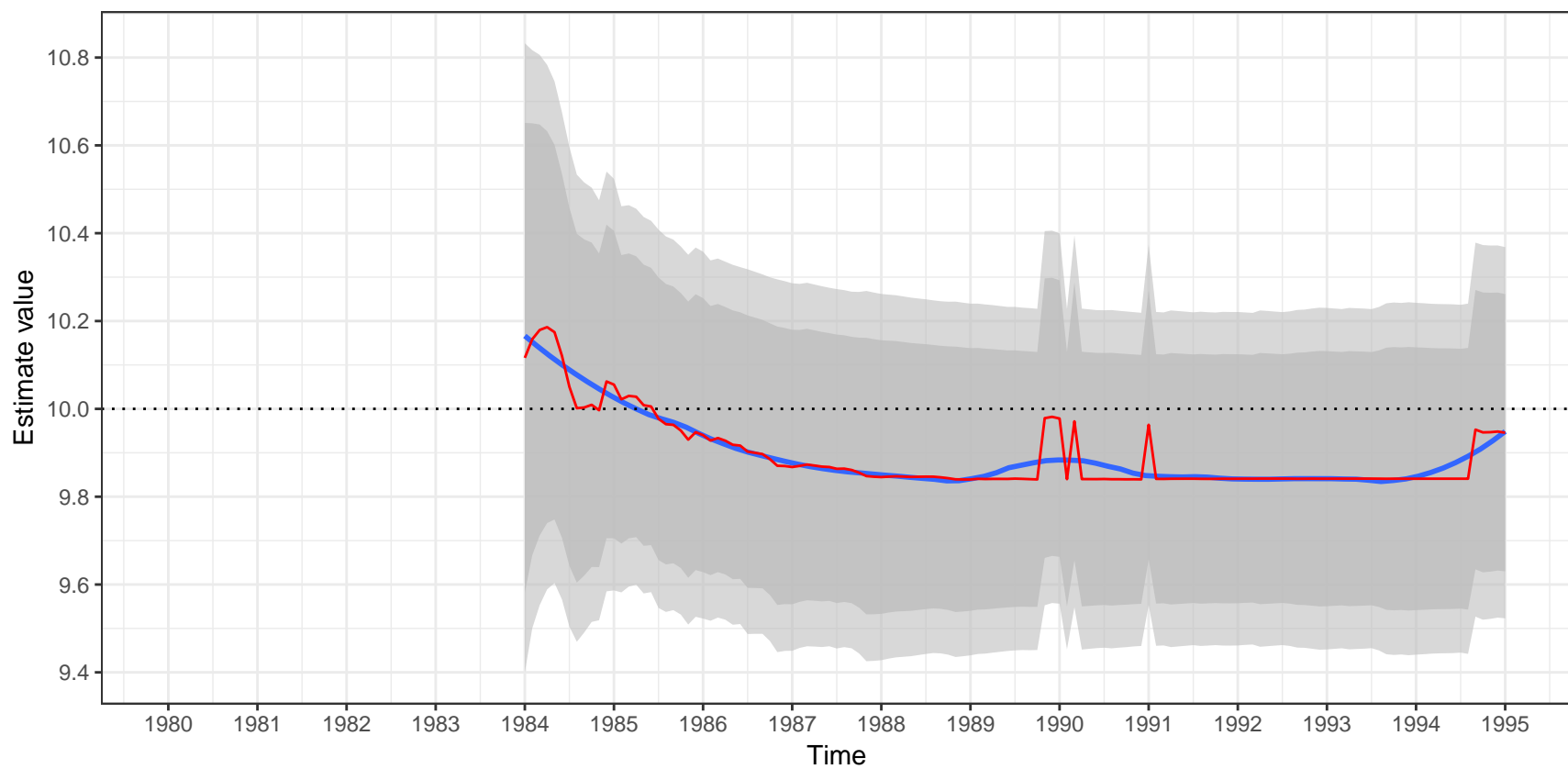


Raw data

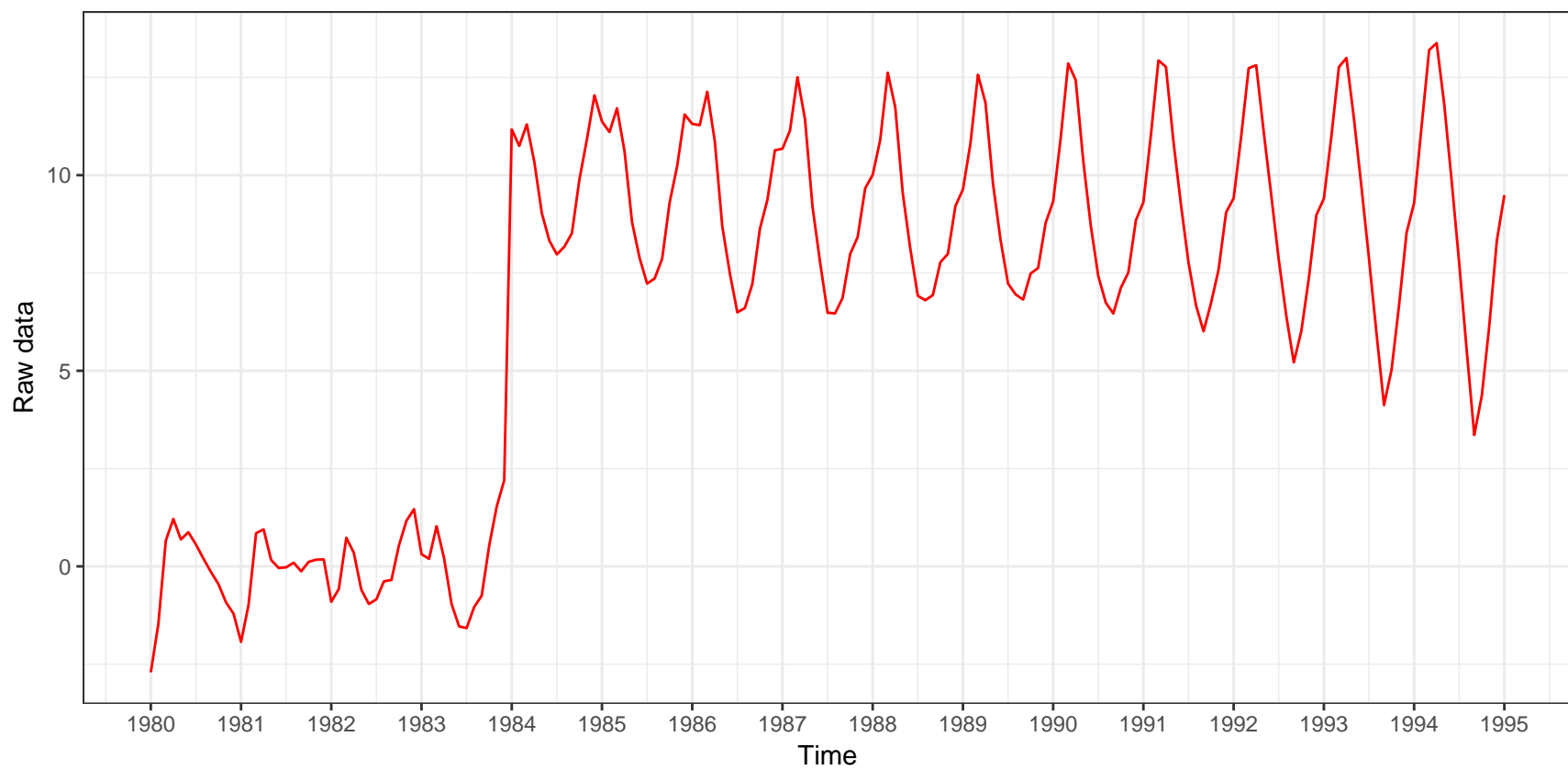


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

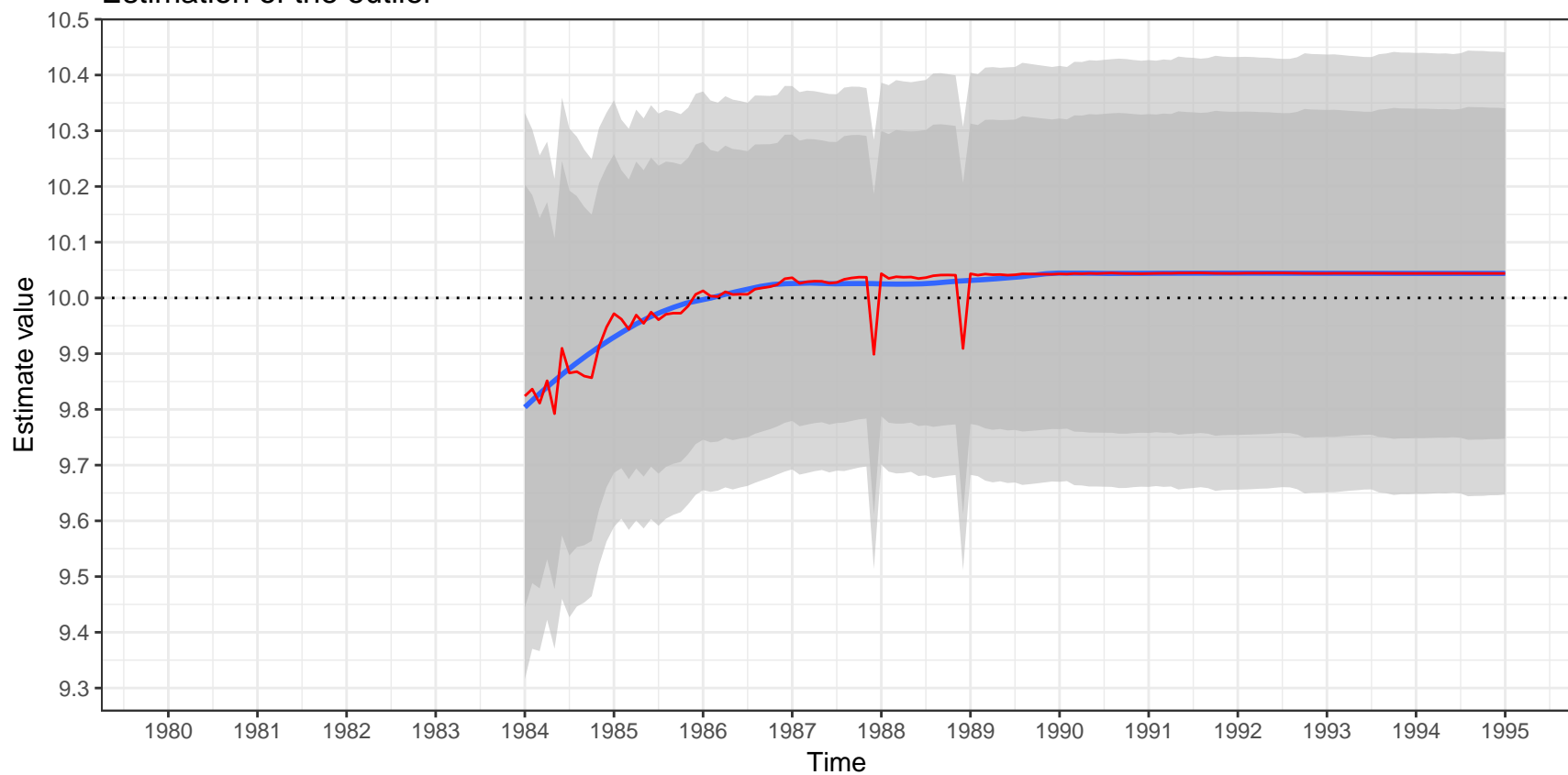


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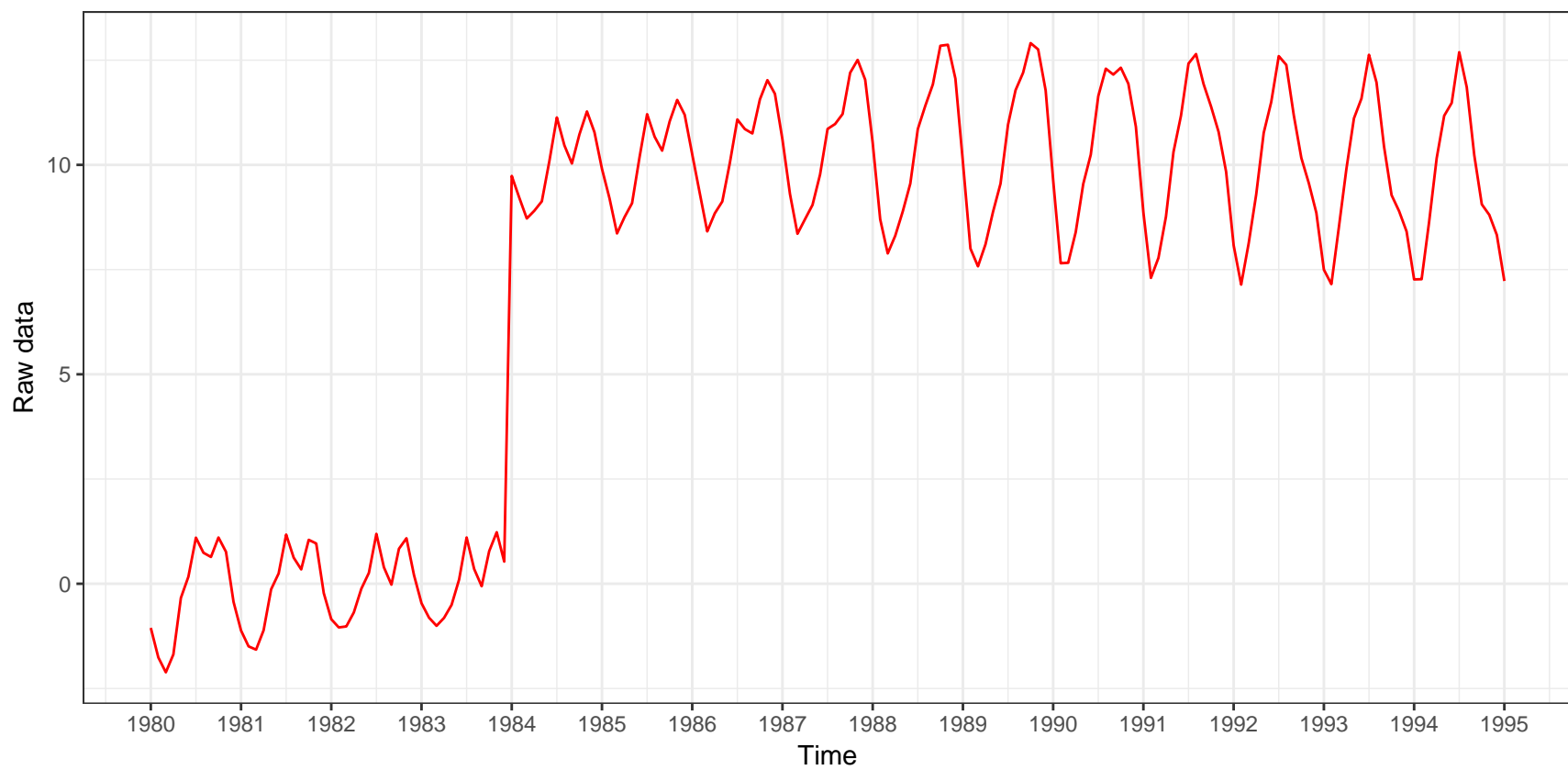


Estimate value of a LS(1984-01)
ARIMA (2,0,0)(0,1,1) – additive decomposition
 $(1-B^{12})(1-1.40B+0.7B^2)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

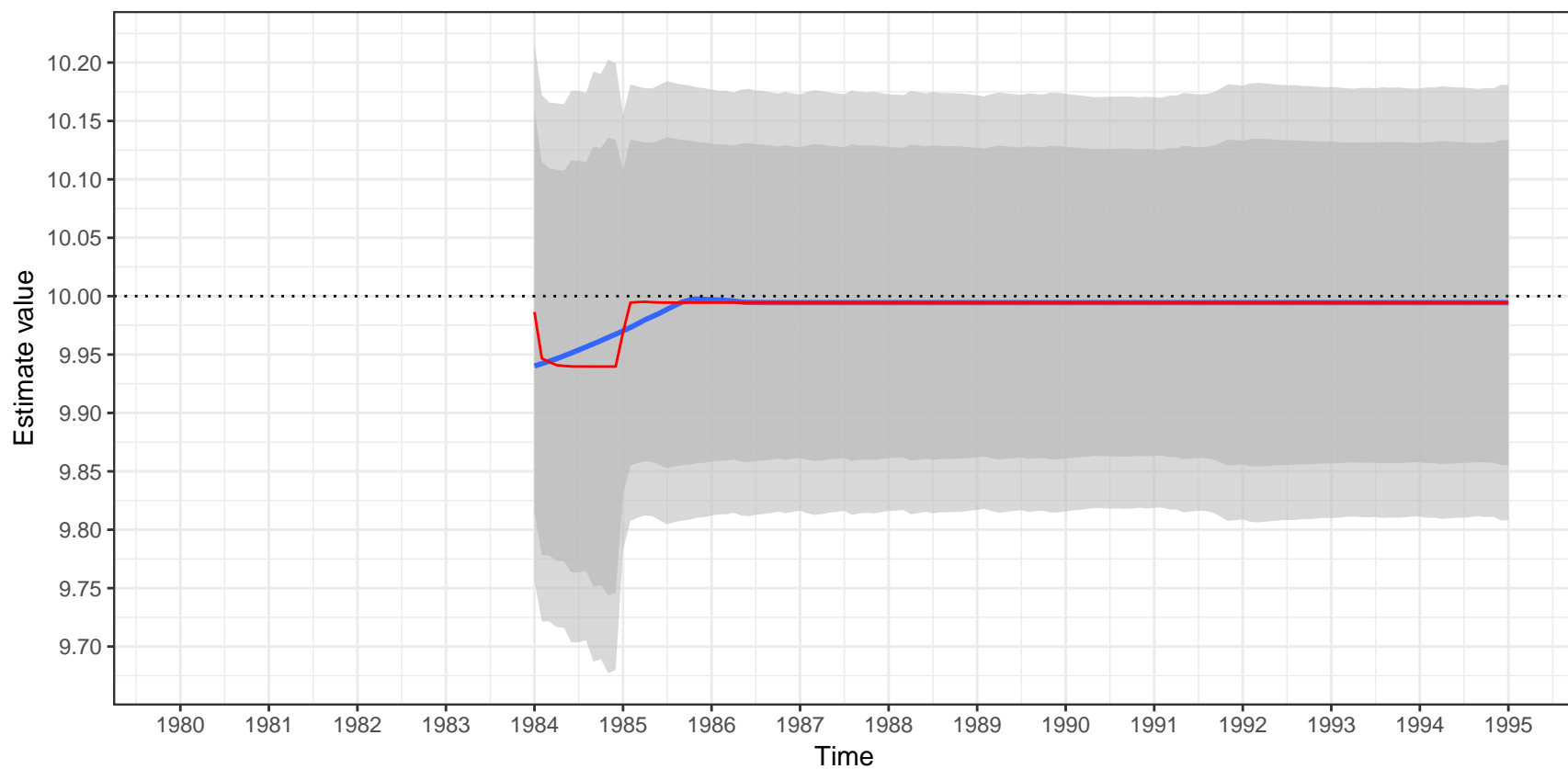


Raw data

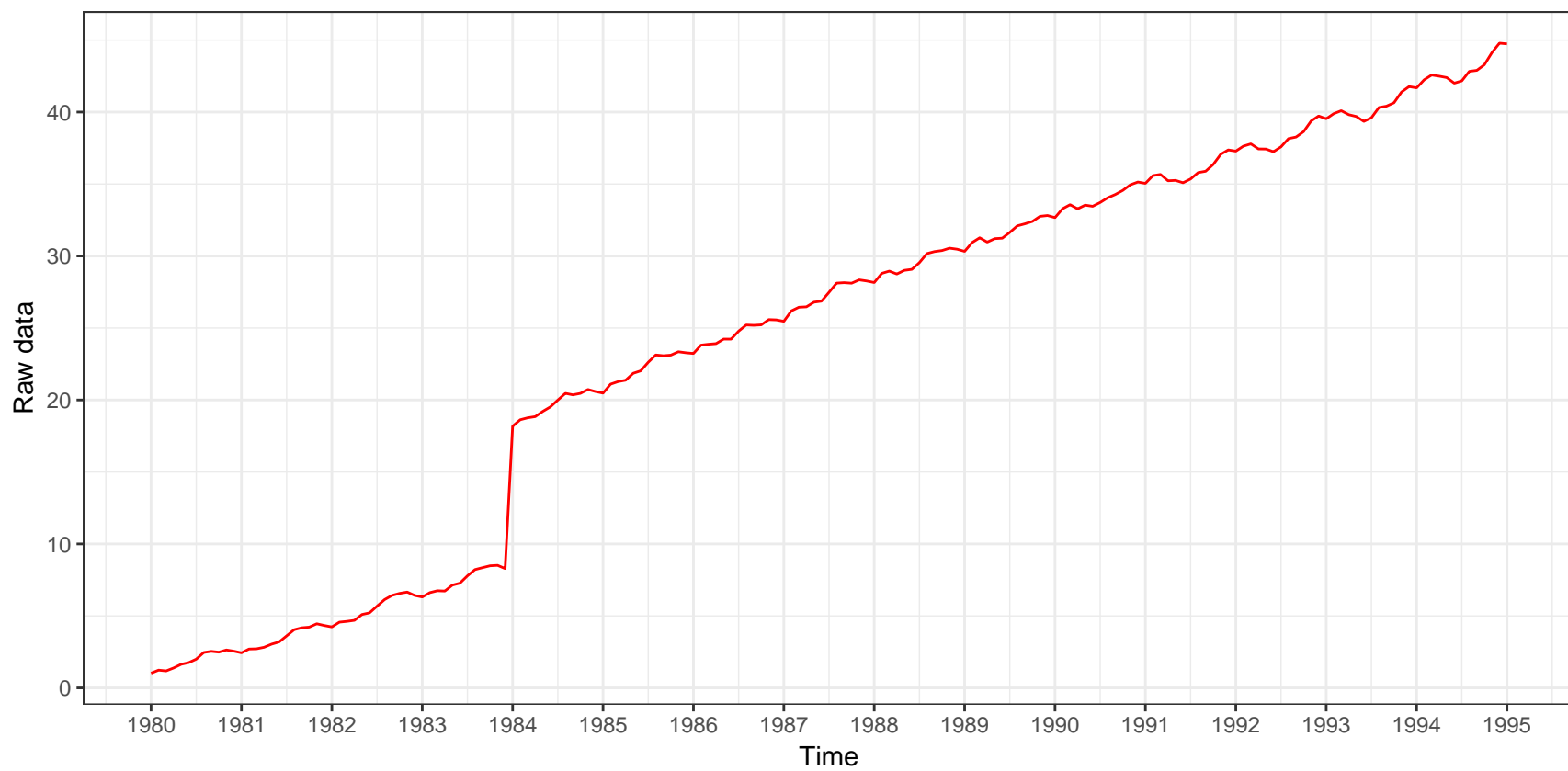


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.3B)a_t$

Estimation of the outlier

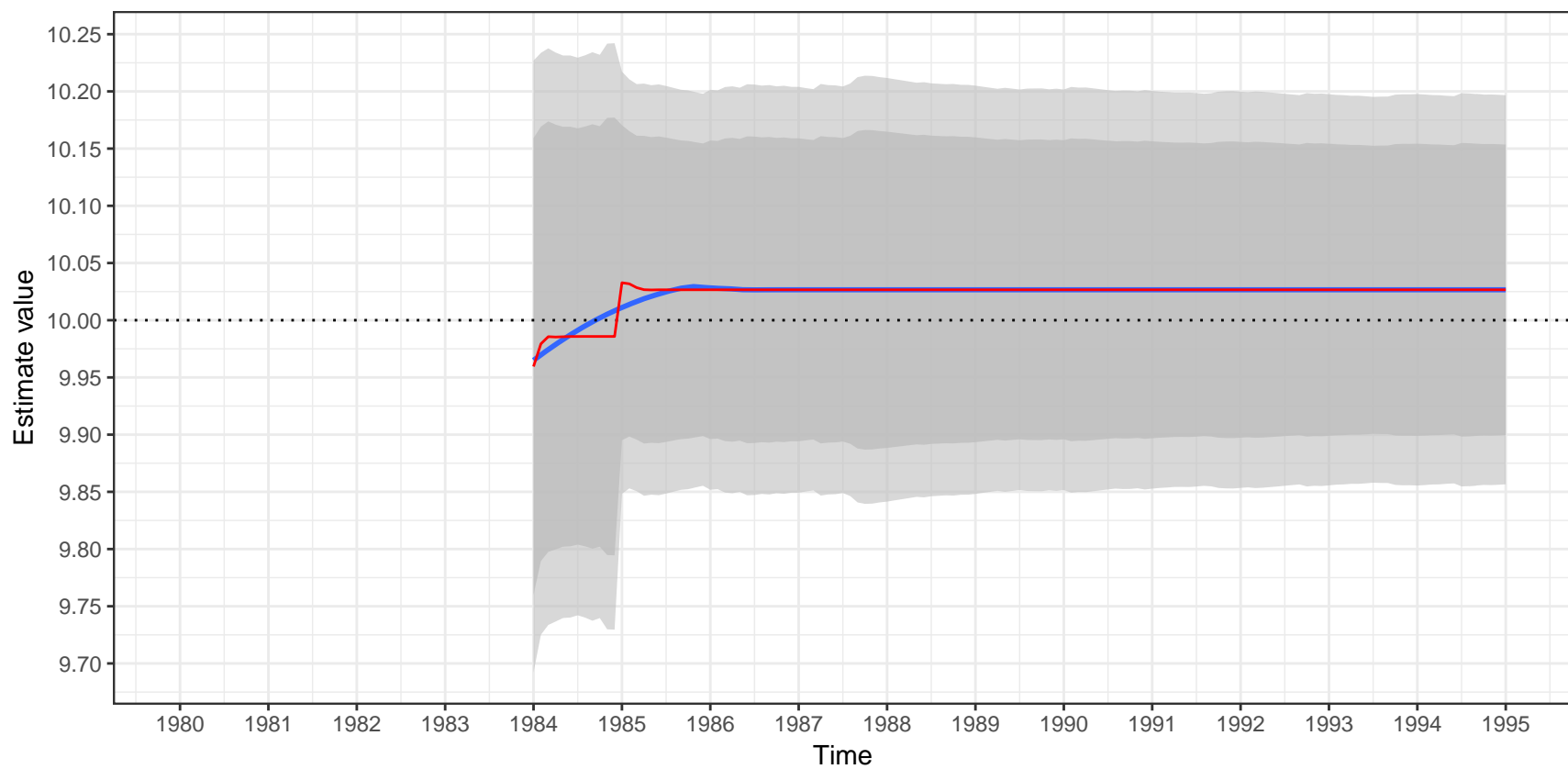


Raw data

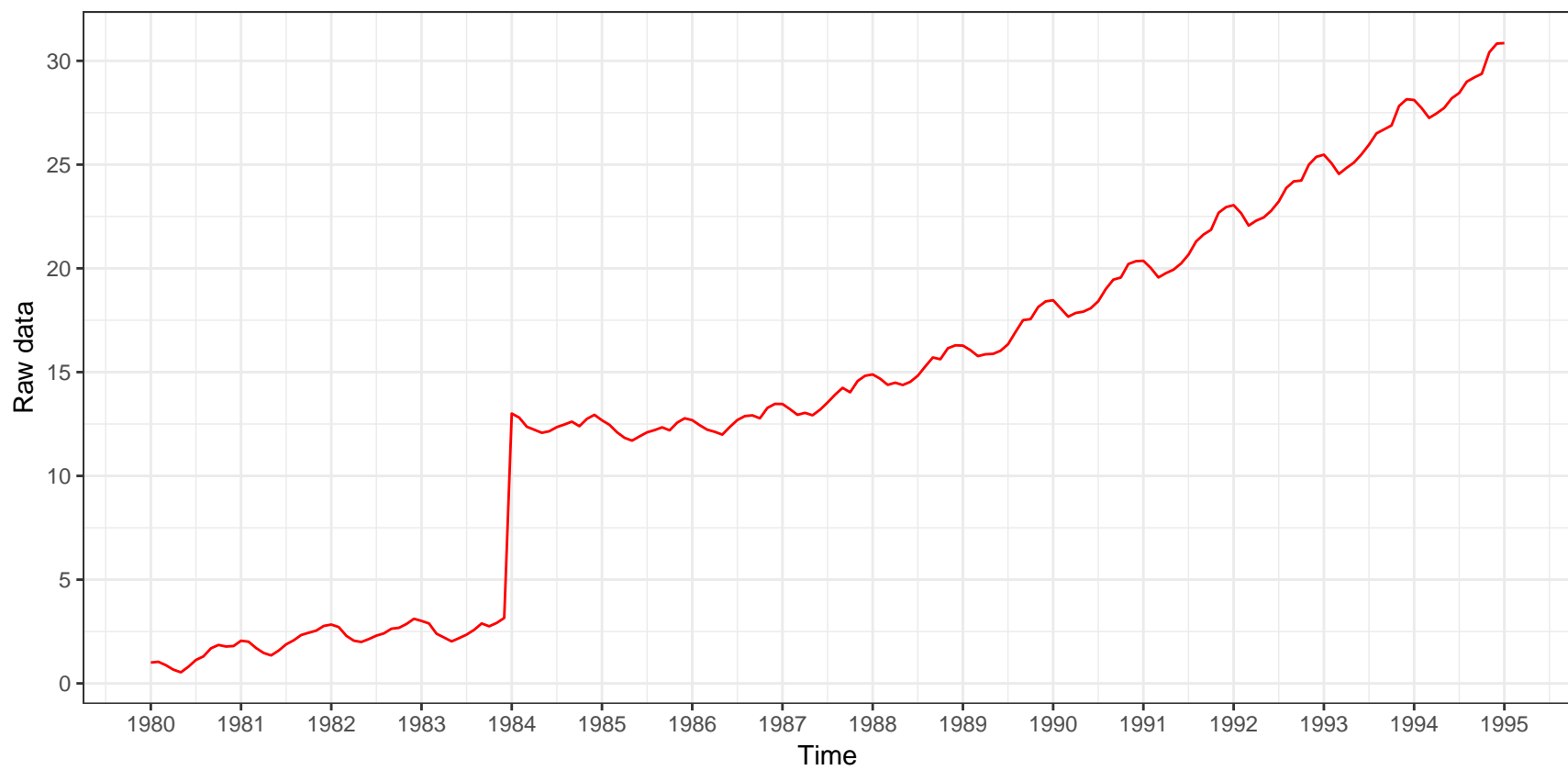


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.3B)a_t$

Estimation of the outlier

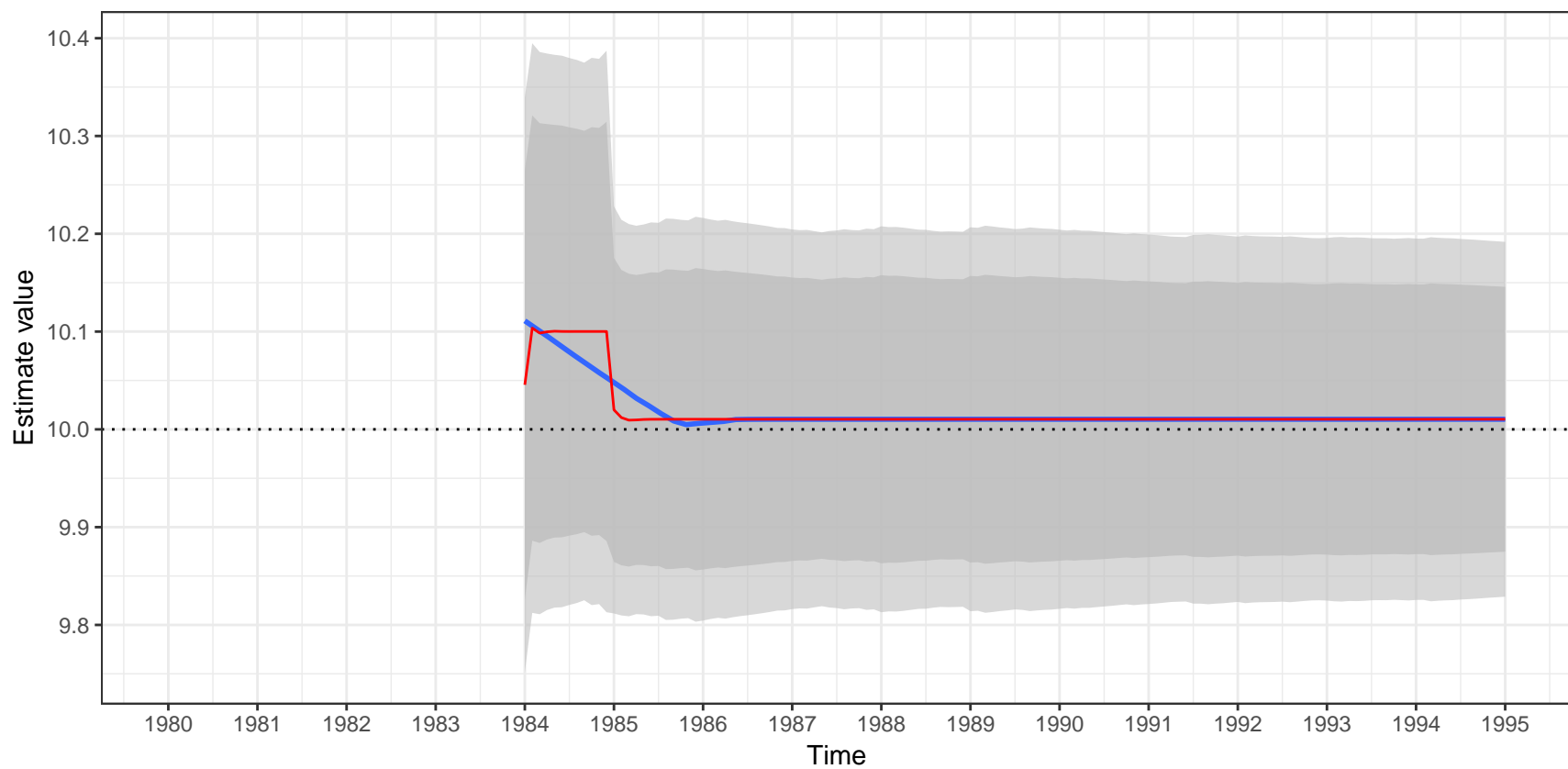


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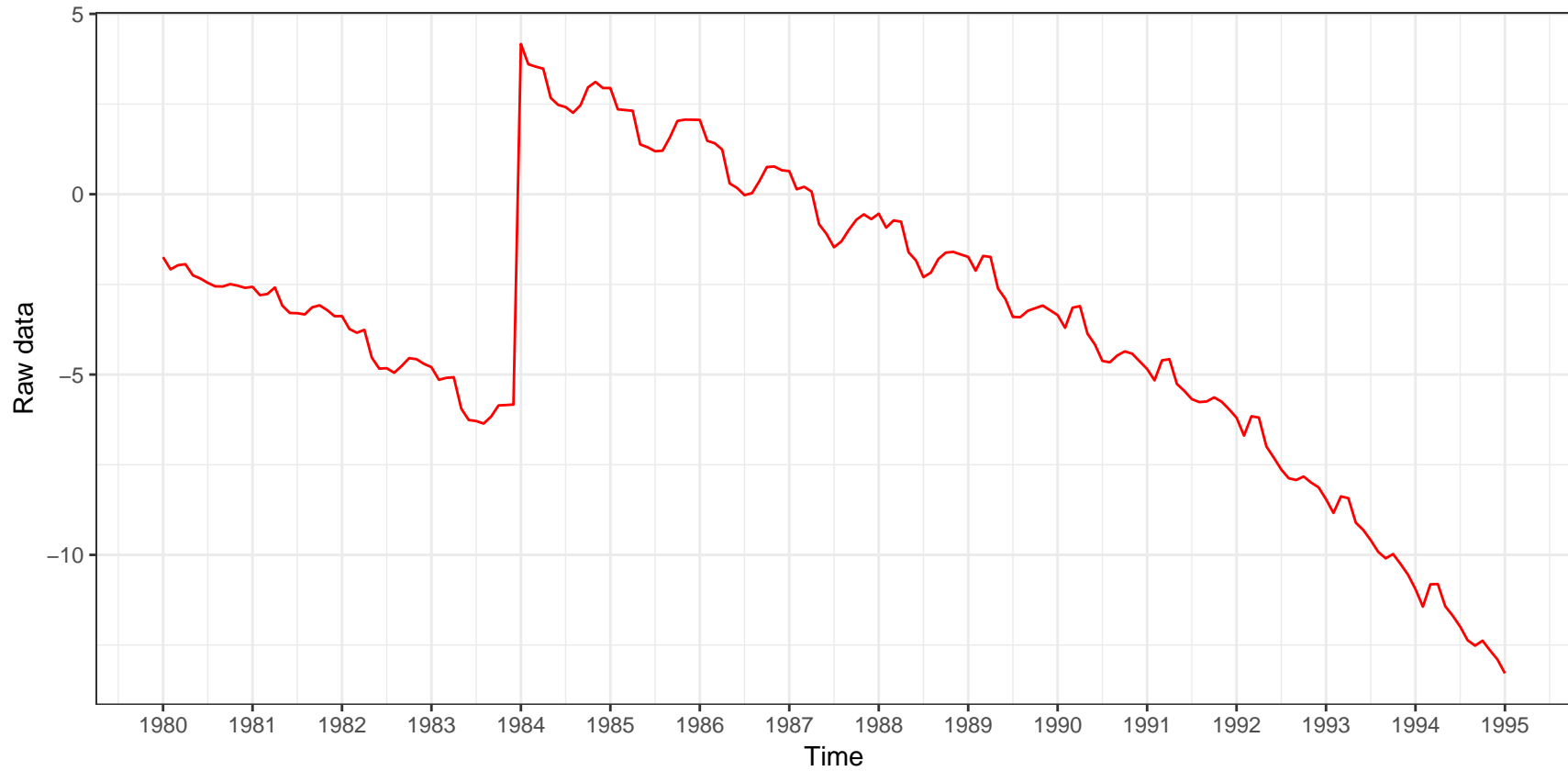


Estimate value of a LS(1984-01)
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 $(1-B)(1-B^{12})X_t=(1+0.3B)a_t$

Estimation of the outlier

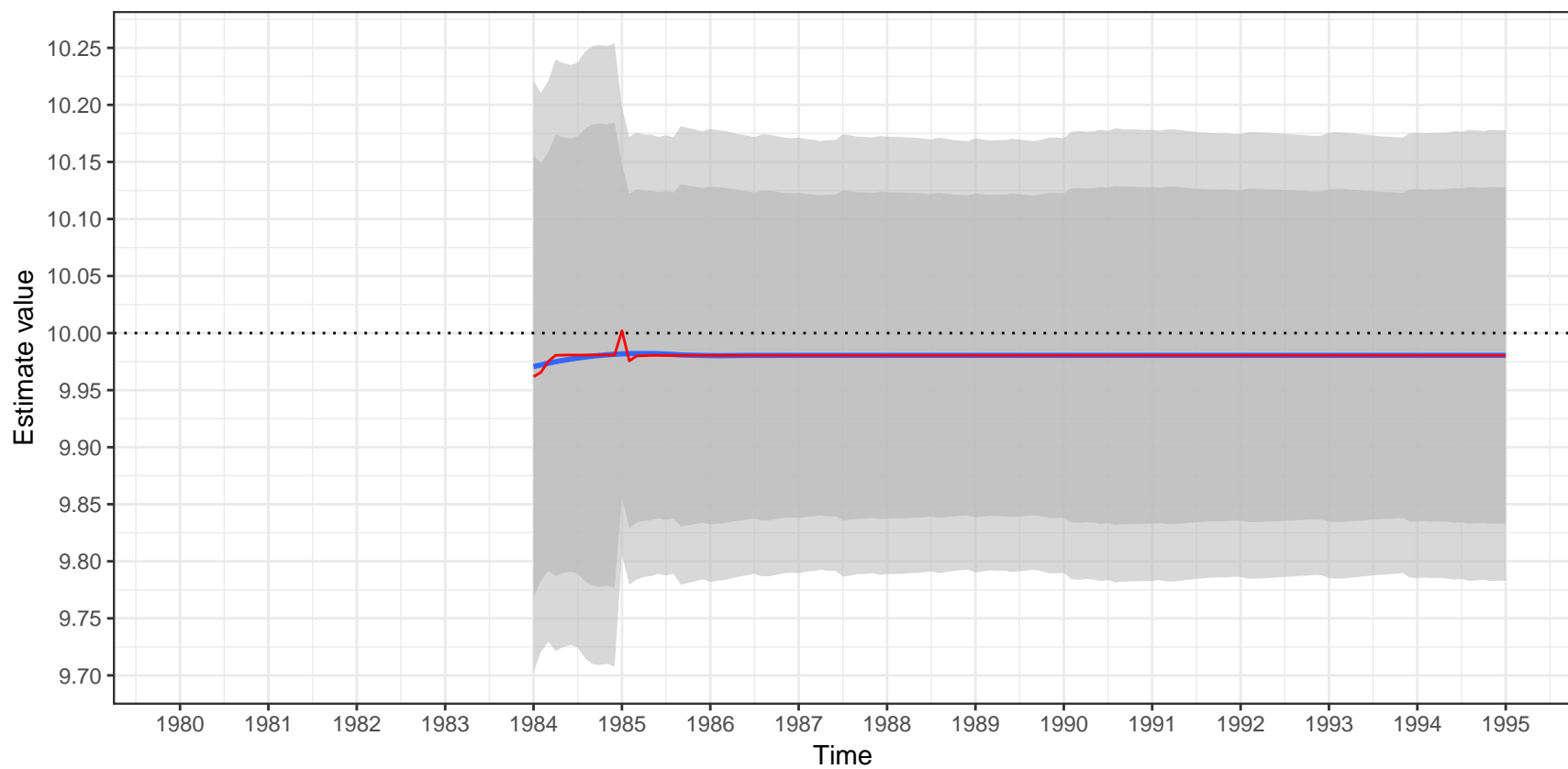


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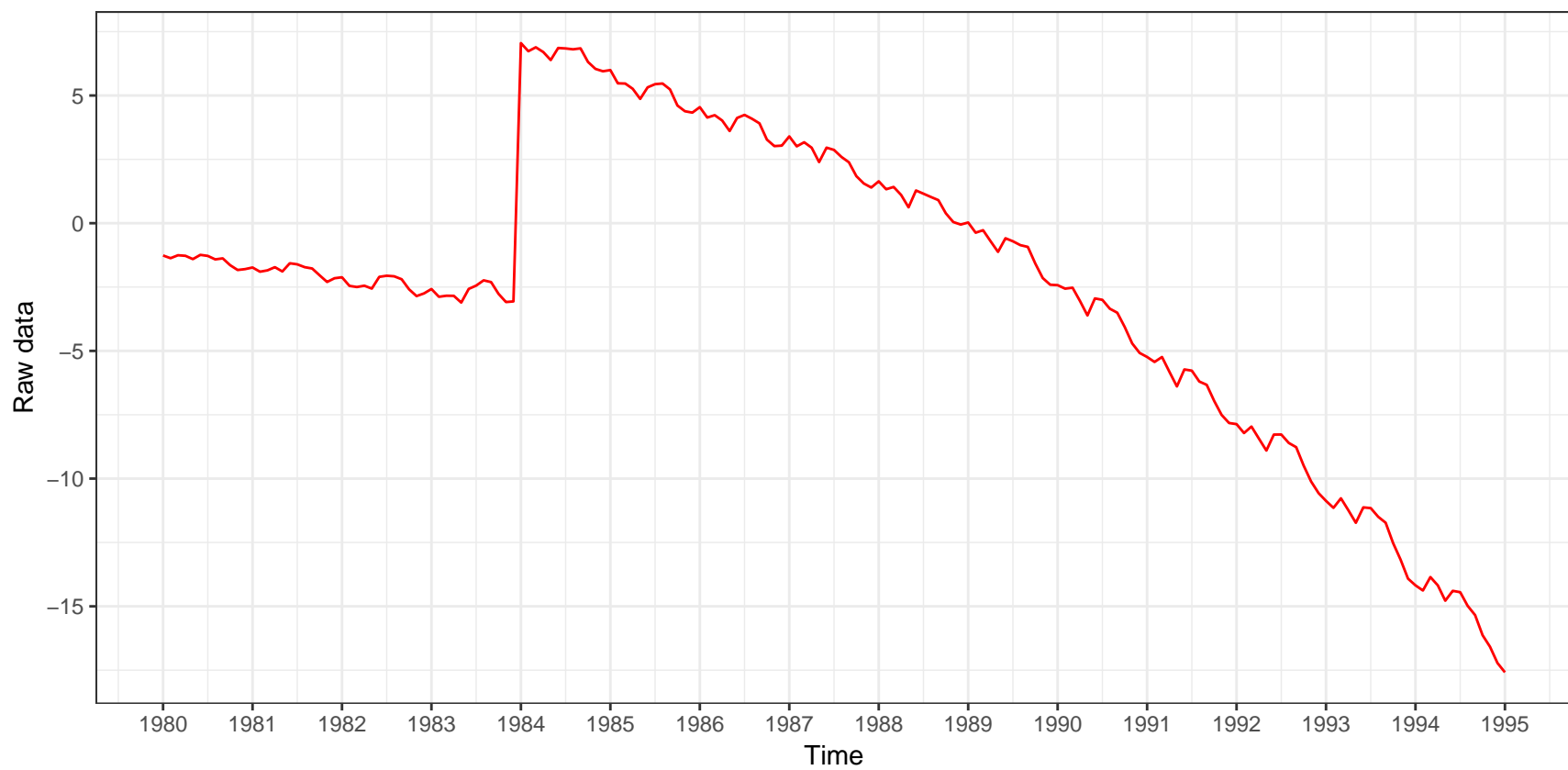


Estimate value of a LS(1984-01)
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Estimation of the outlier

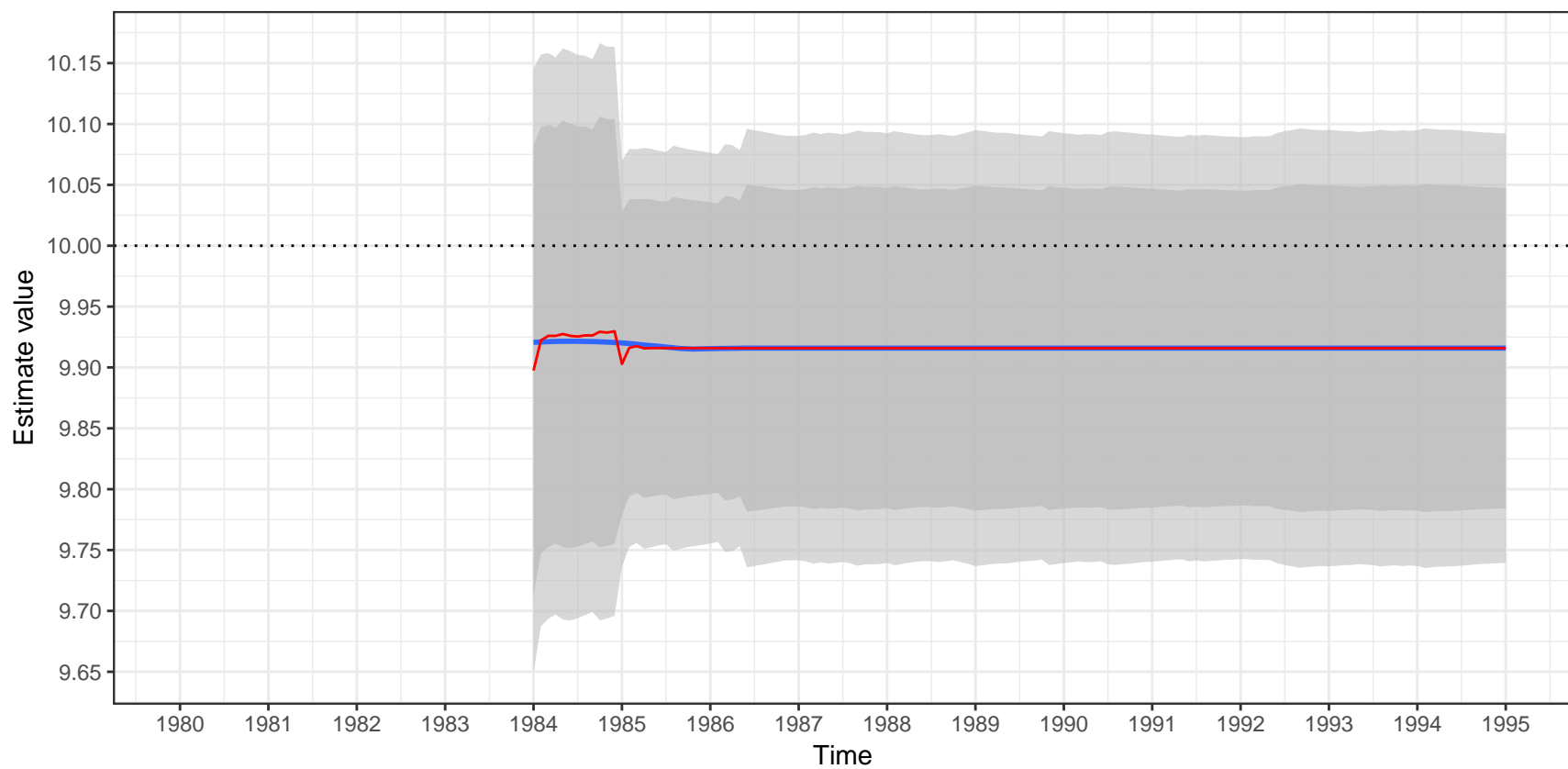


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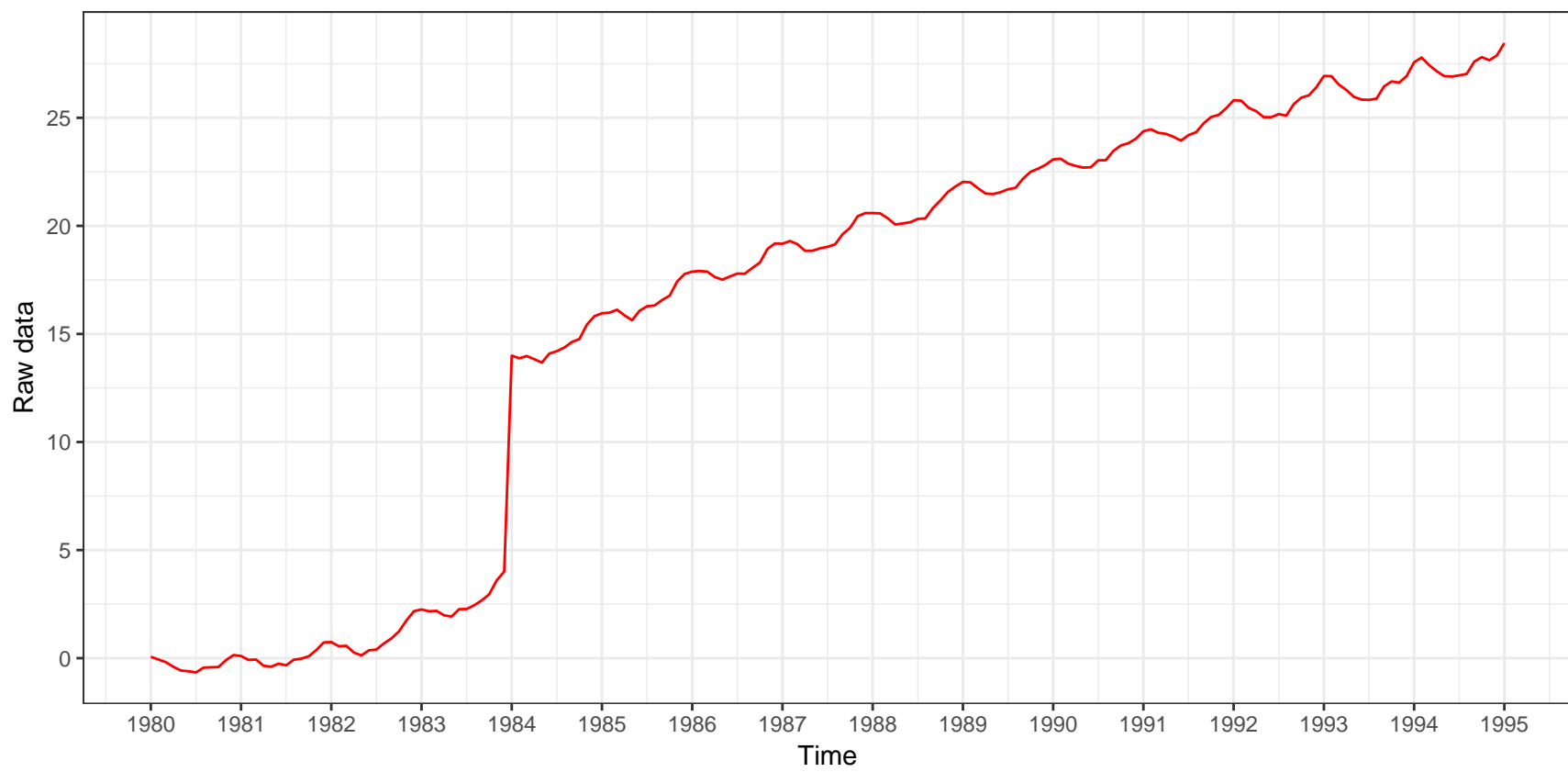


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
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Estimation of the outlier

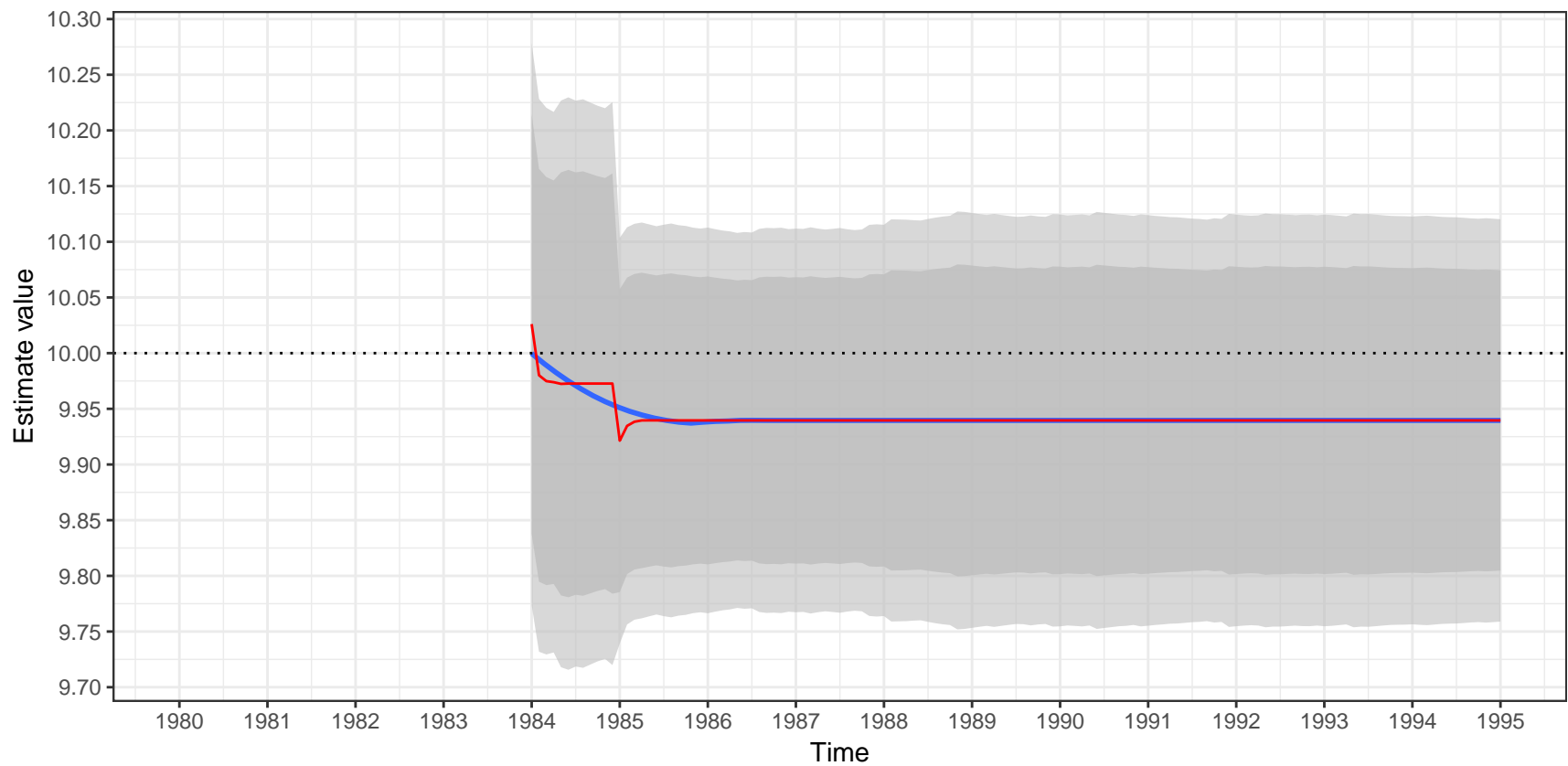


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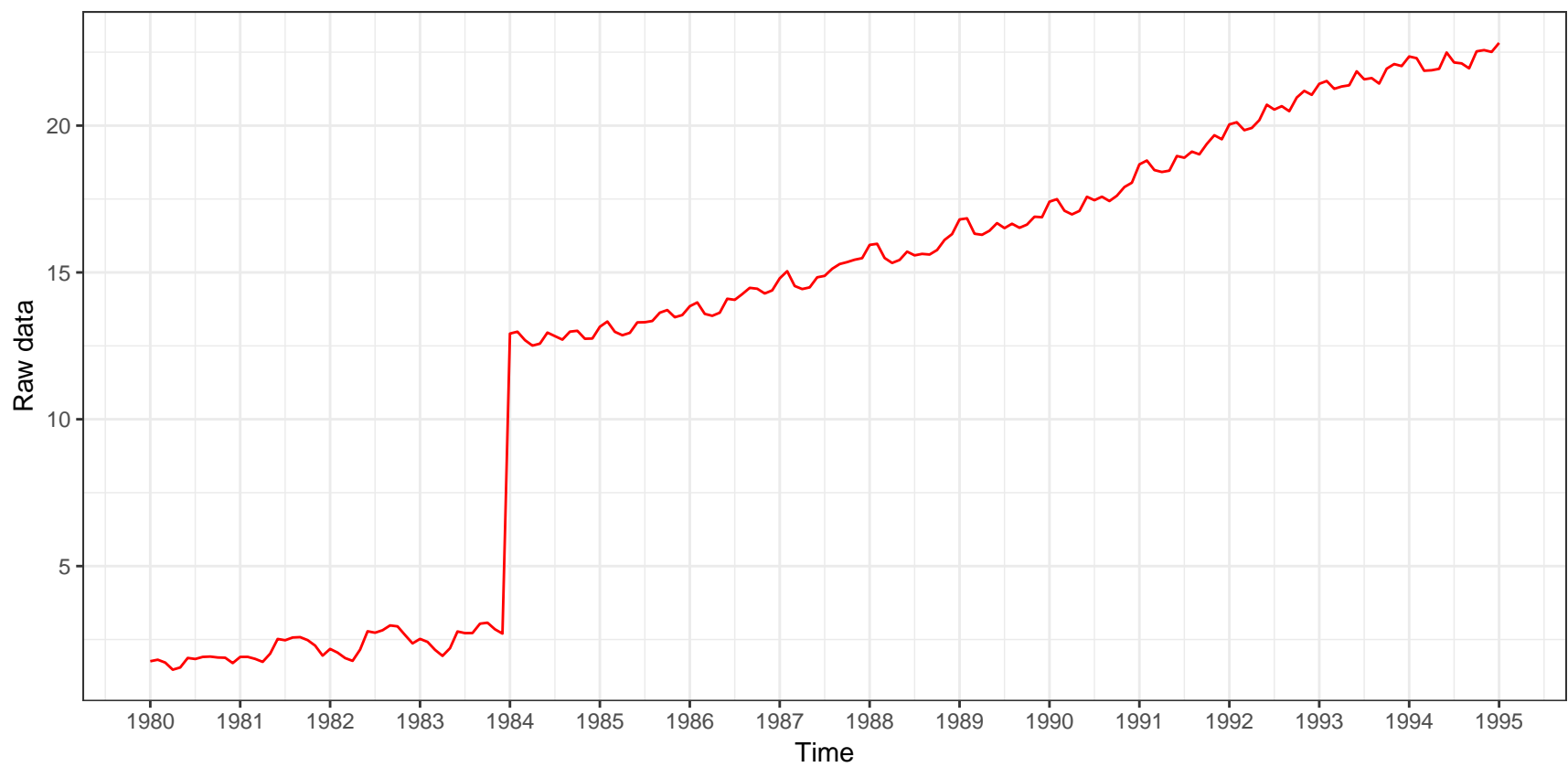


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Estimation of the outlier

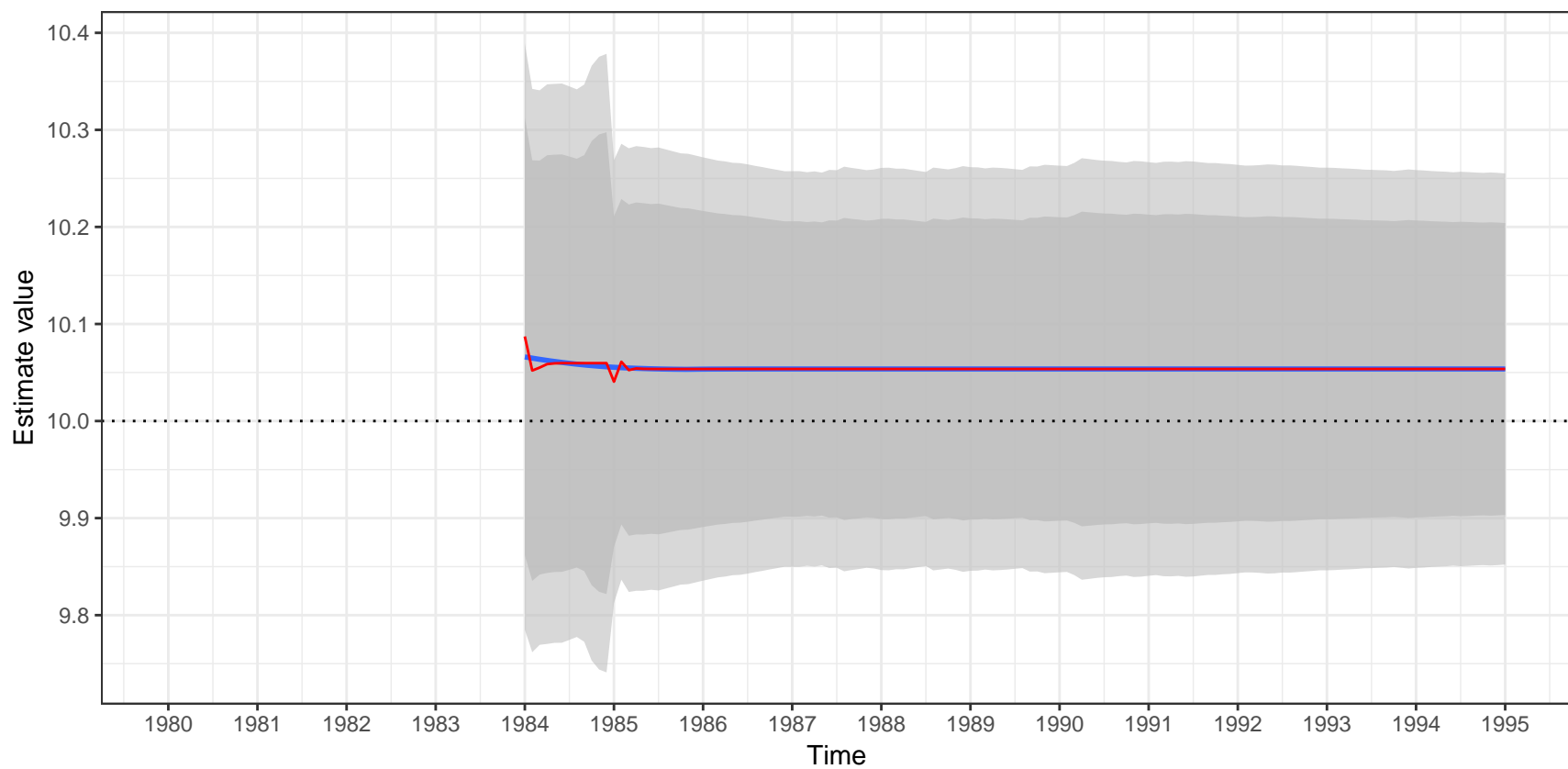


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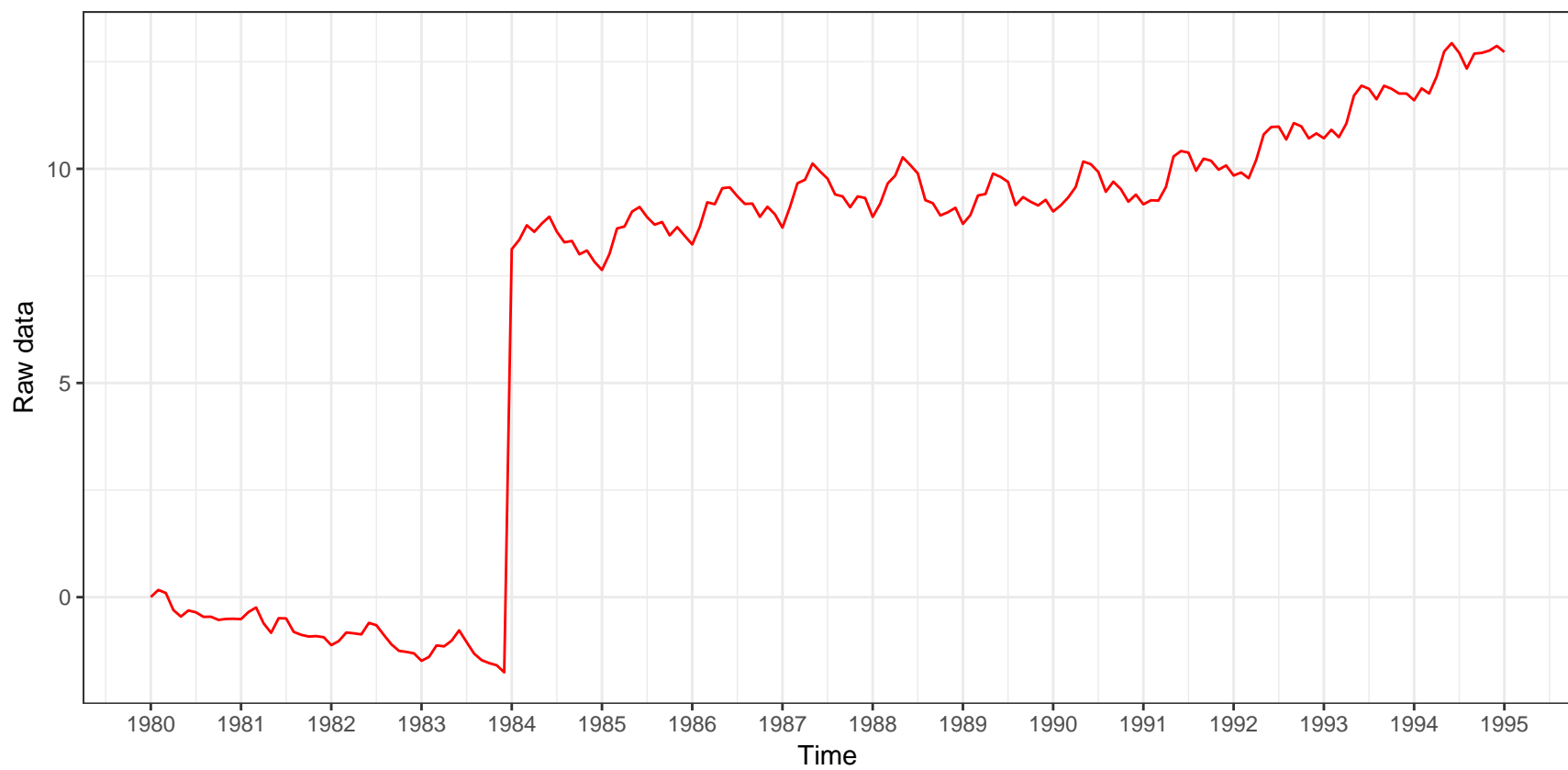


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Estimation of the outlier

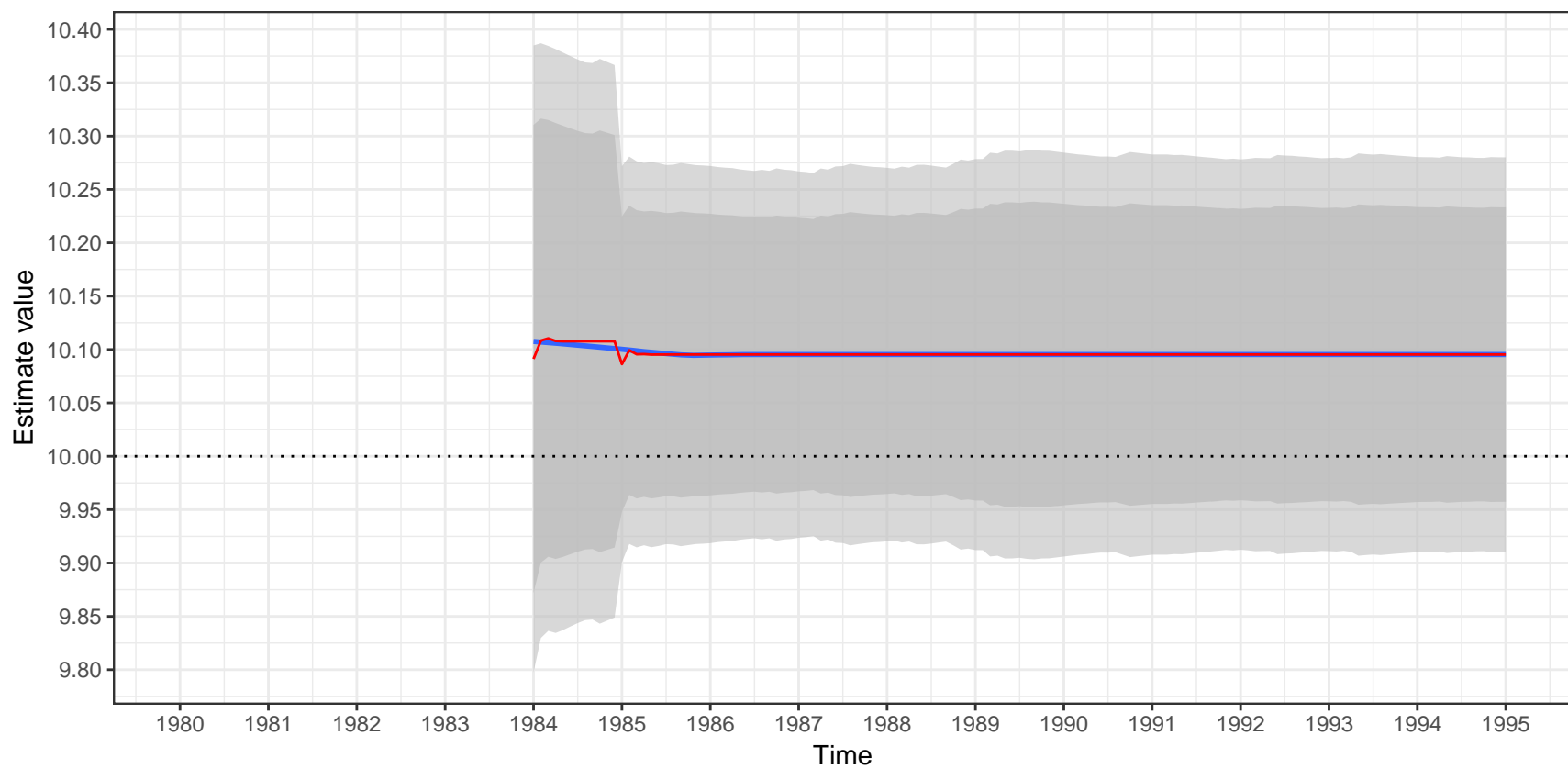


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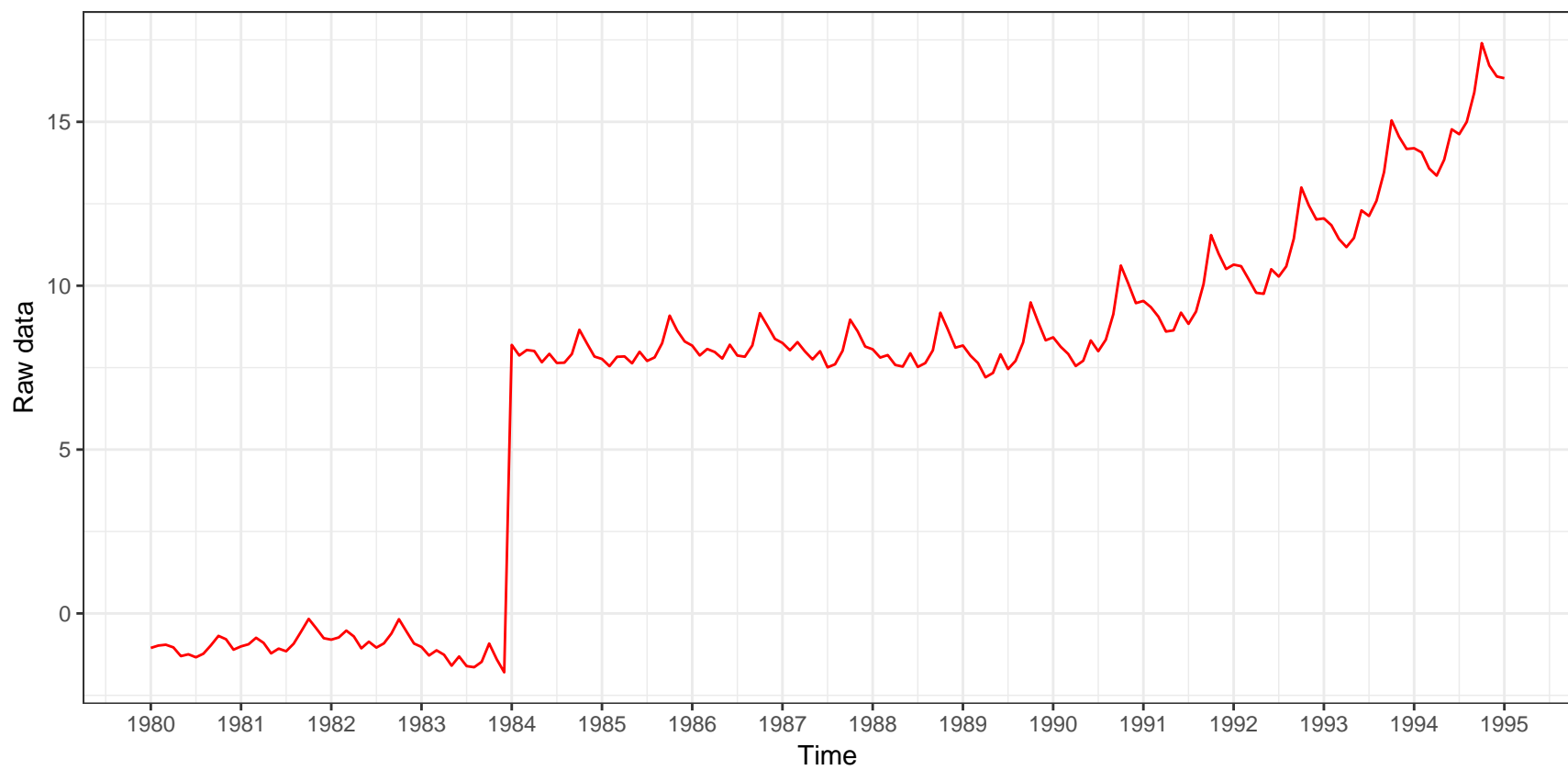


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Estimation of the outlier

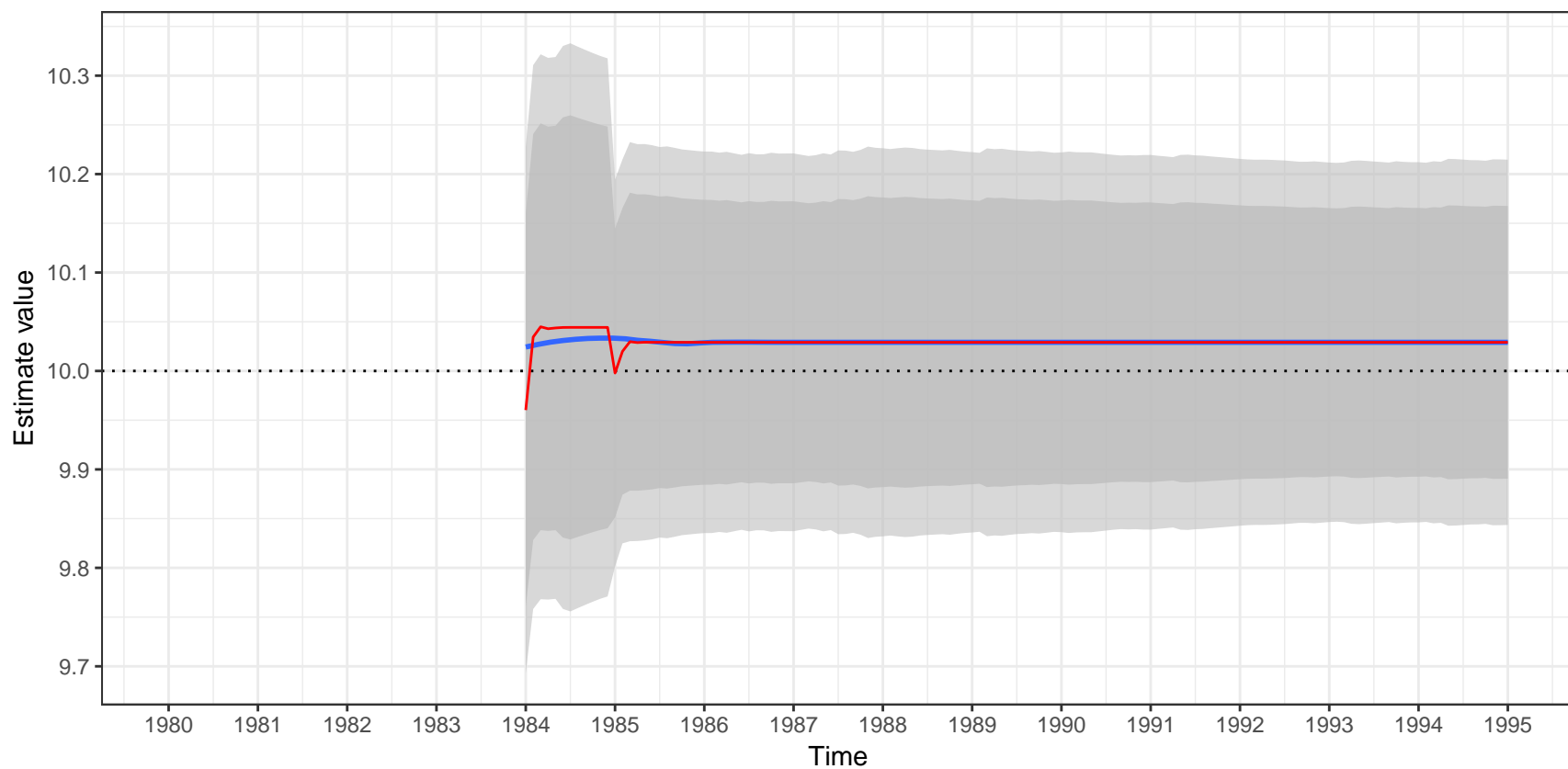


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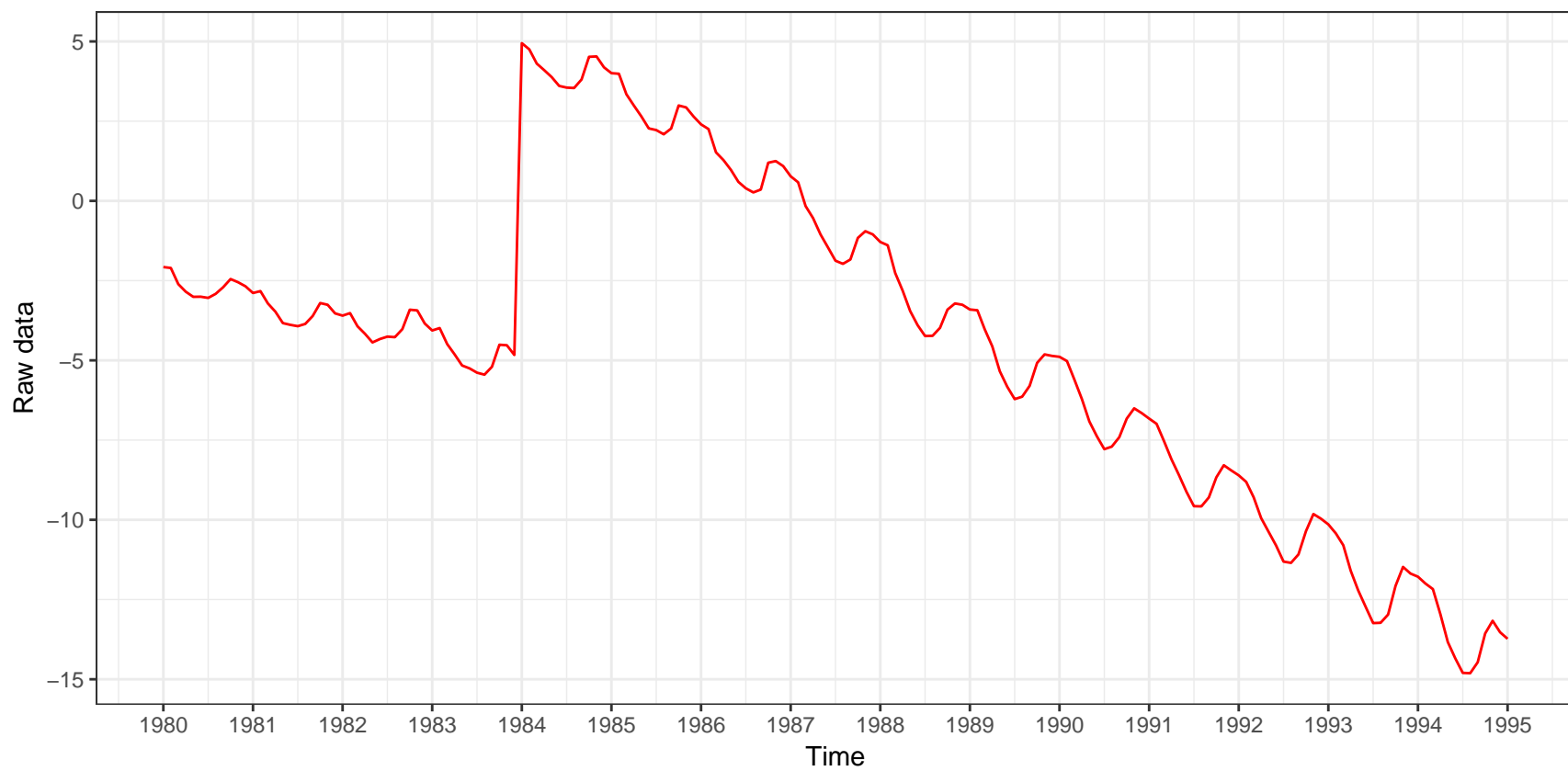


Estimate value of a LS(1984-01)
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Estimation of the outlier

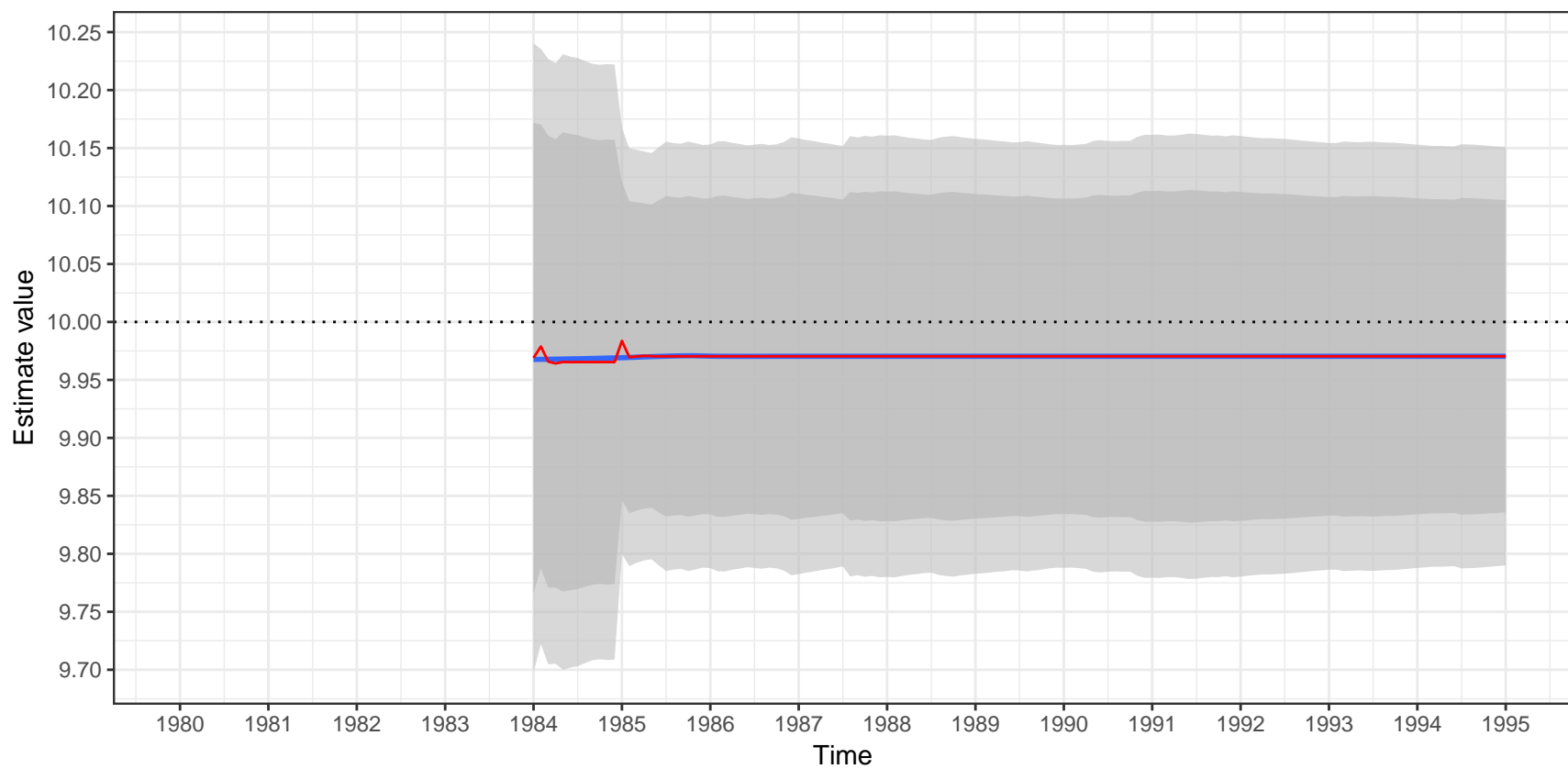


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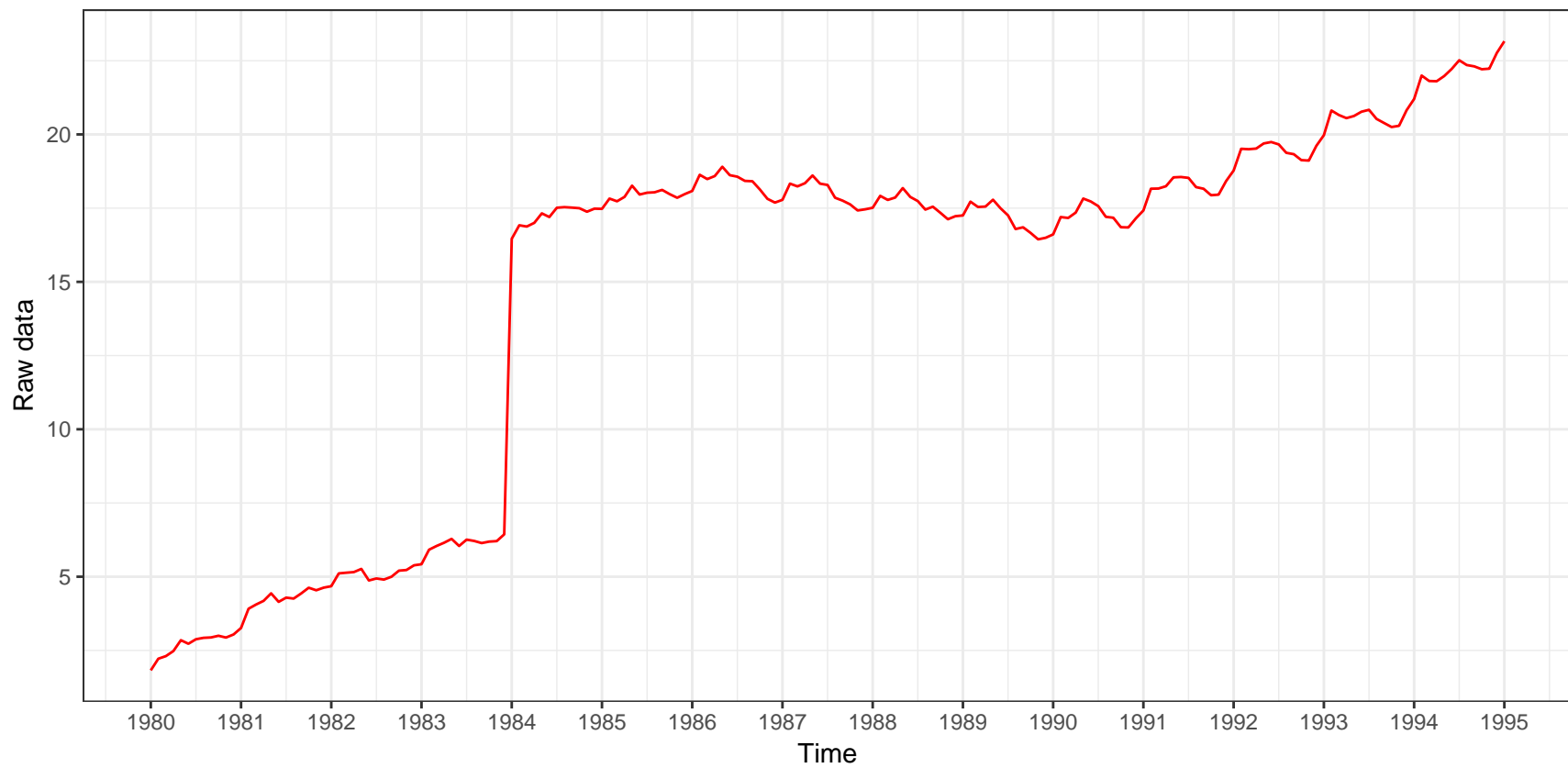


Estimate value of a LS(1984-01)
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 $(1-B)(1-B^{12})X_t=(1+0.3B)a_t$

Estimation of the outlier

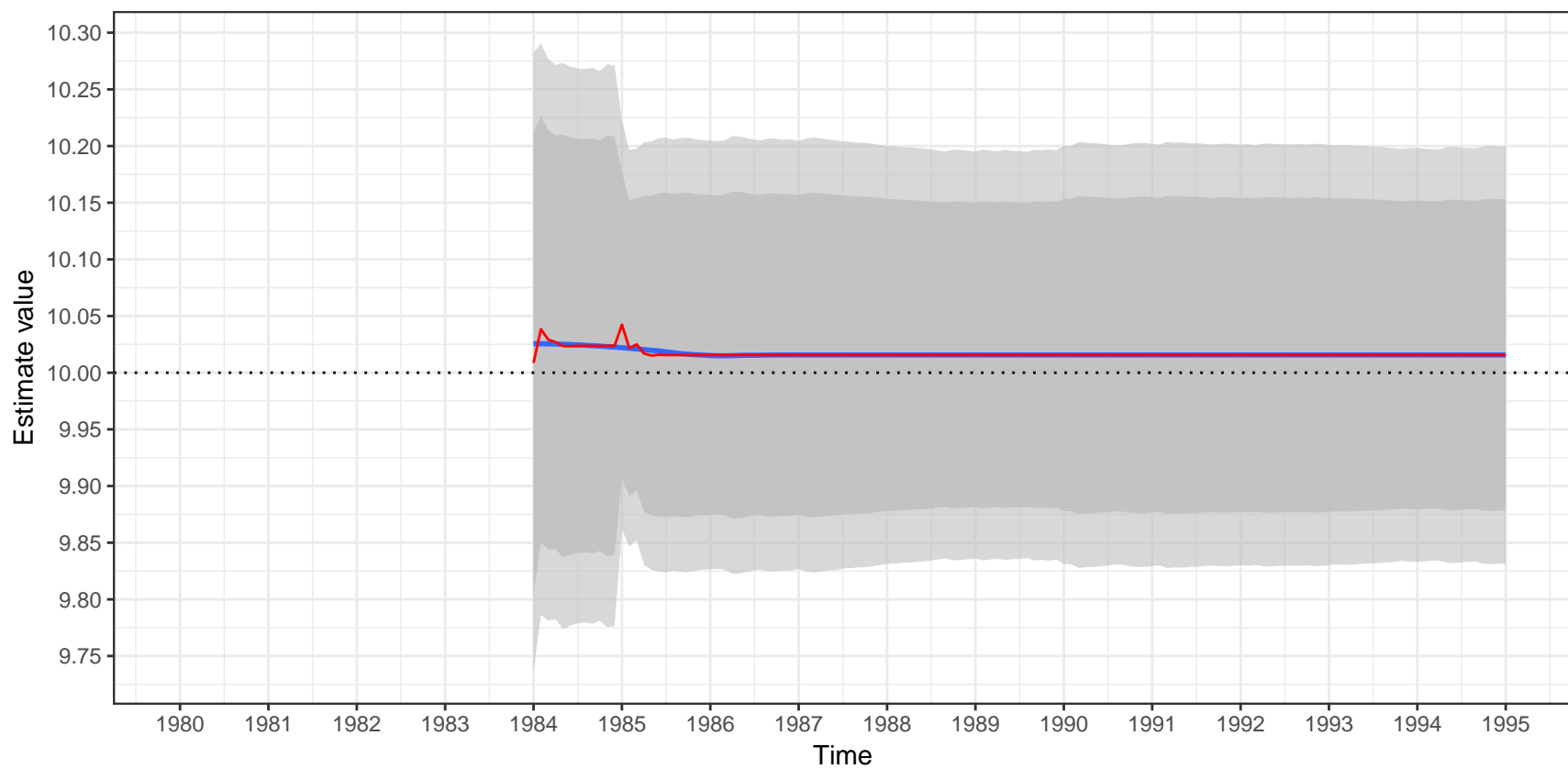


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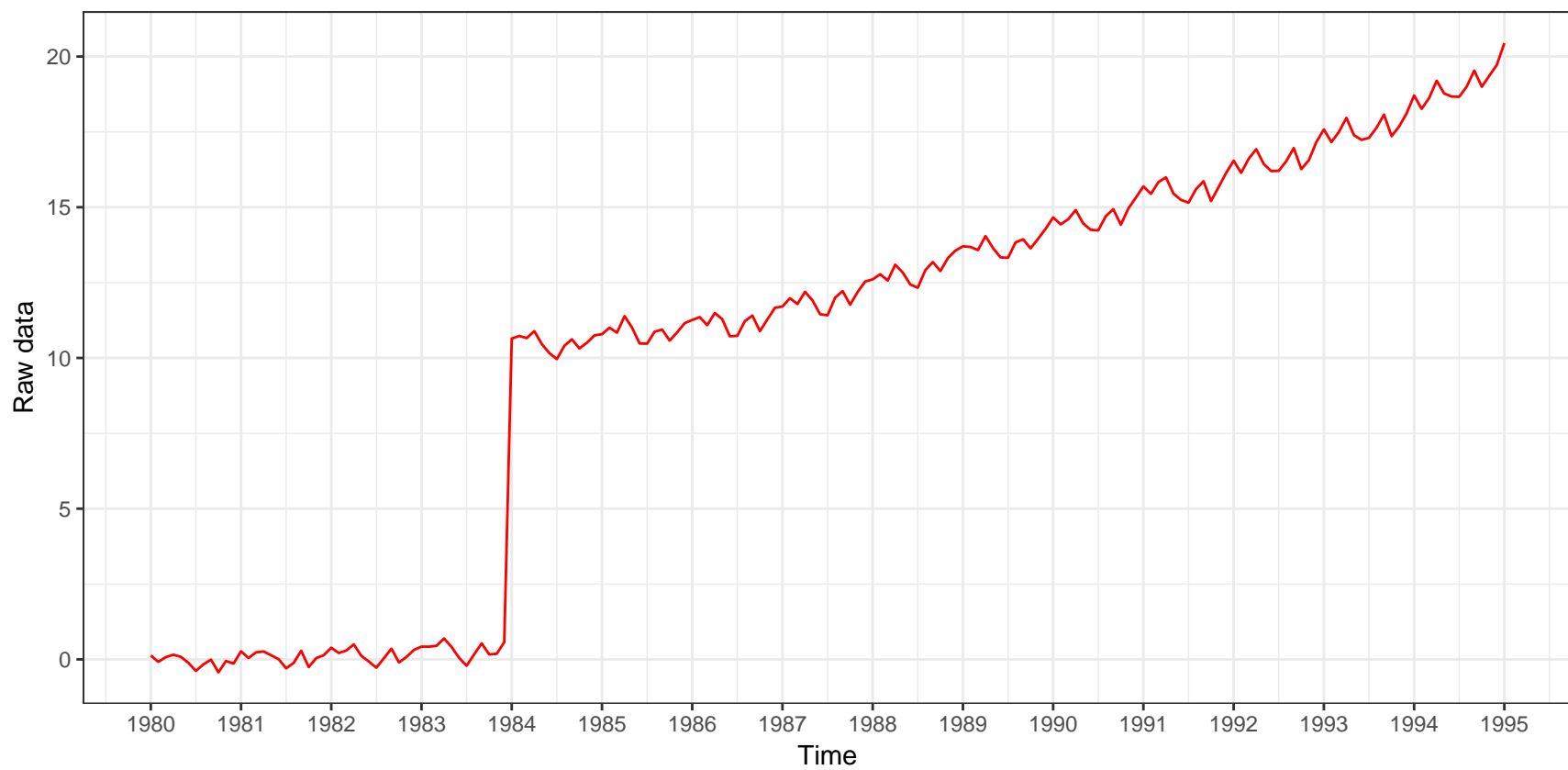


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

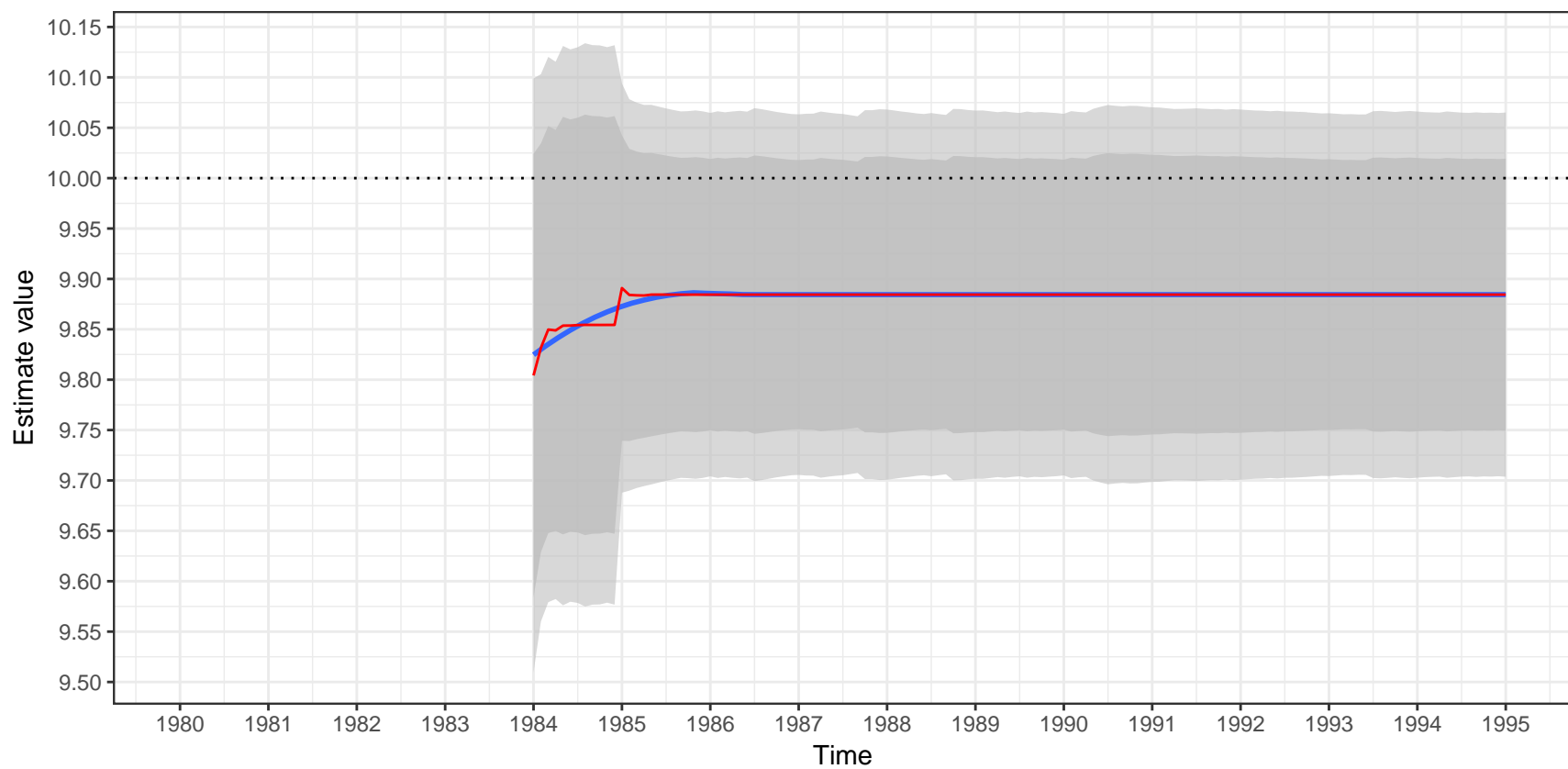


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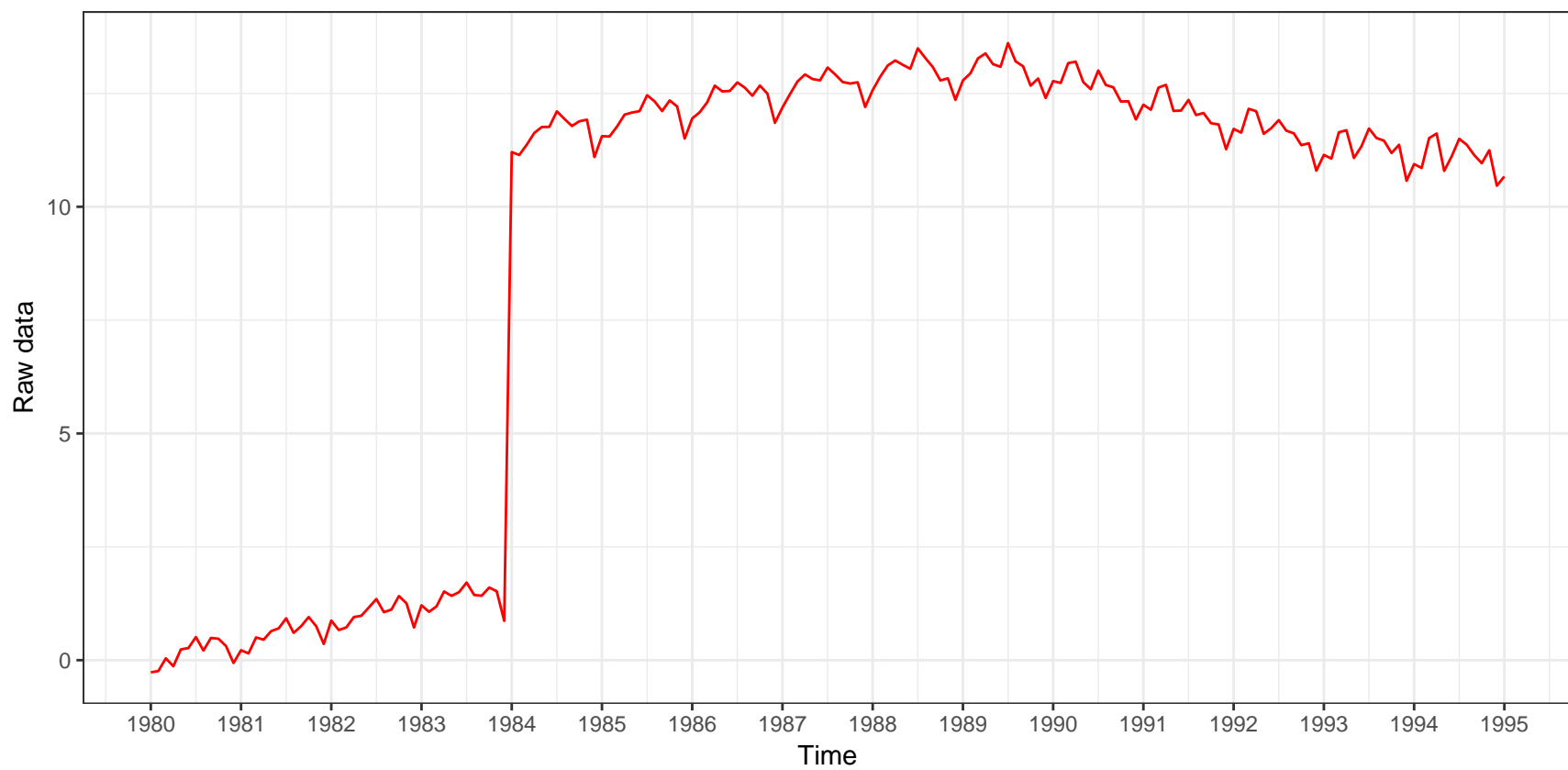


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Estimation of the outlier

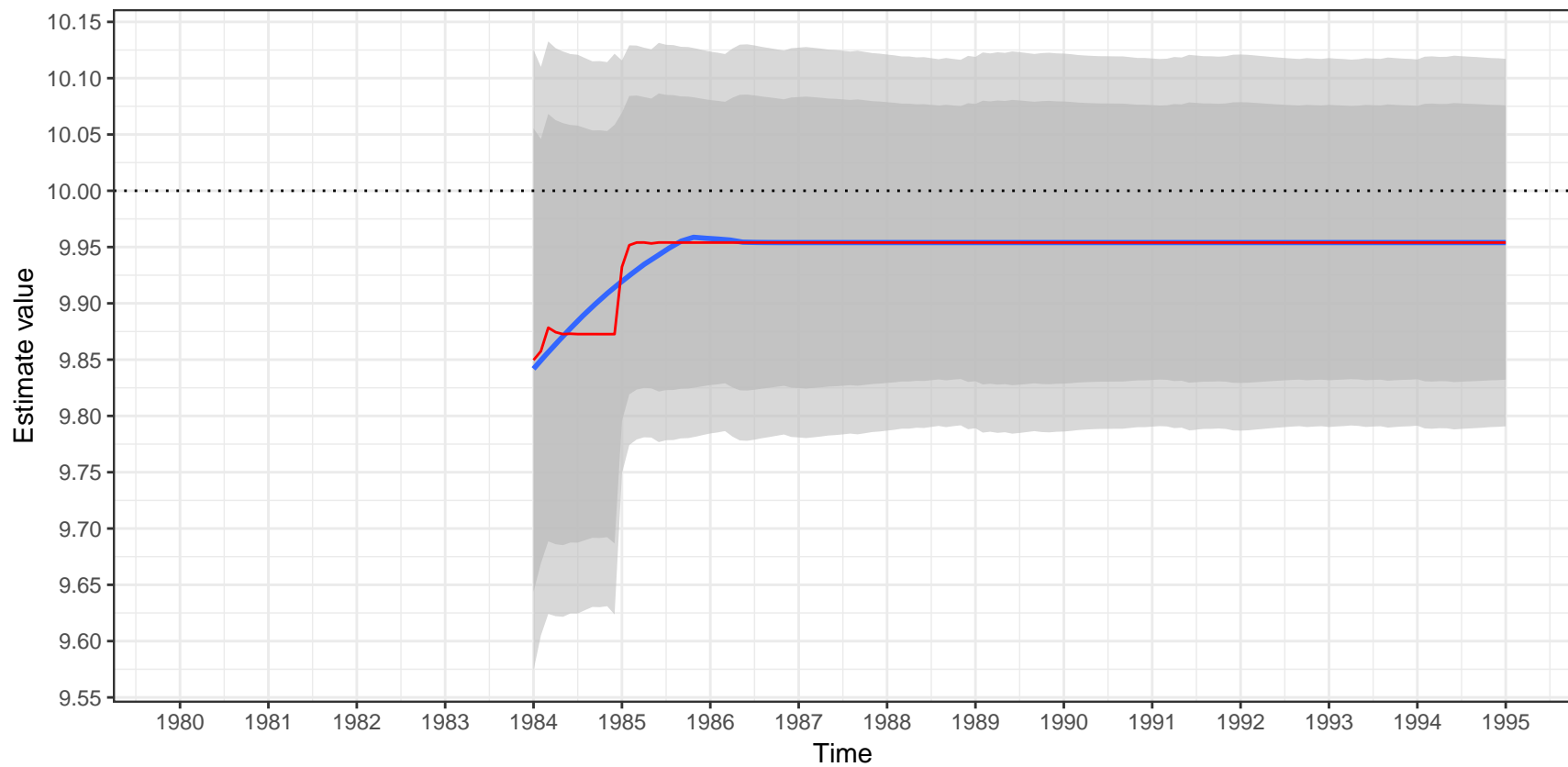


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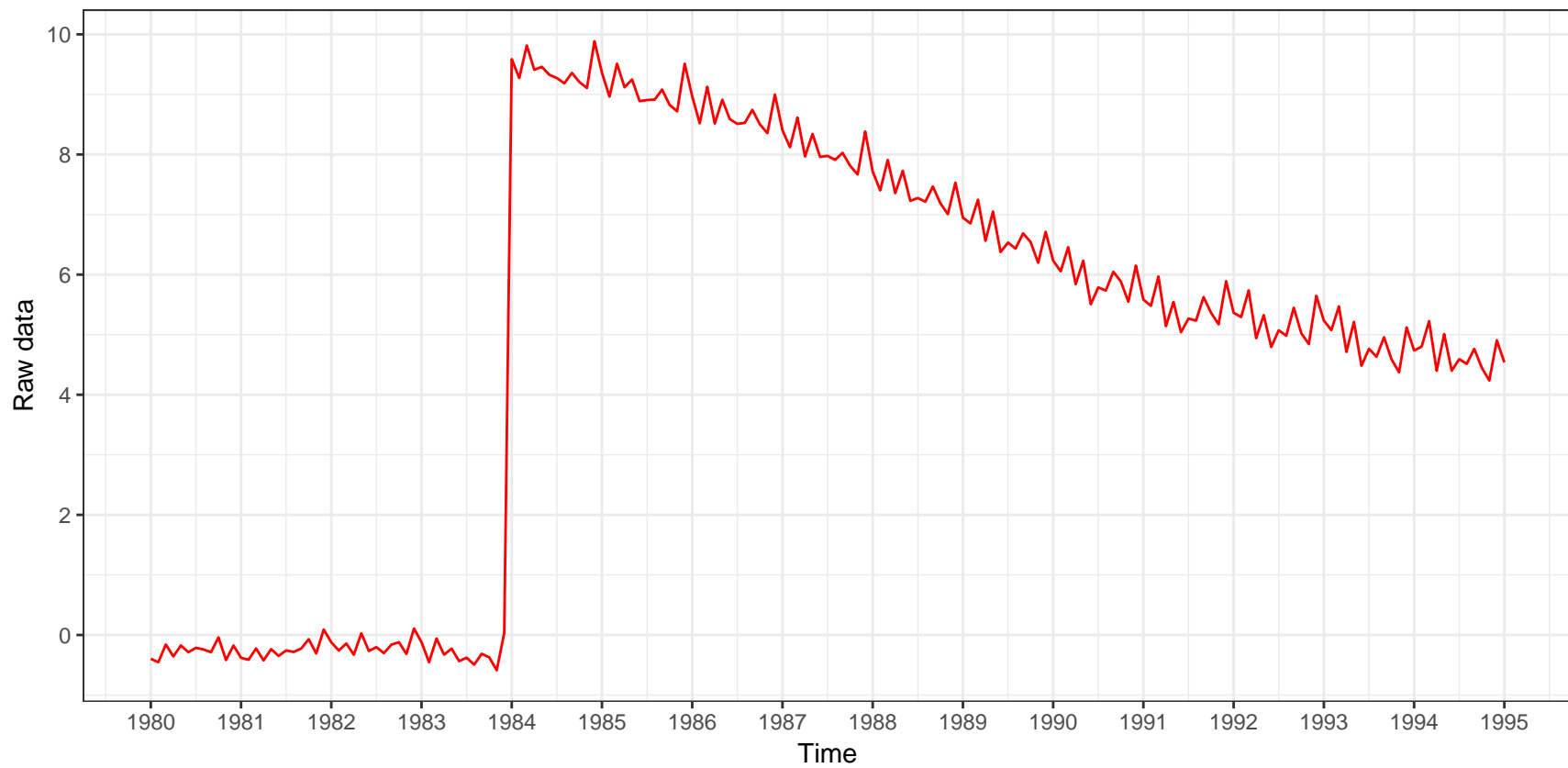


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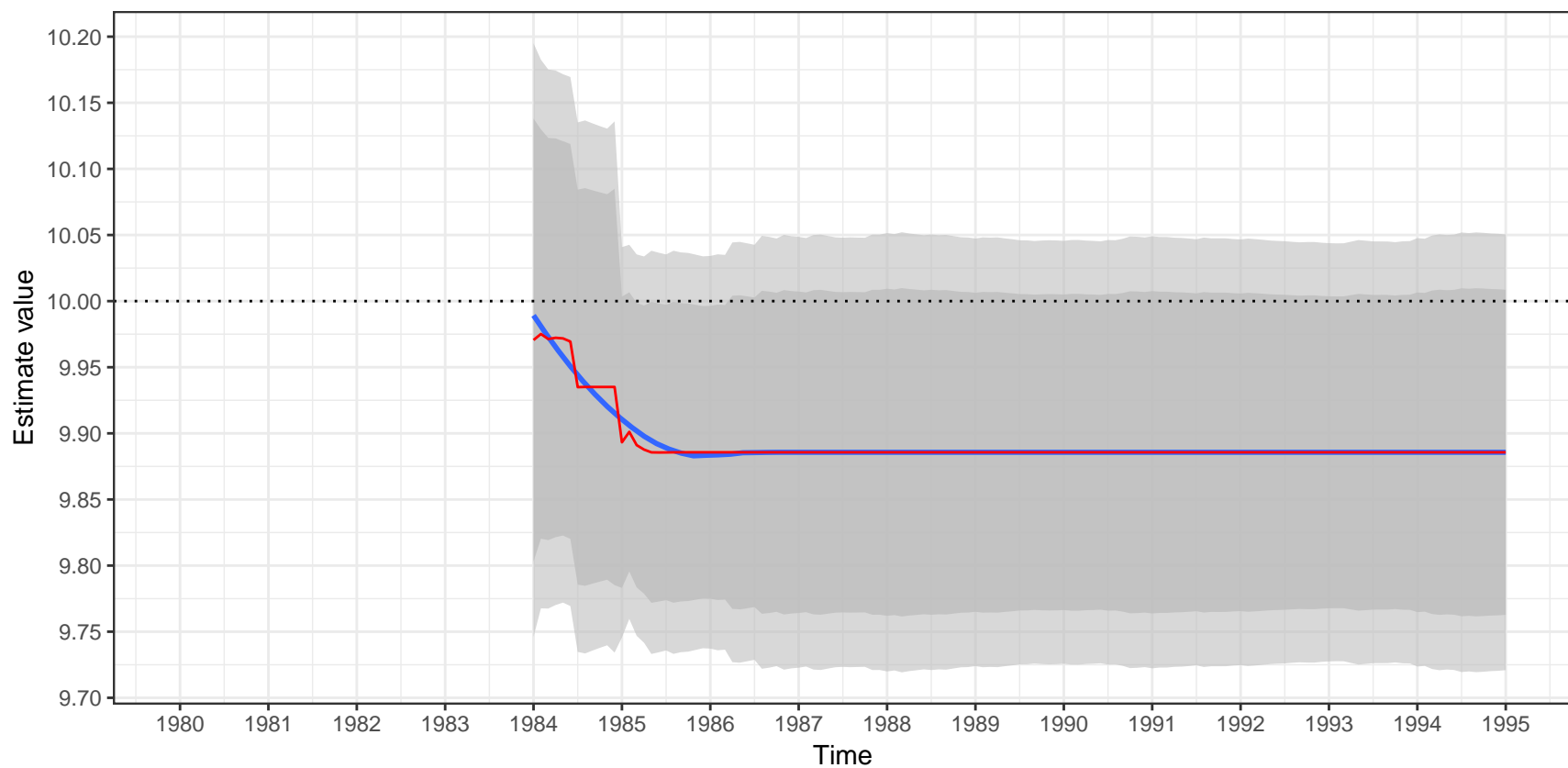


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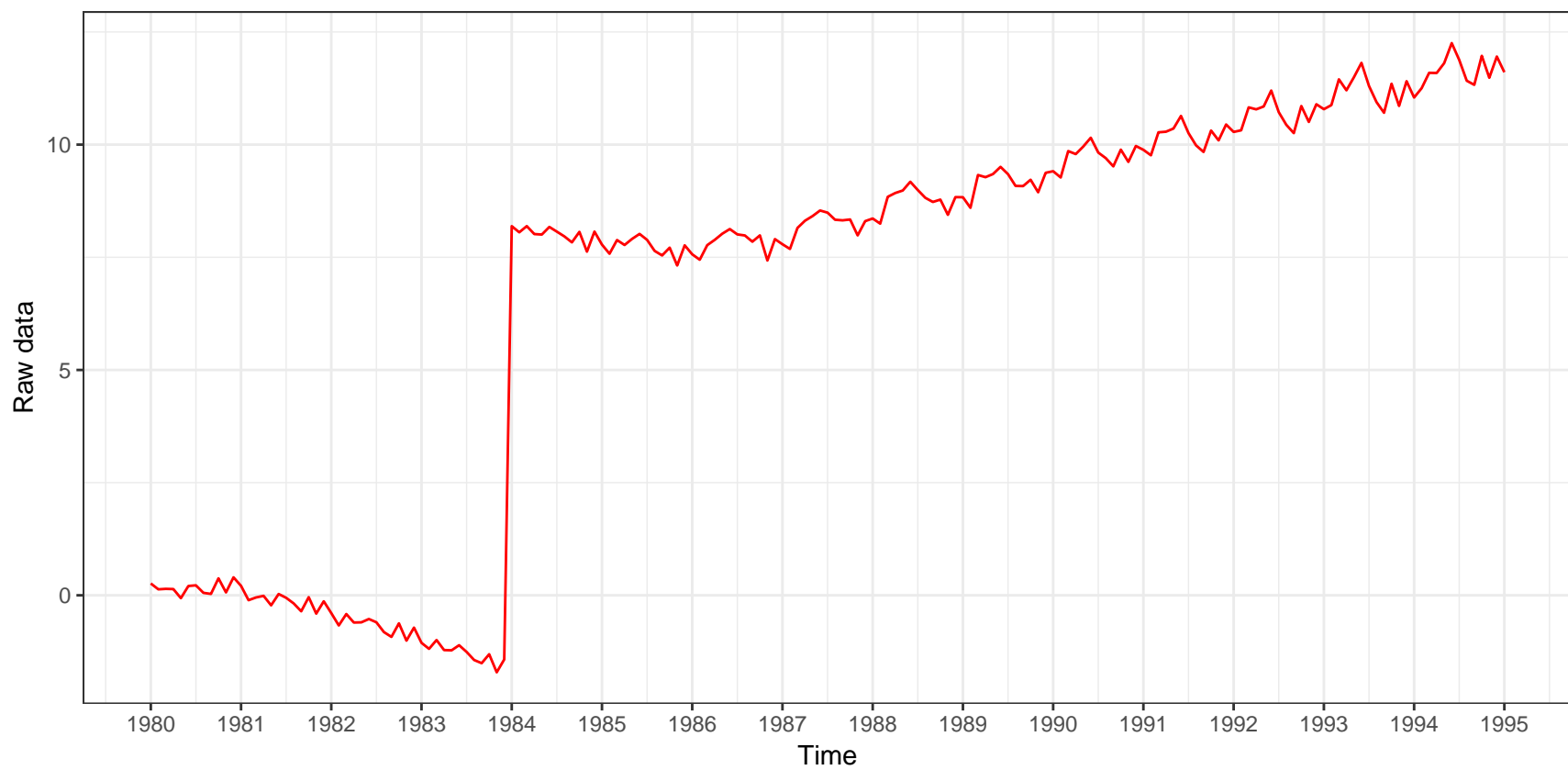


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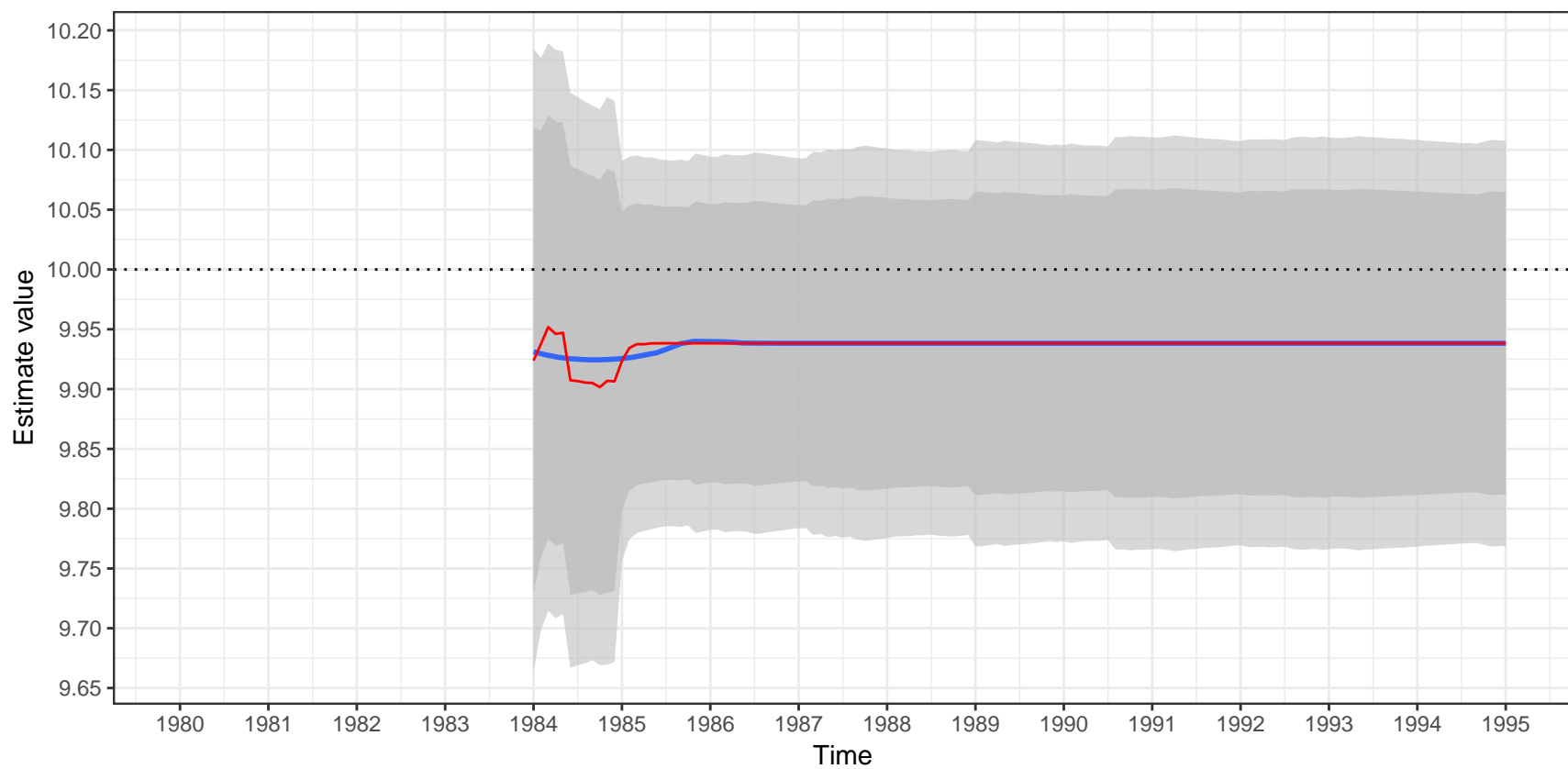


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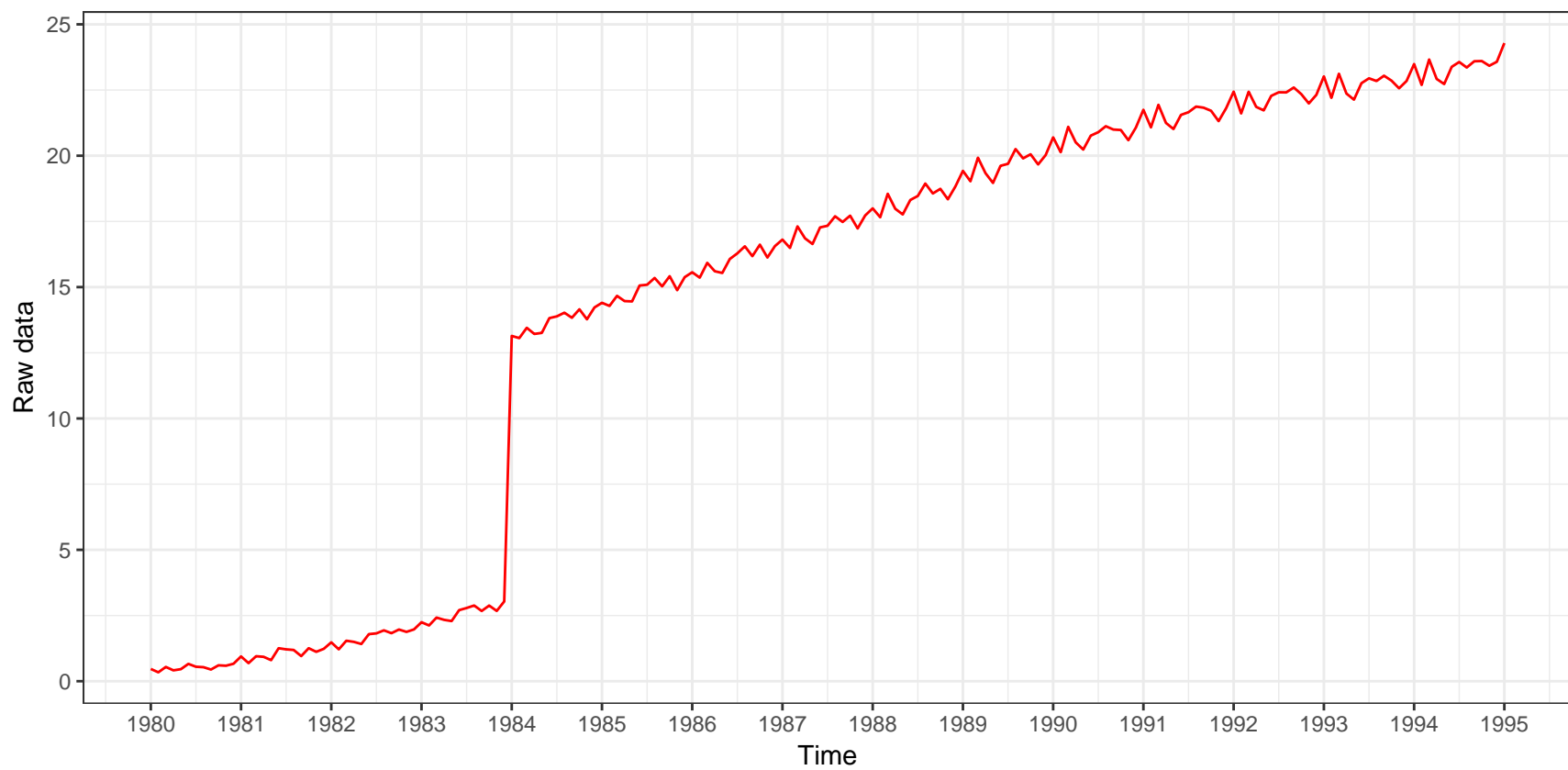


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 $(1-B)(1-B^{12})X_t=(1-0.4B)a_t$

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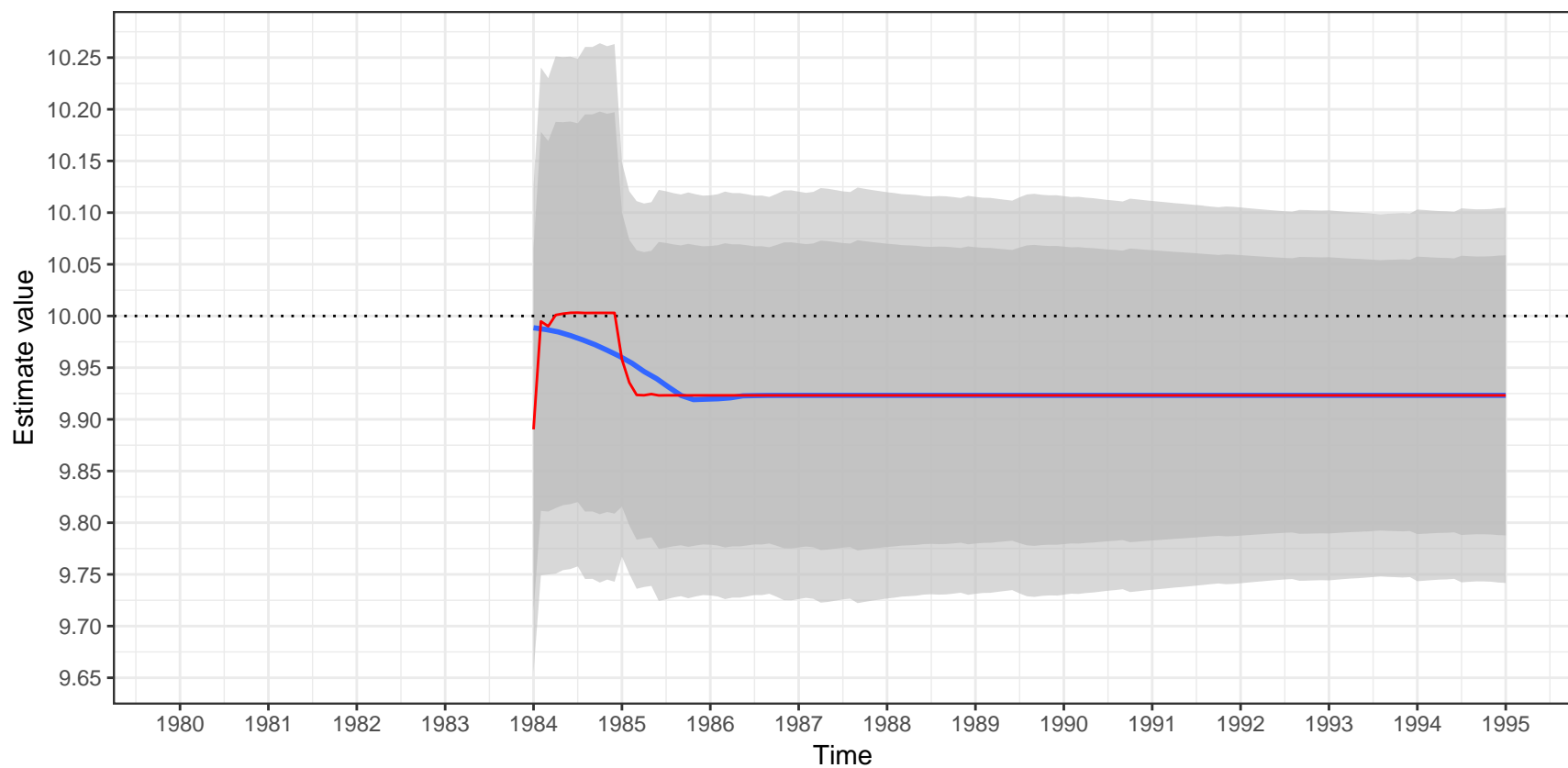


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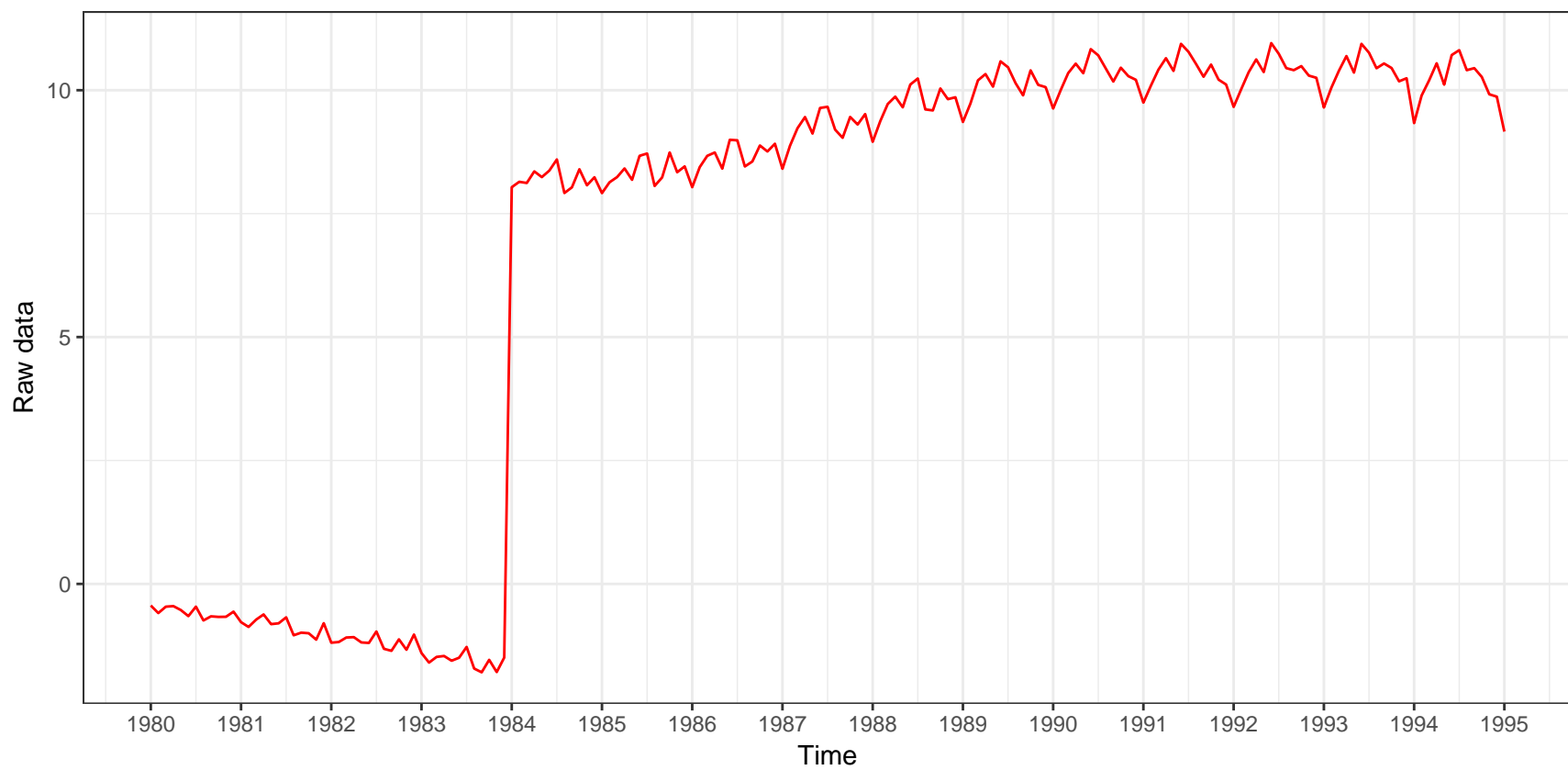


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

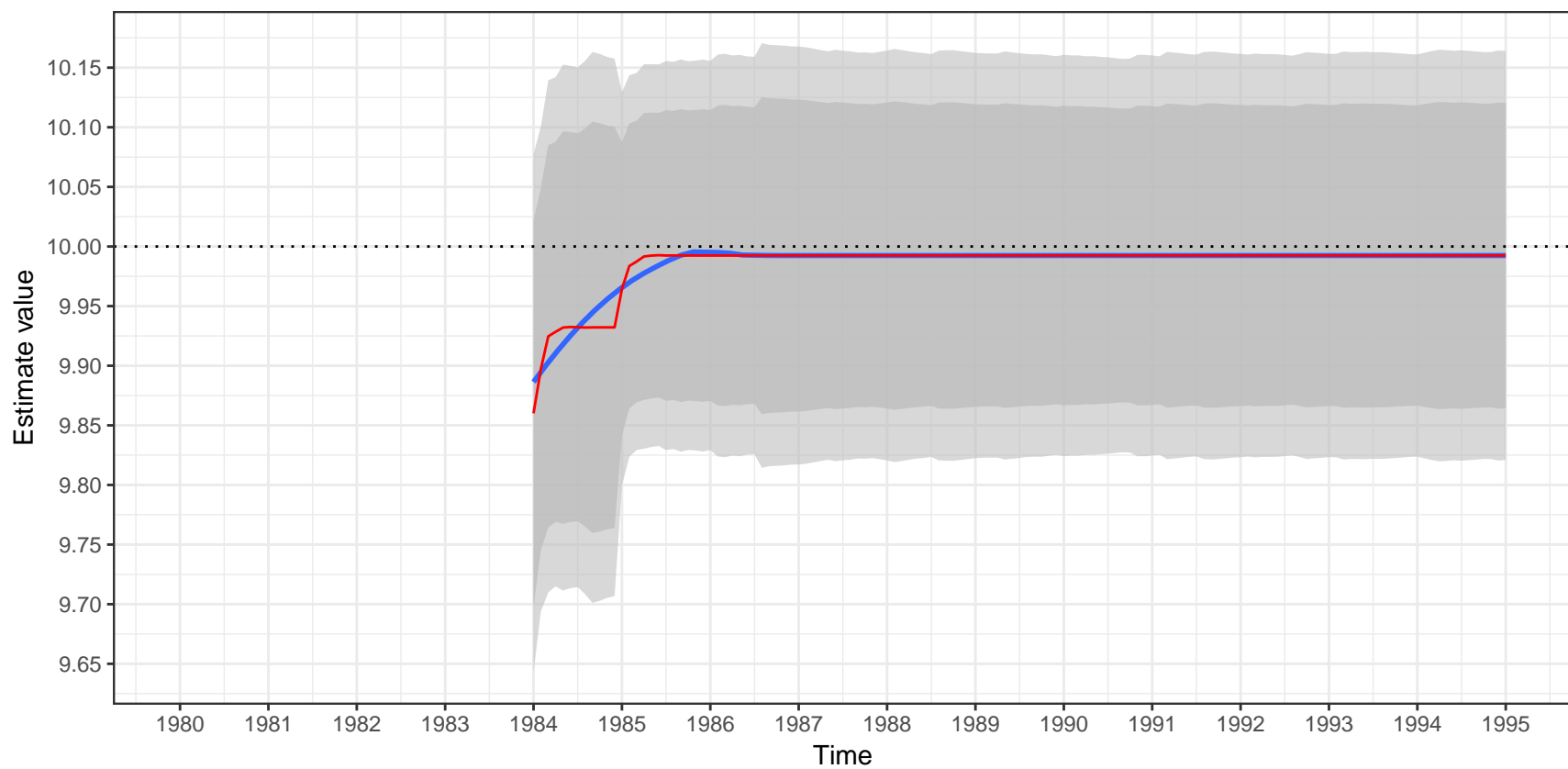


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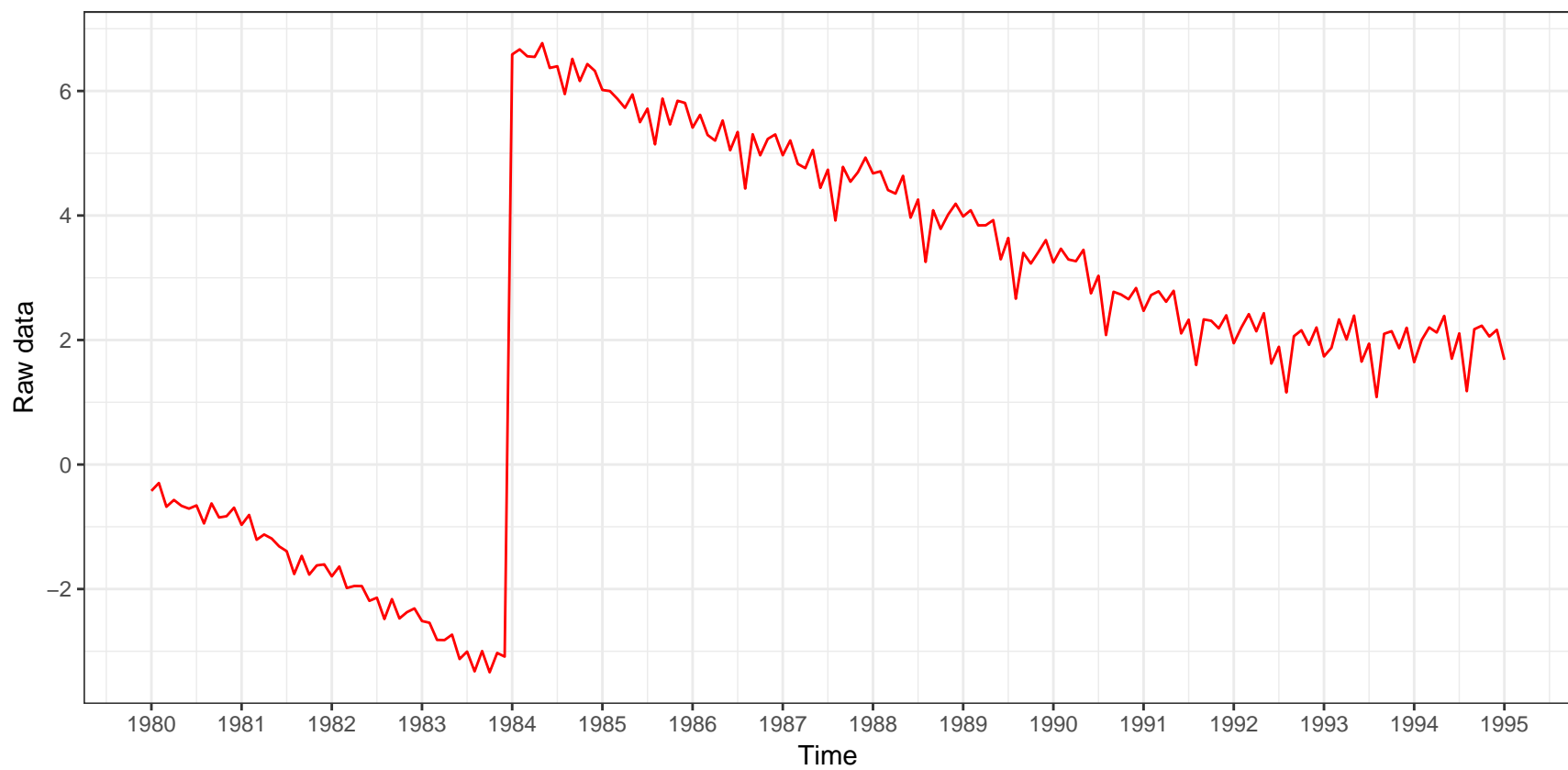


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

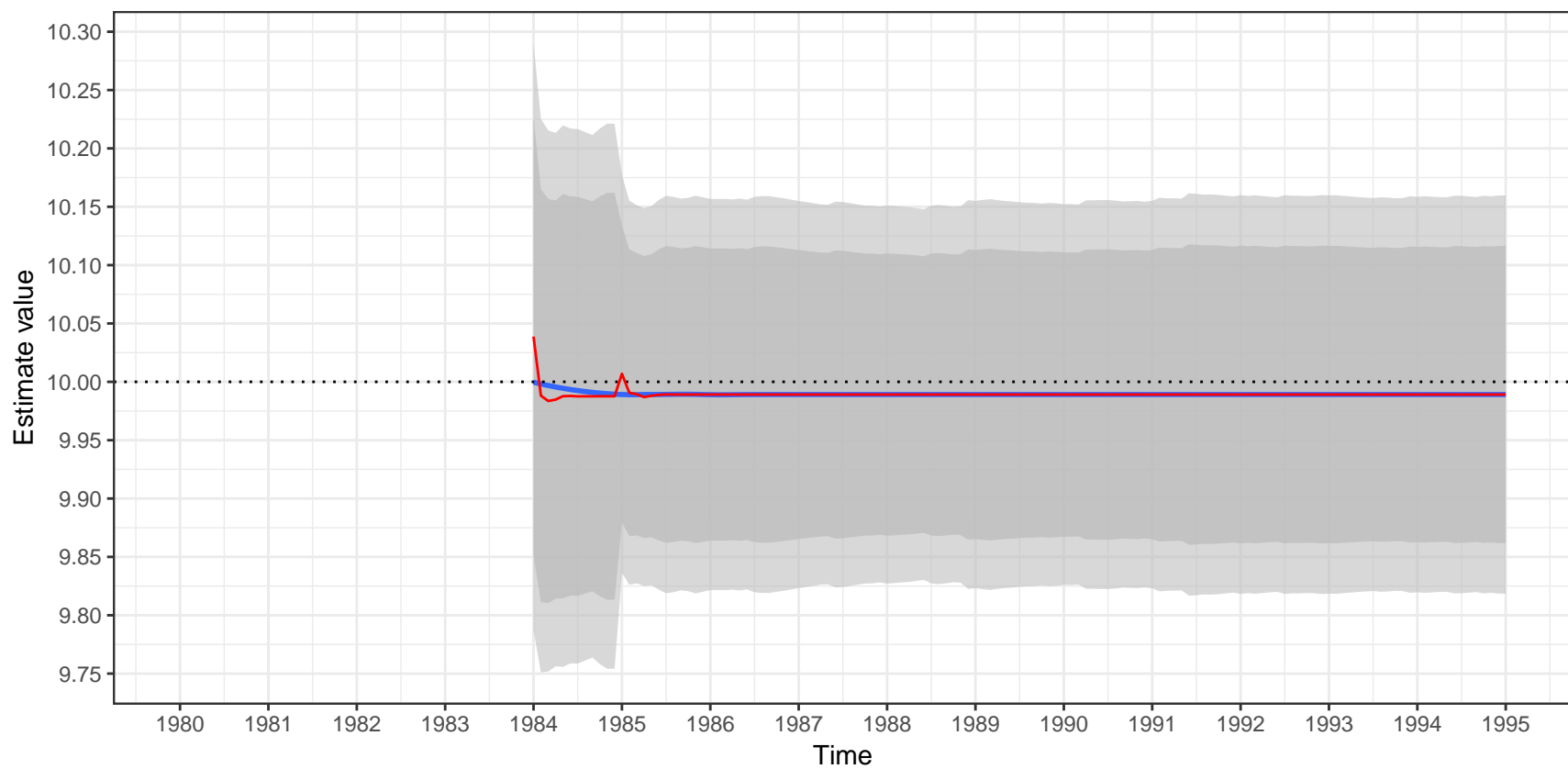


Raw data

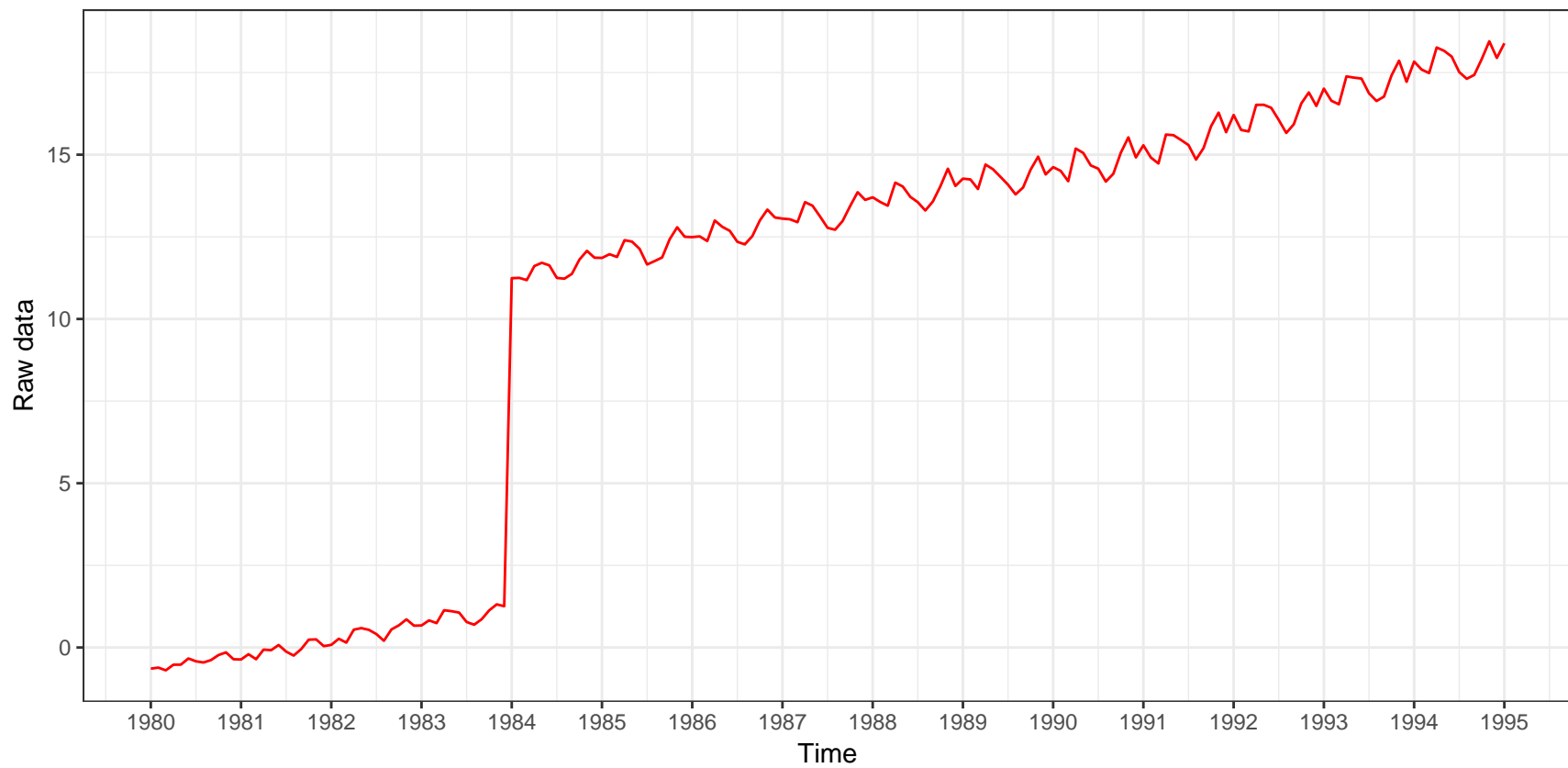


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ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

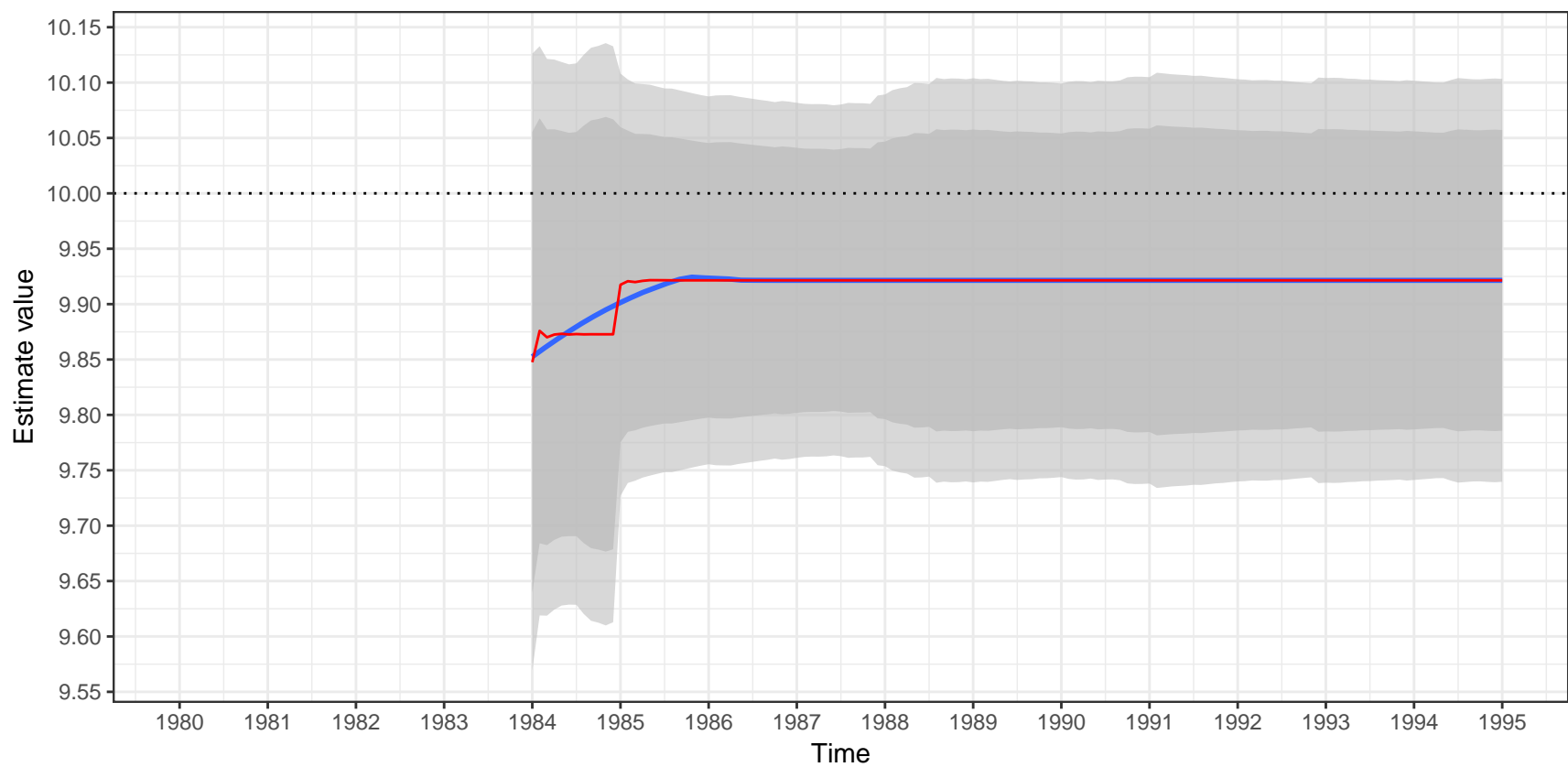


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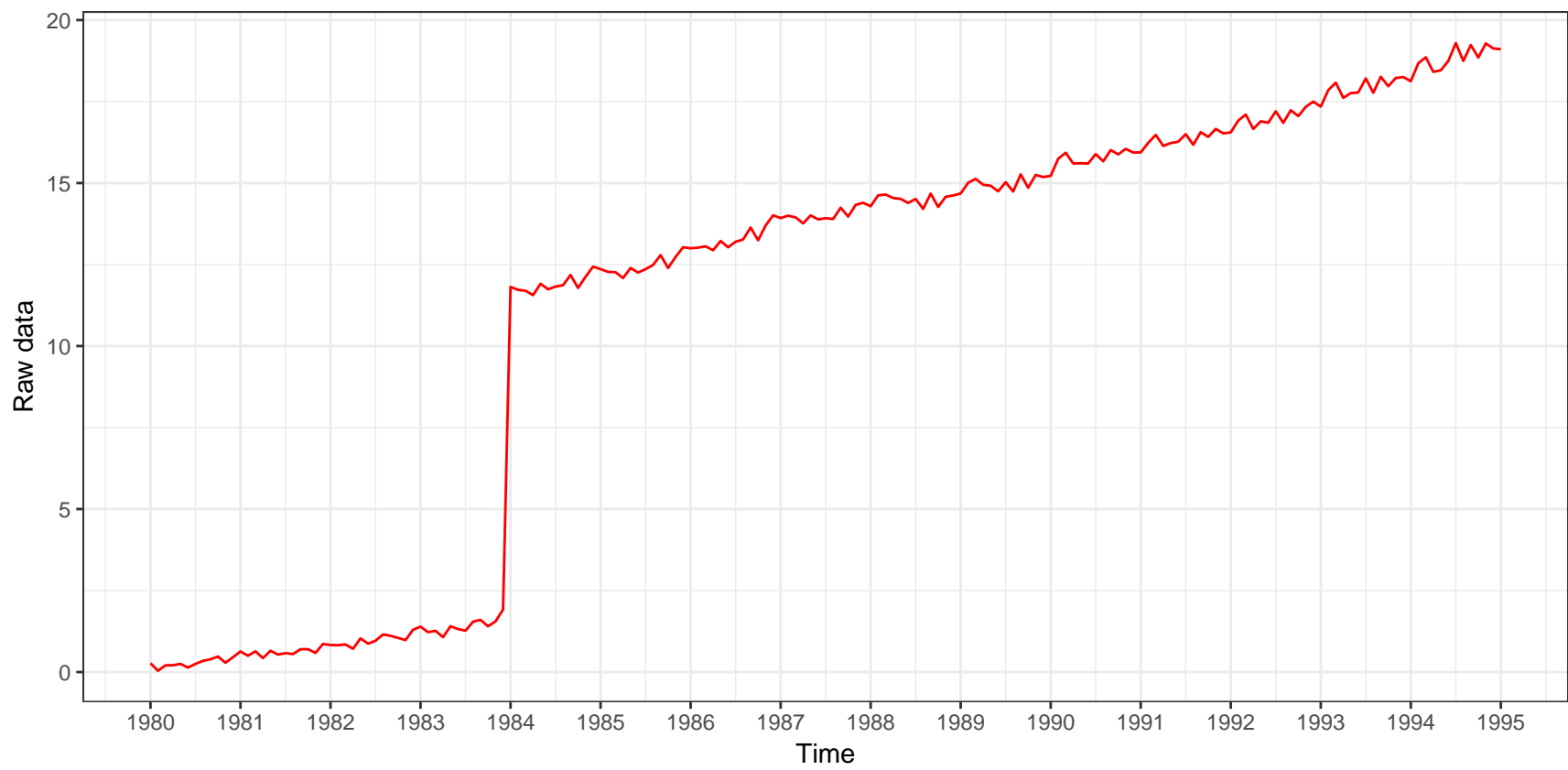


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

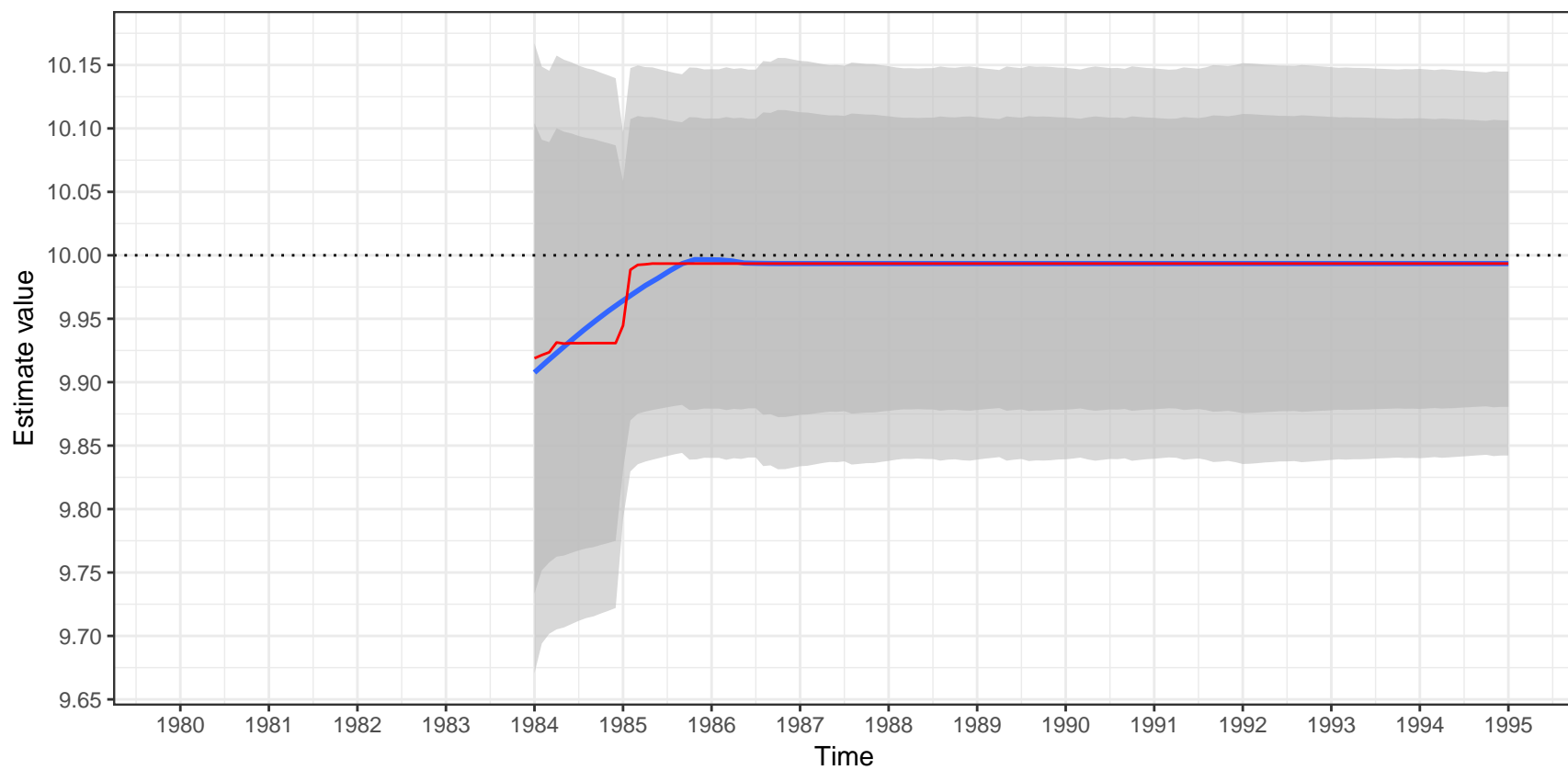


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

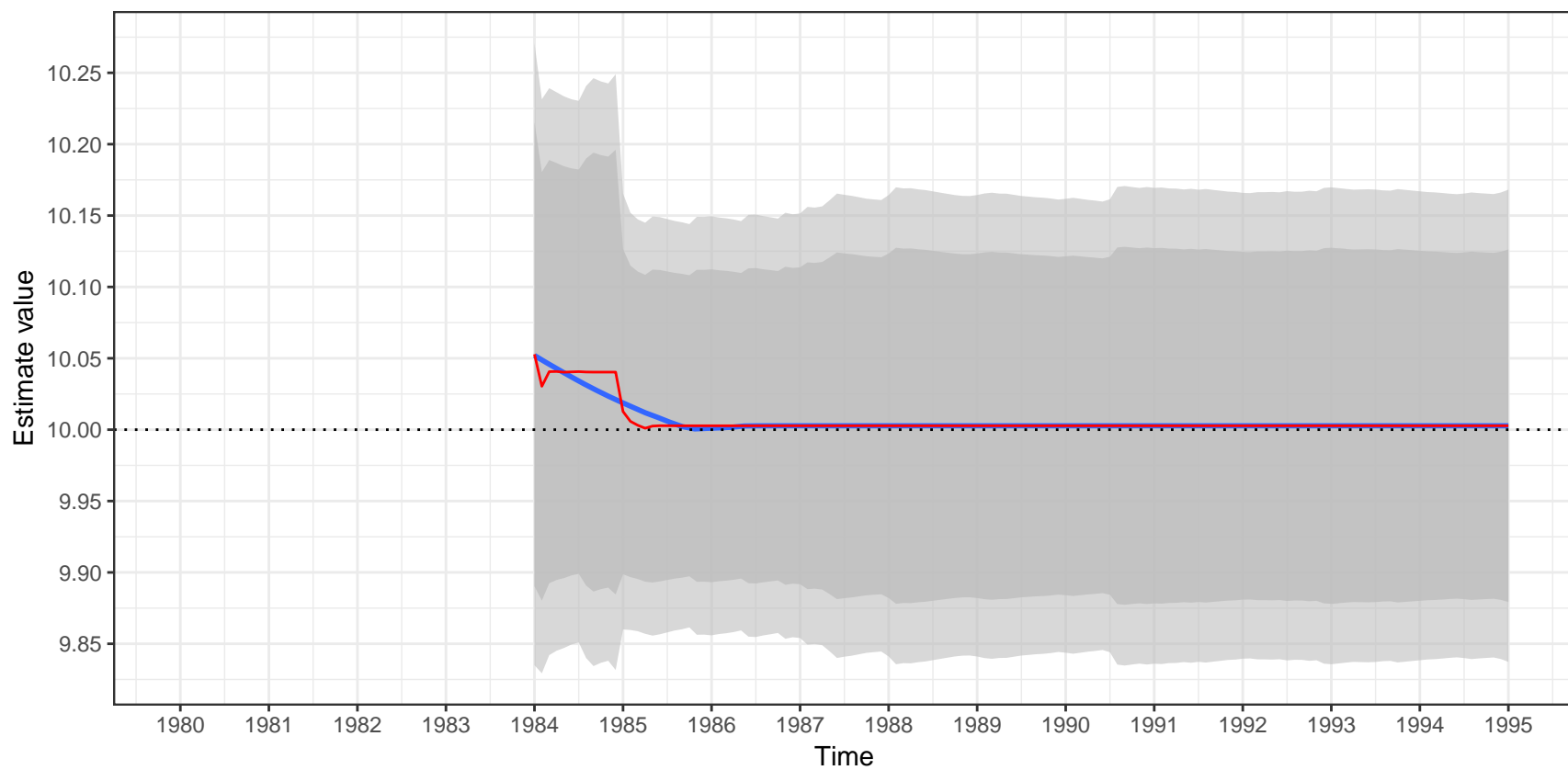


Raw data

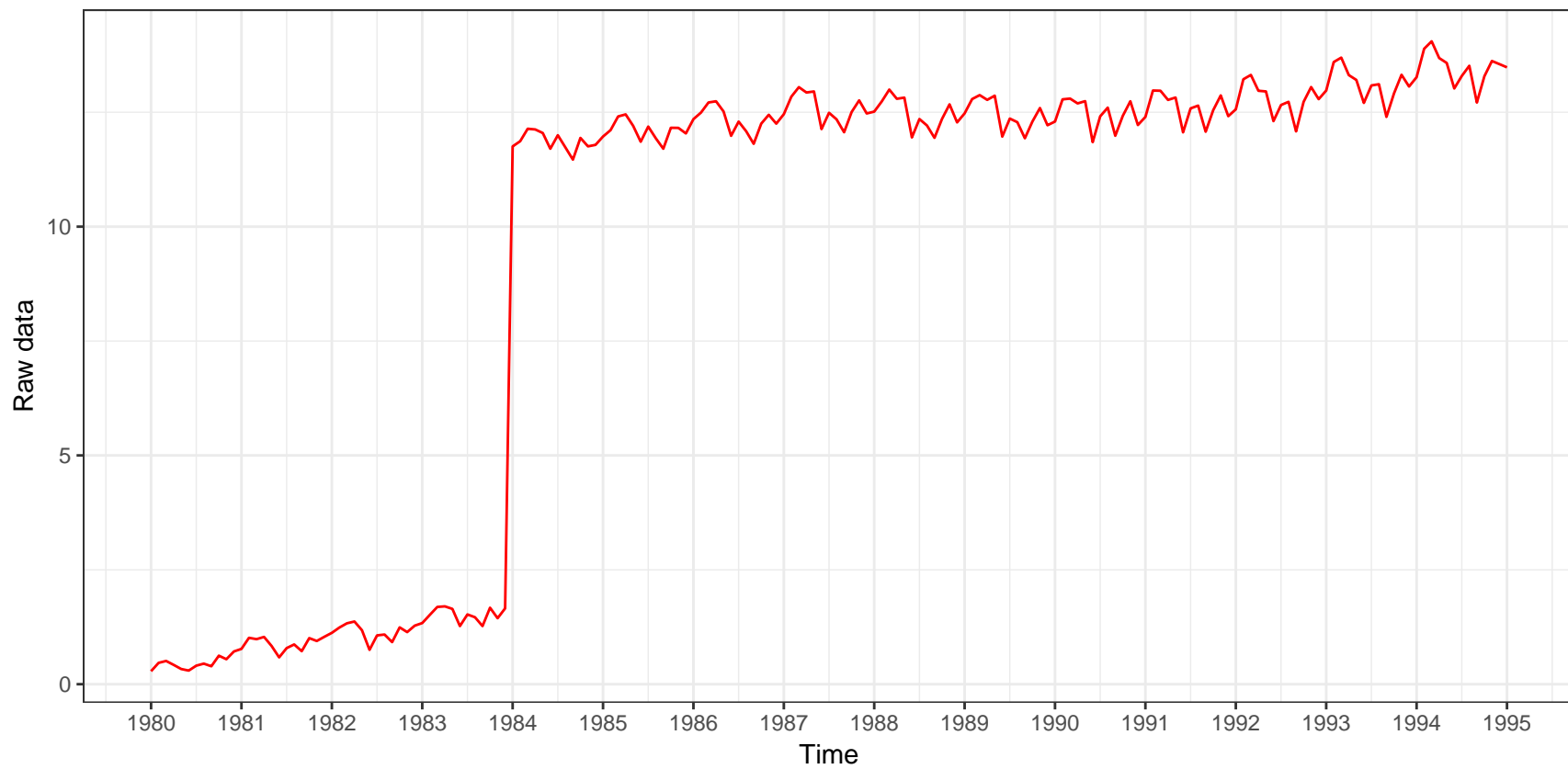


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

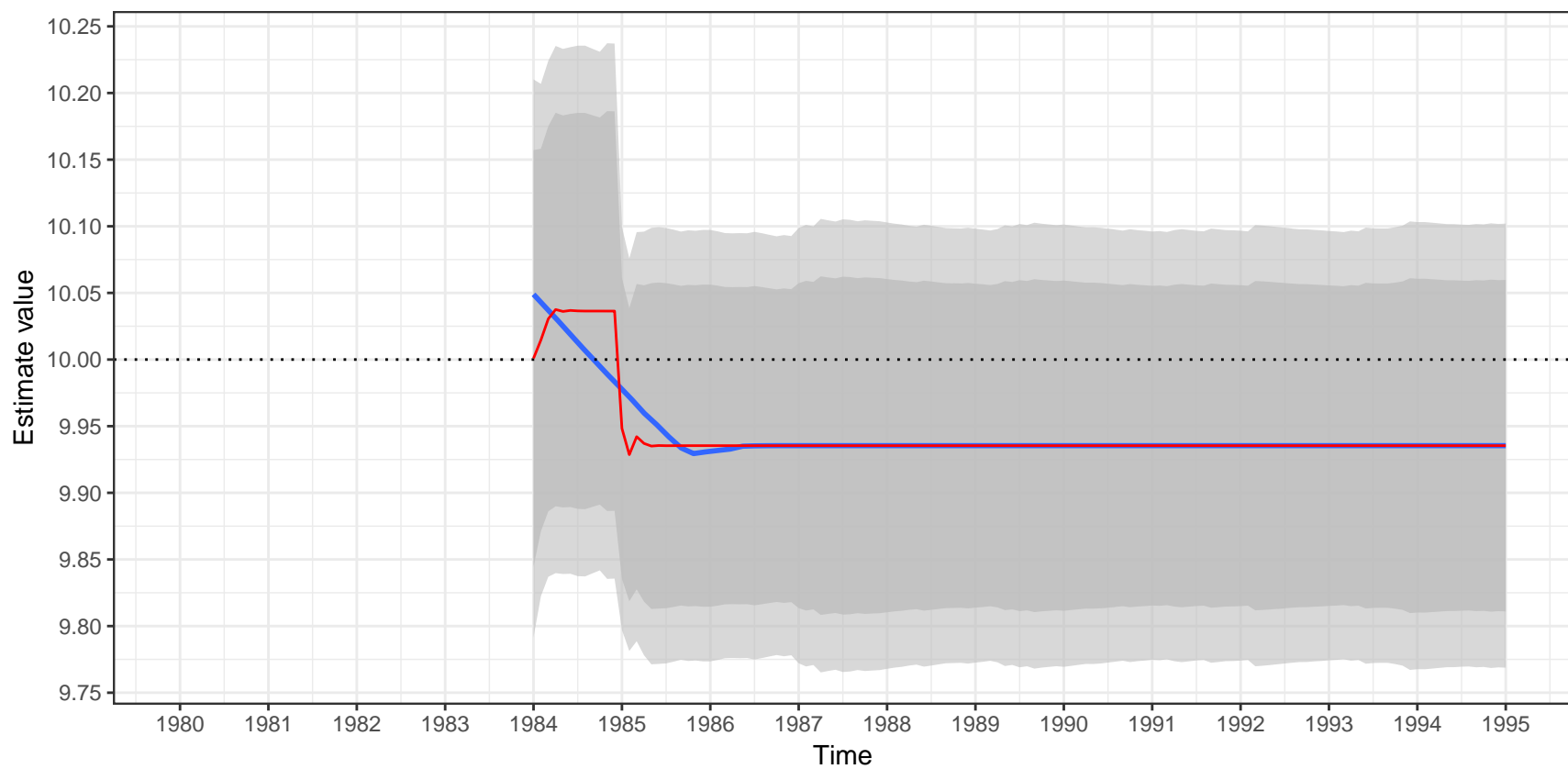


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

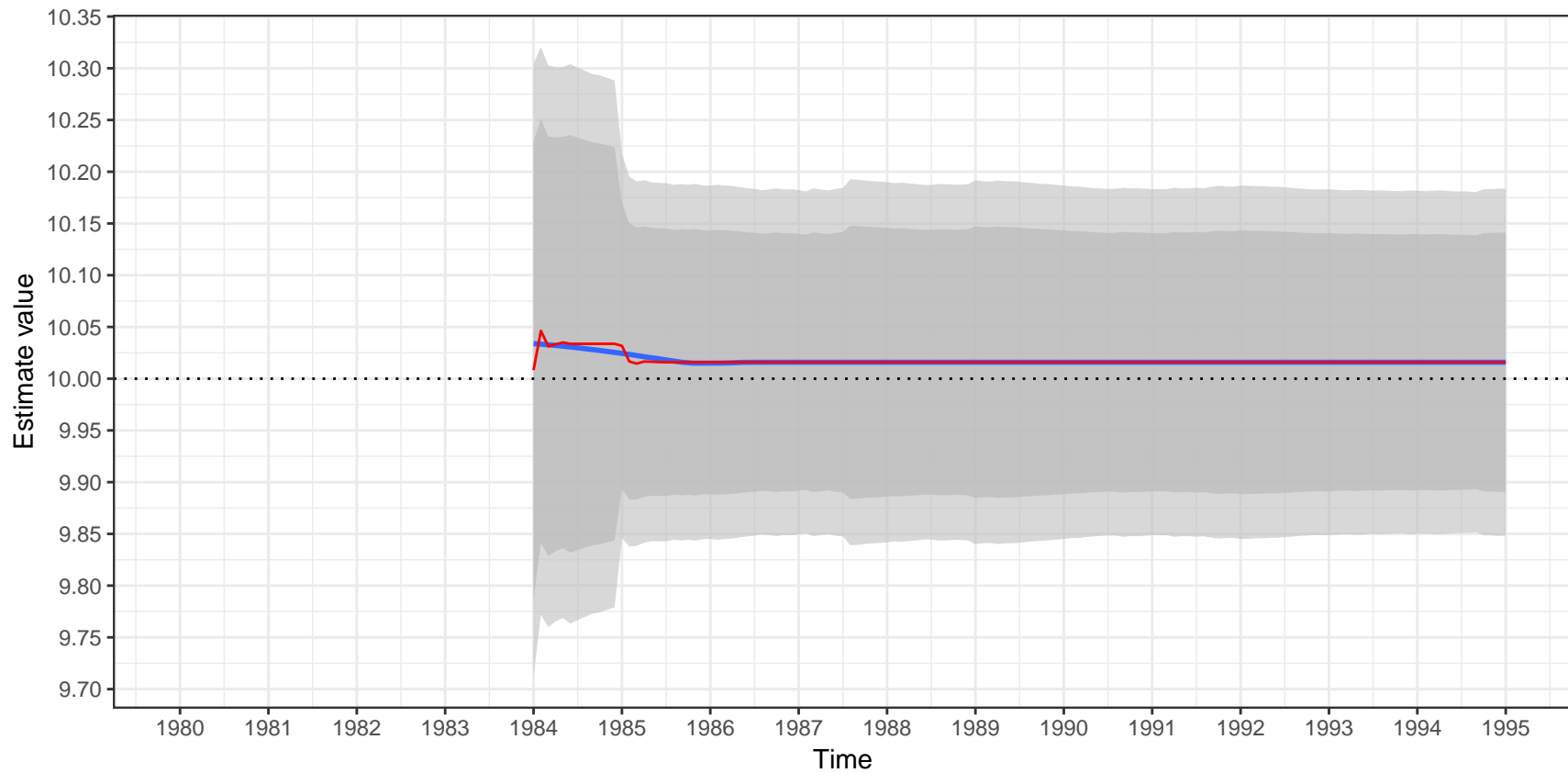


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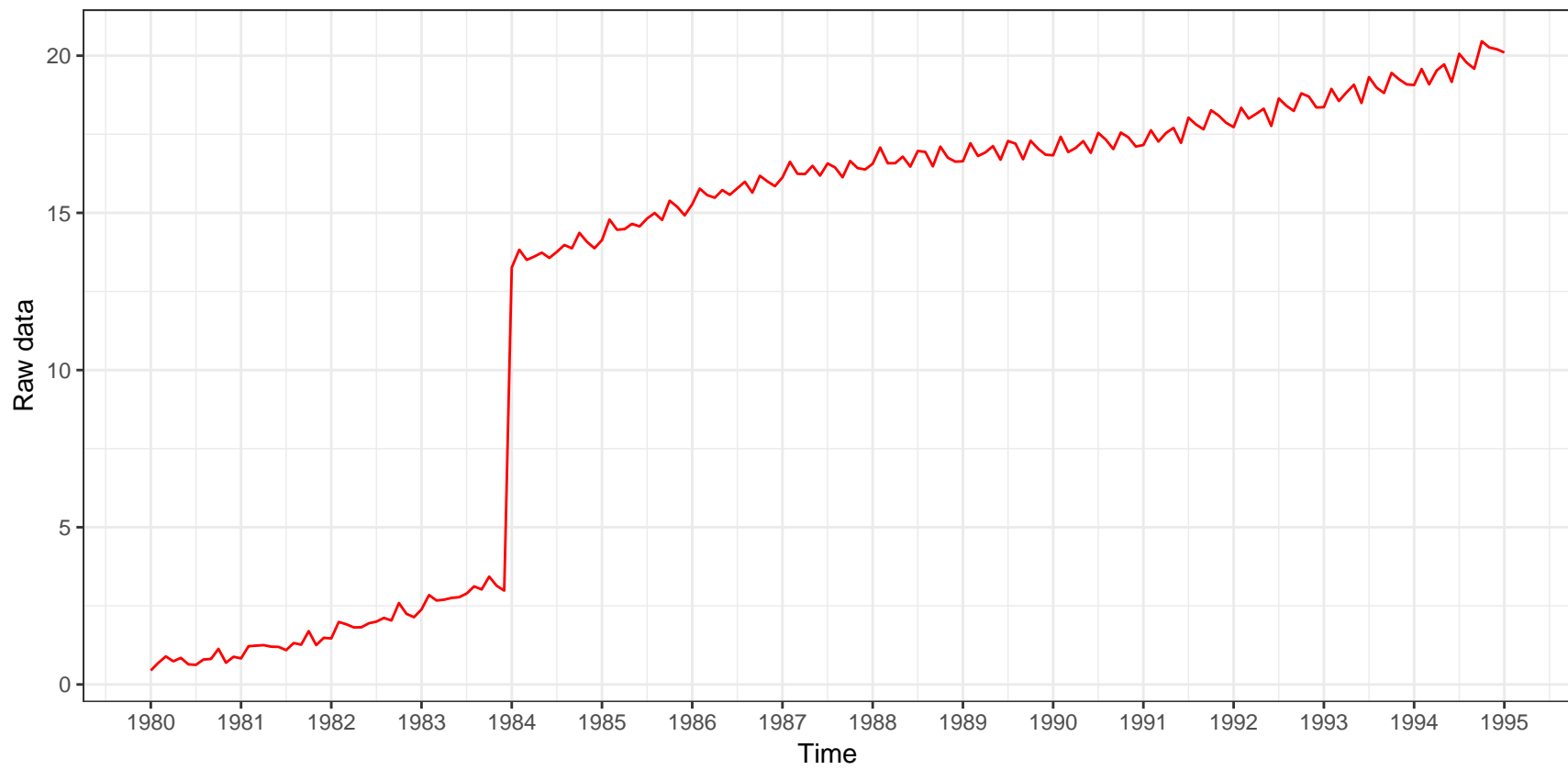


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

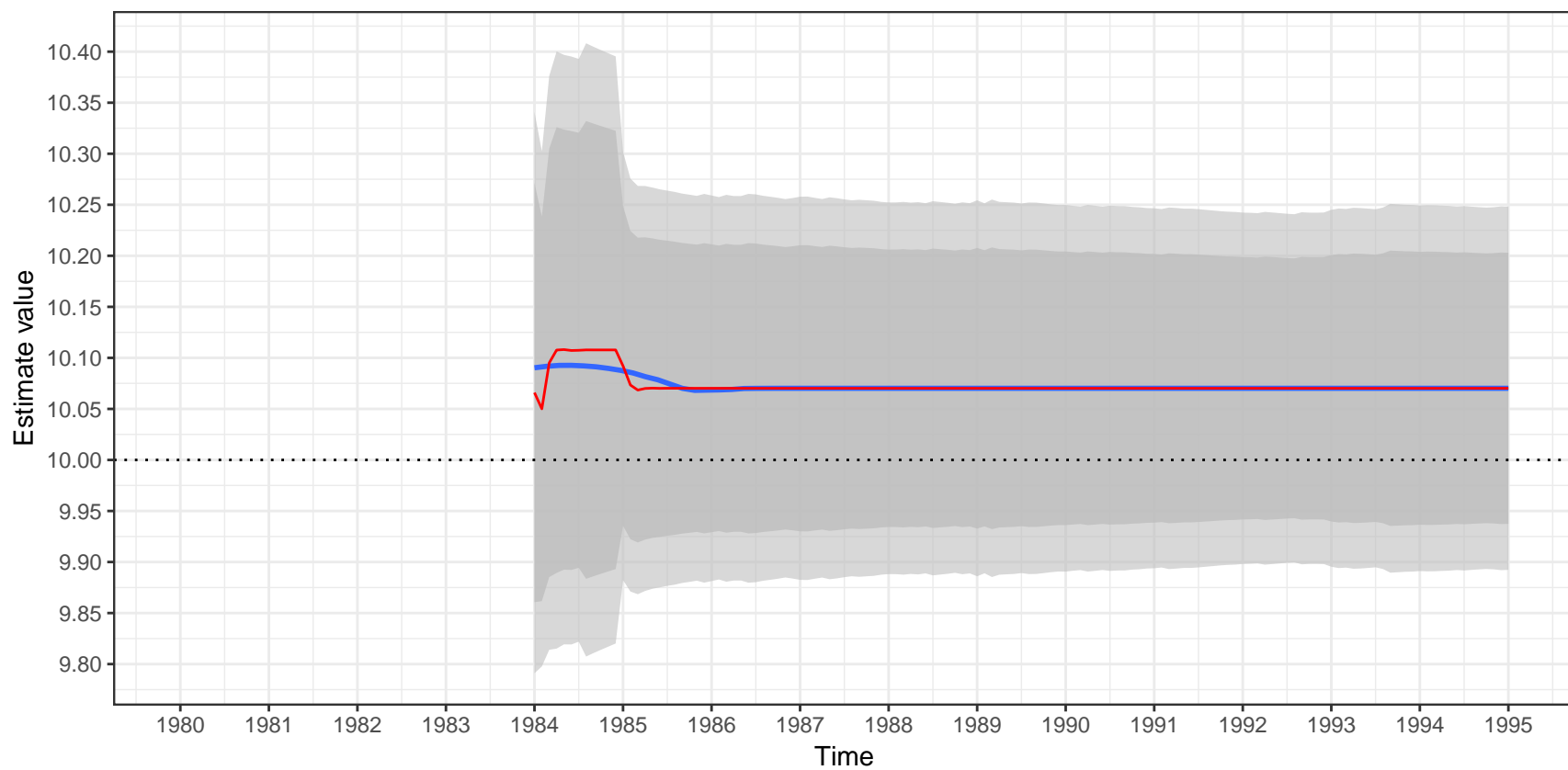


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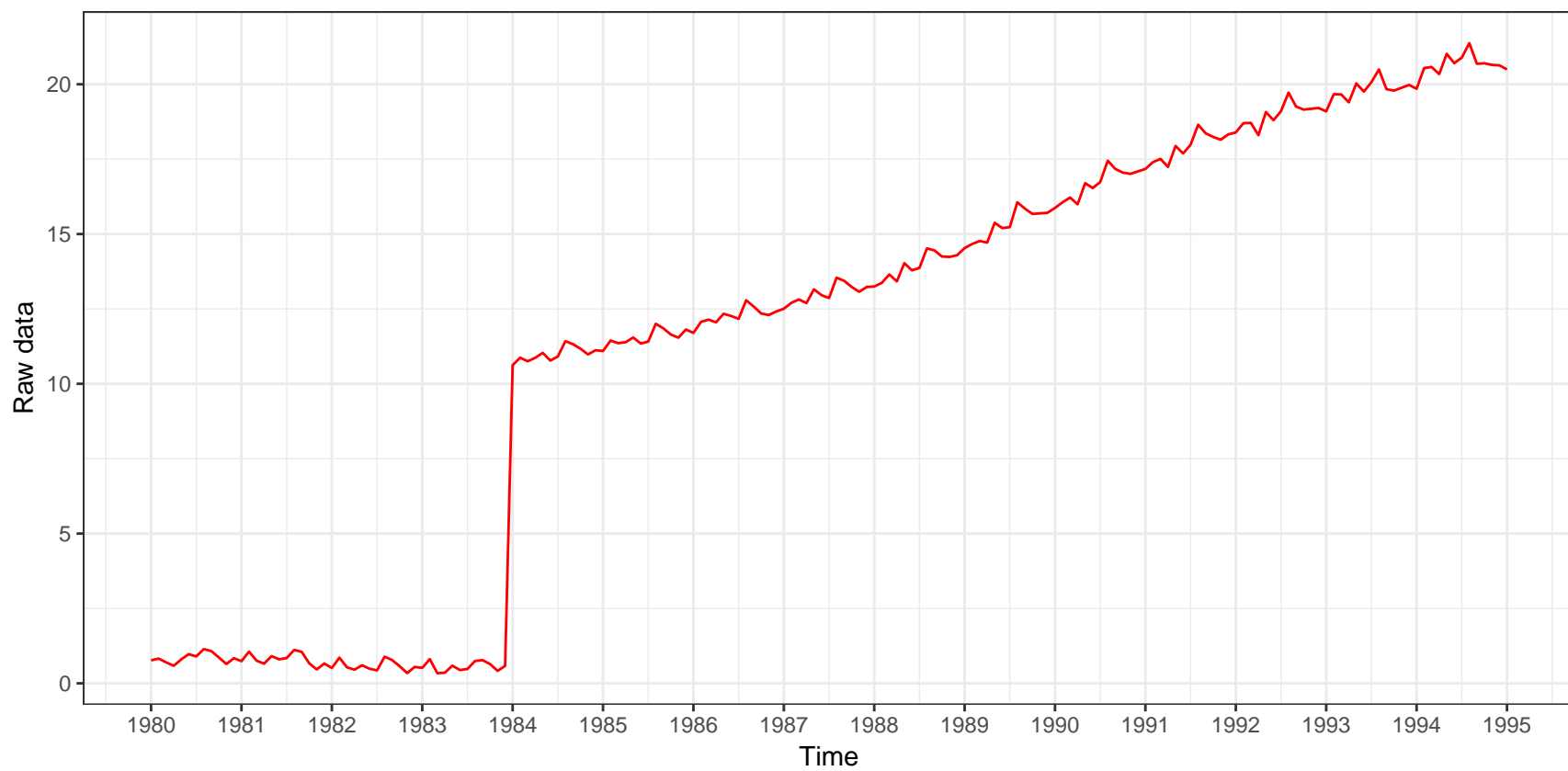


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

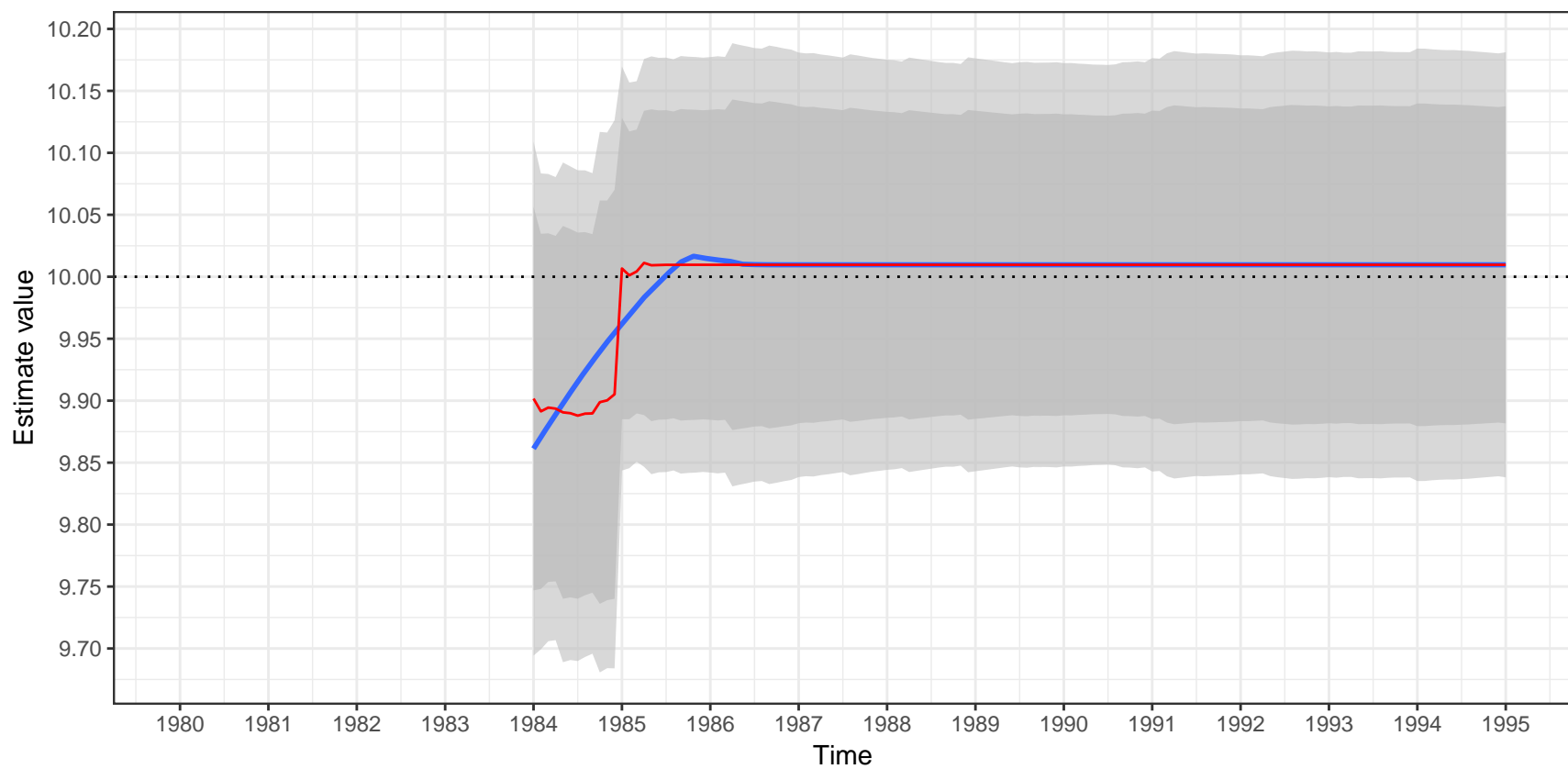


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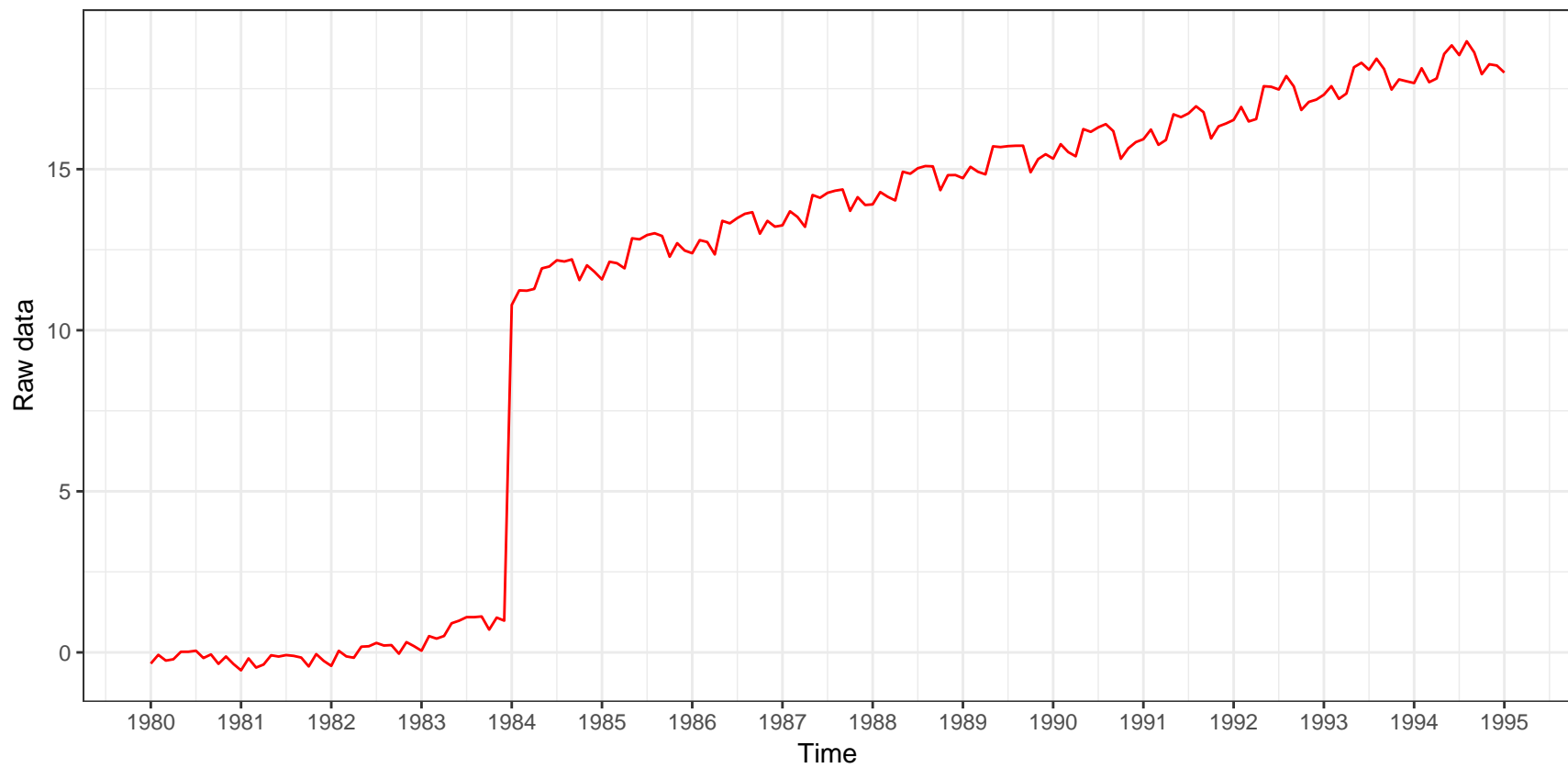


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

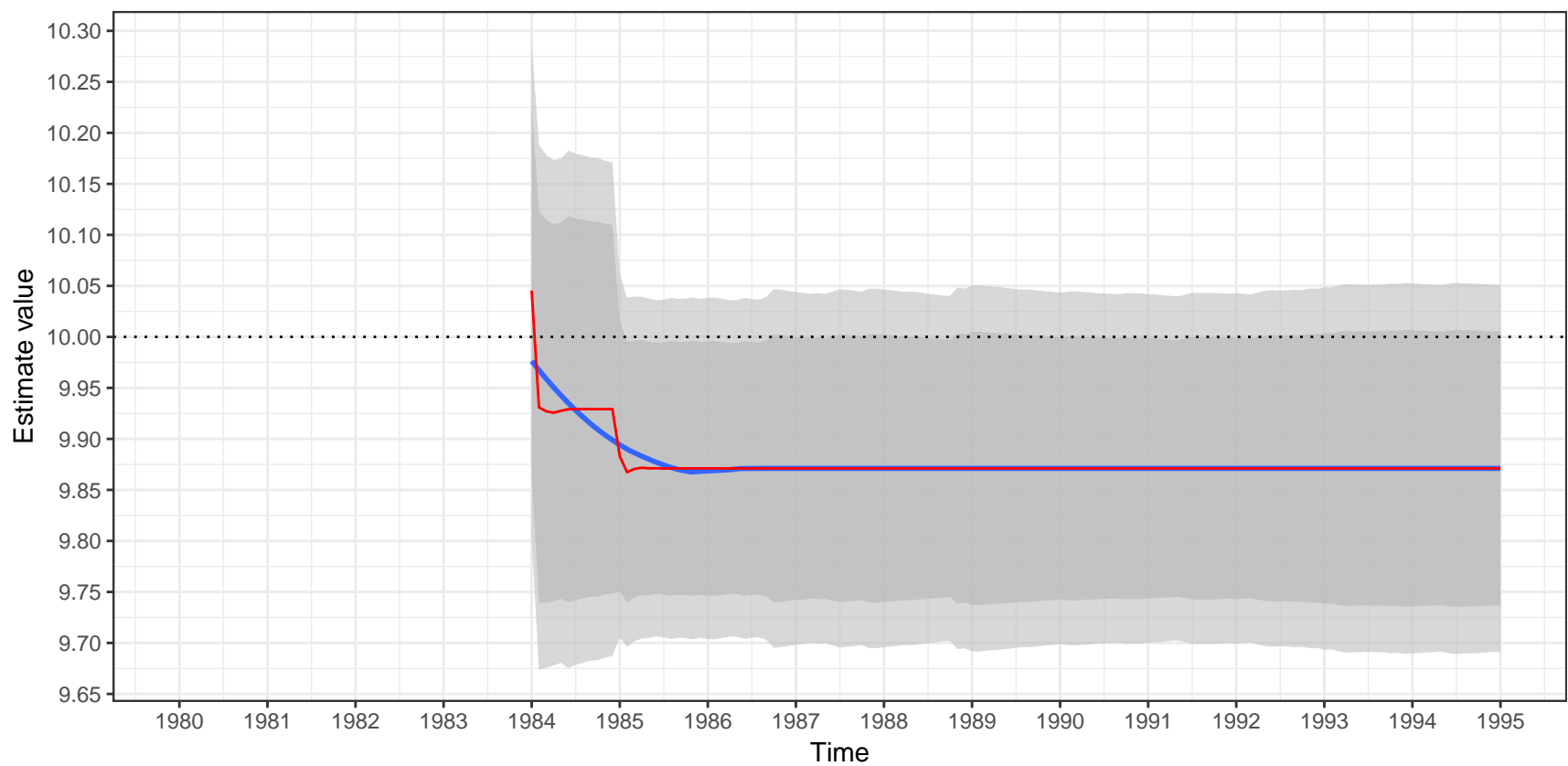


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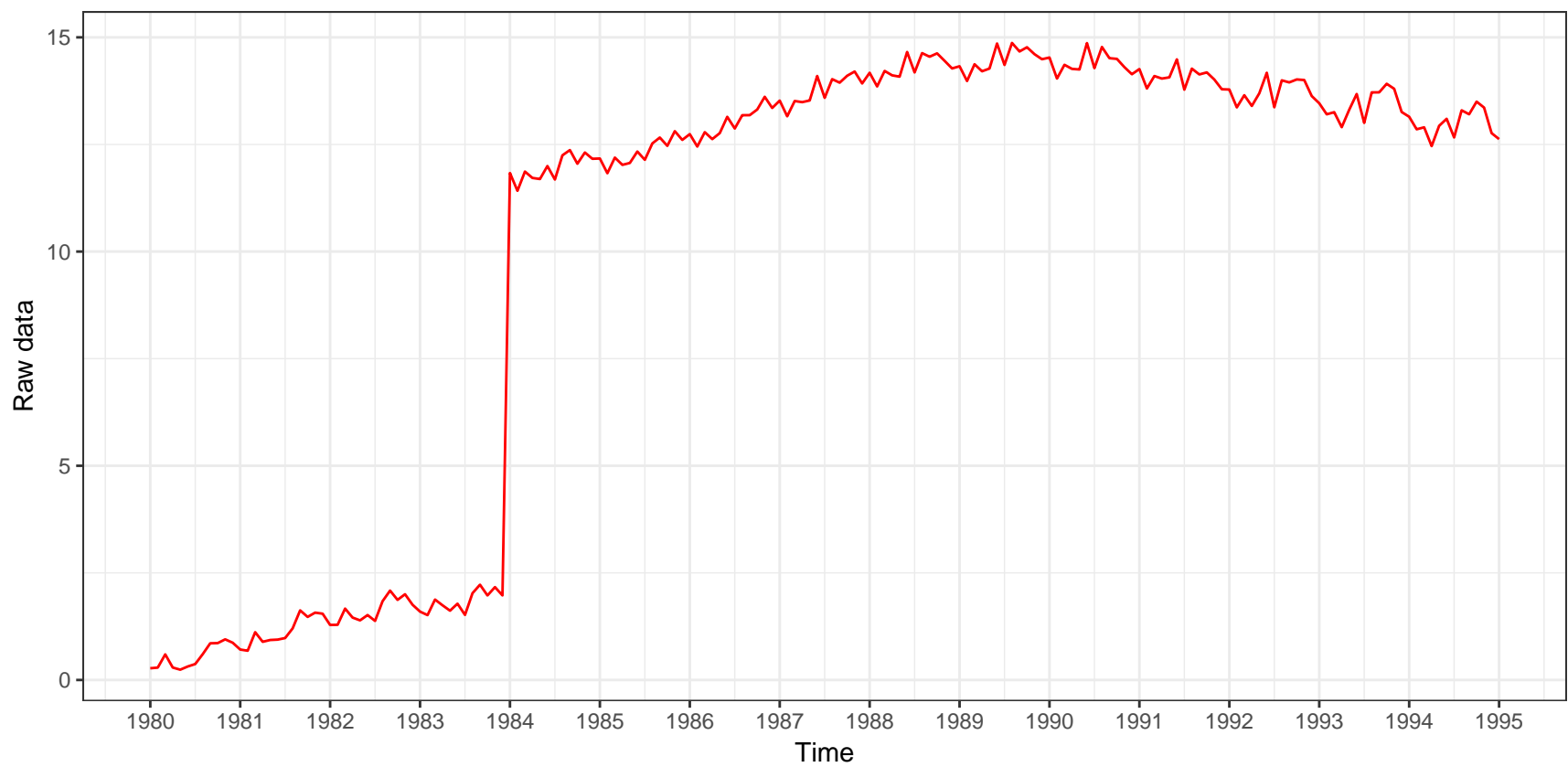


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

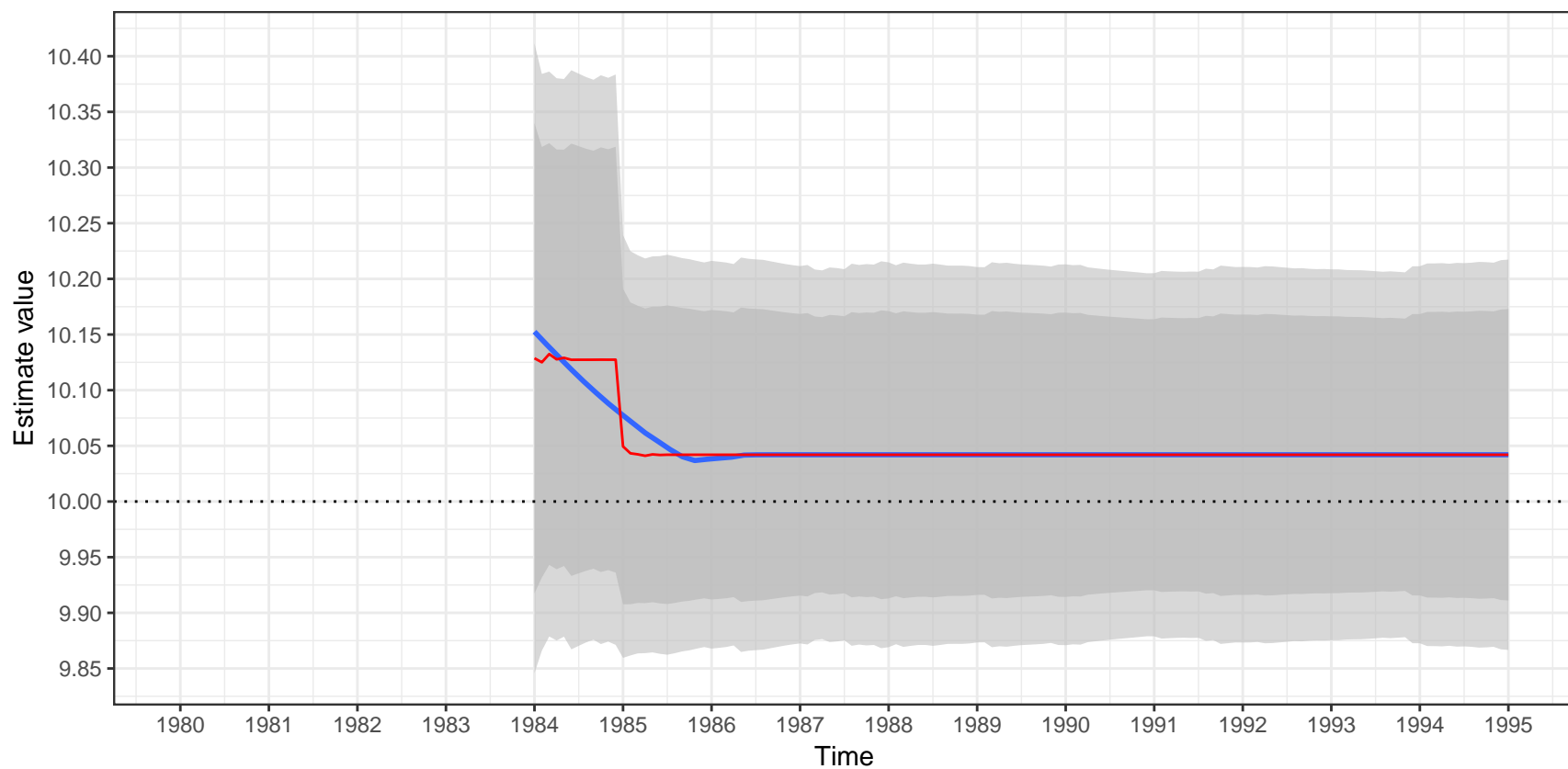


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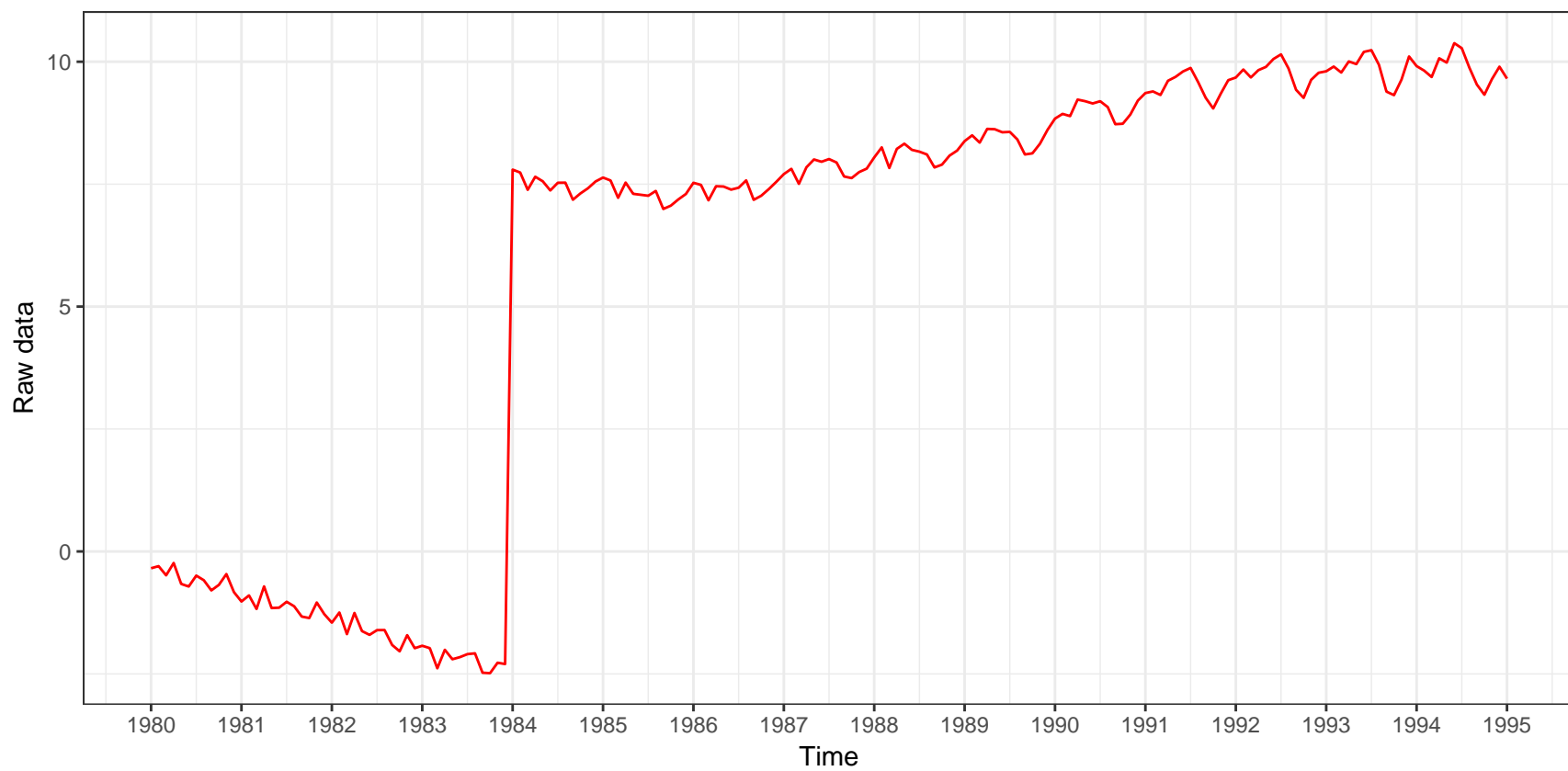


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

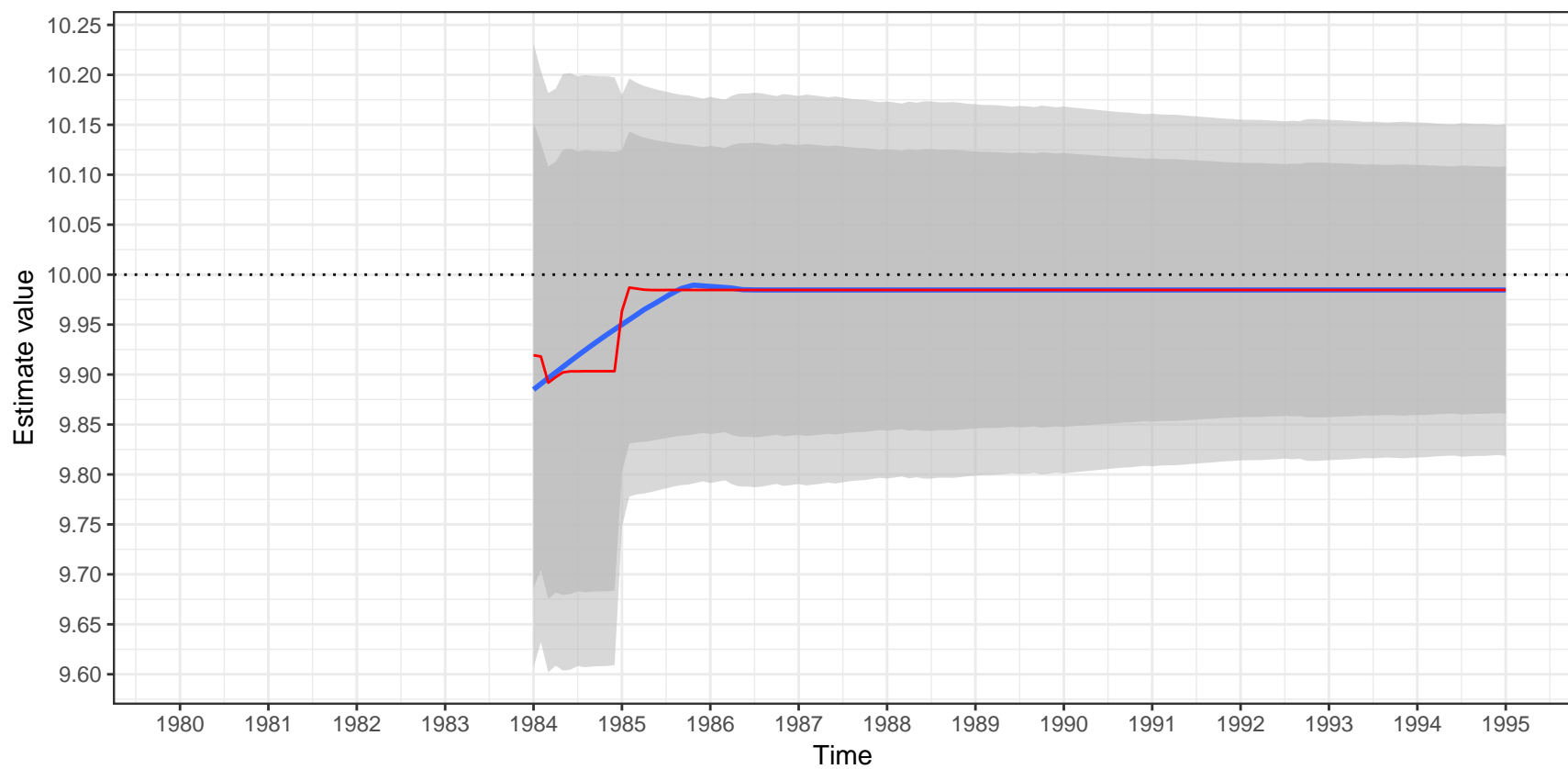


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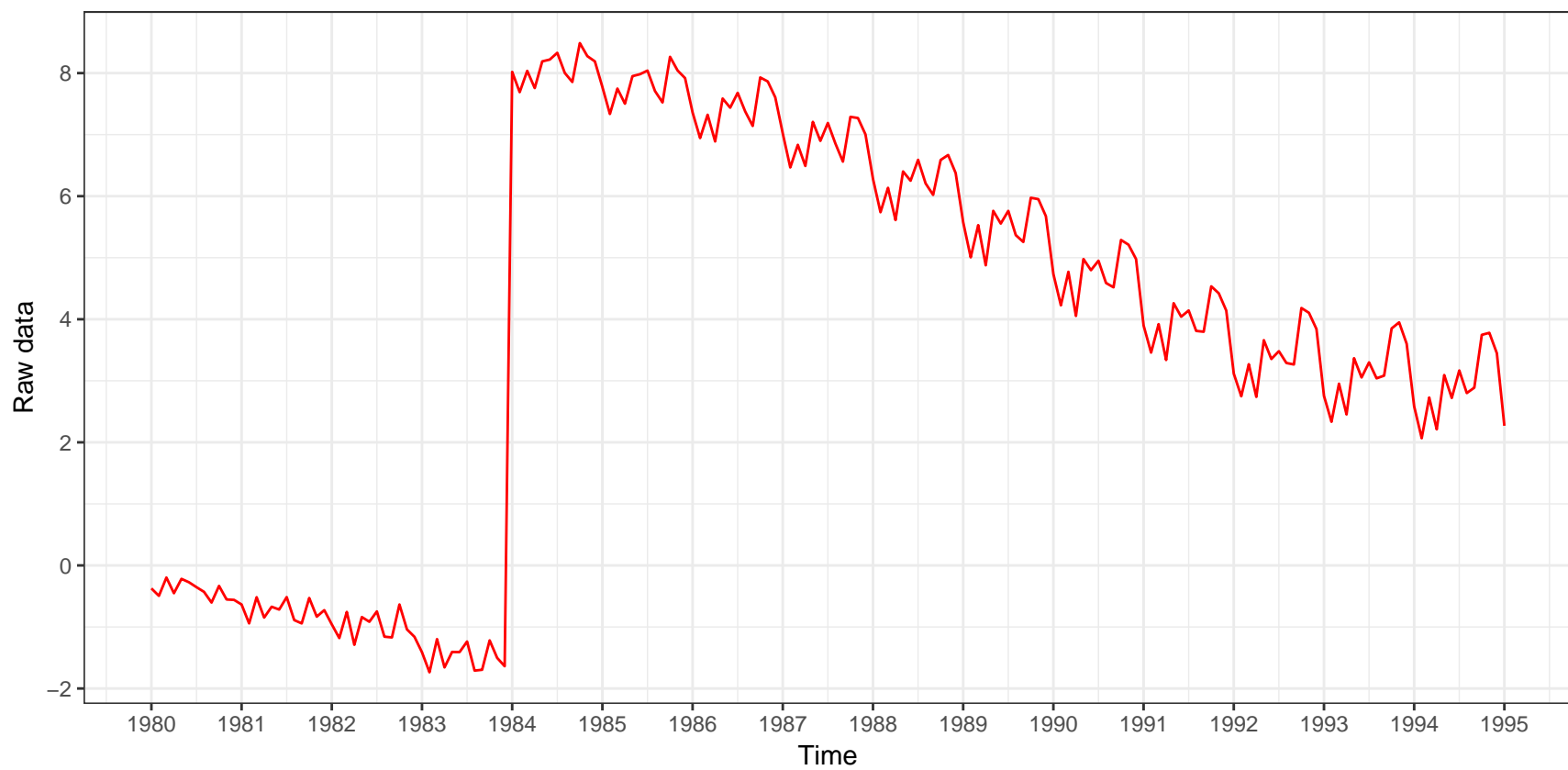


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

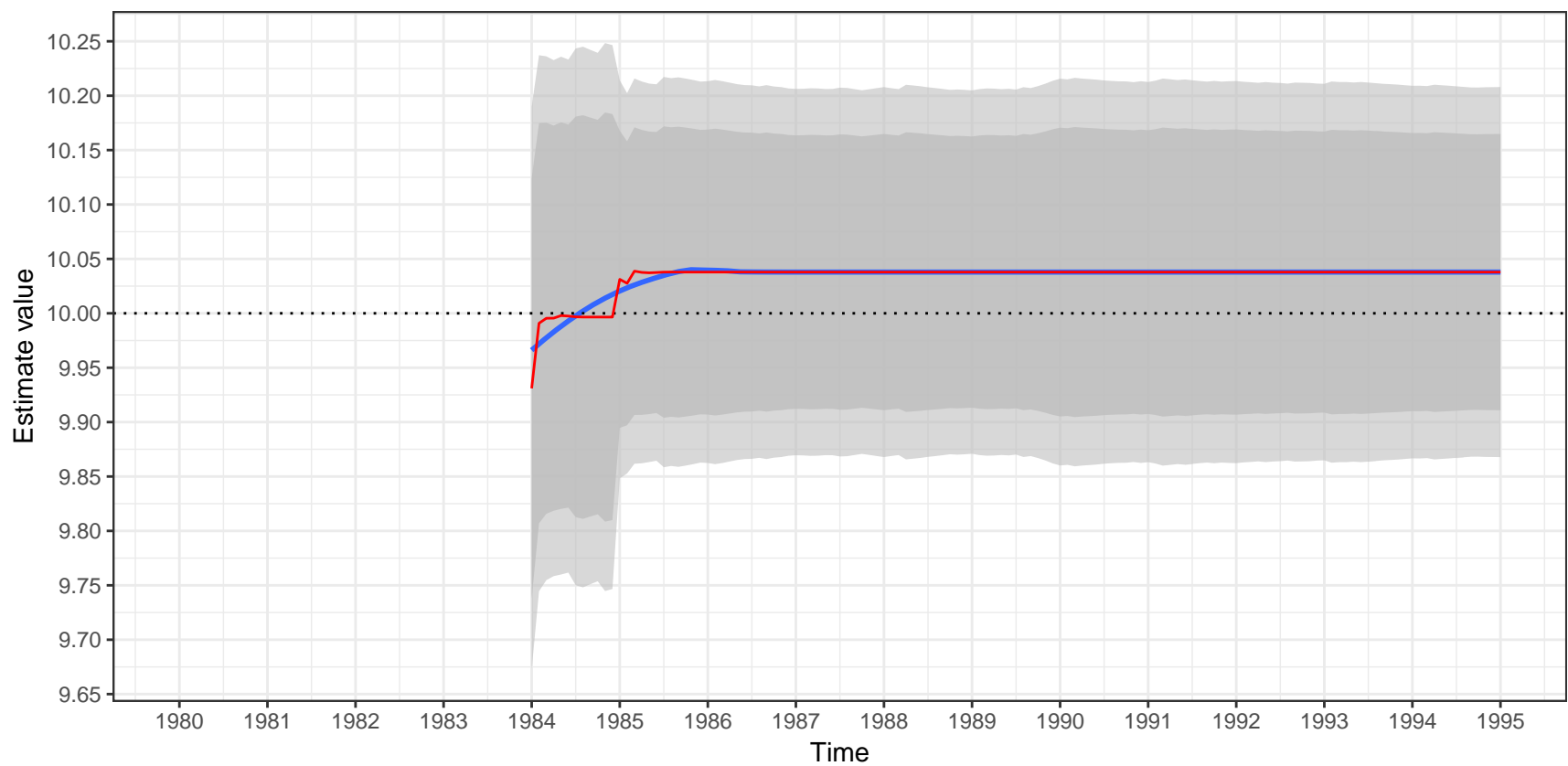


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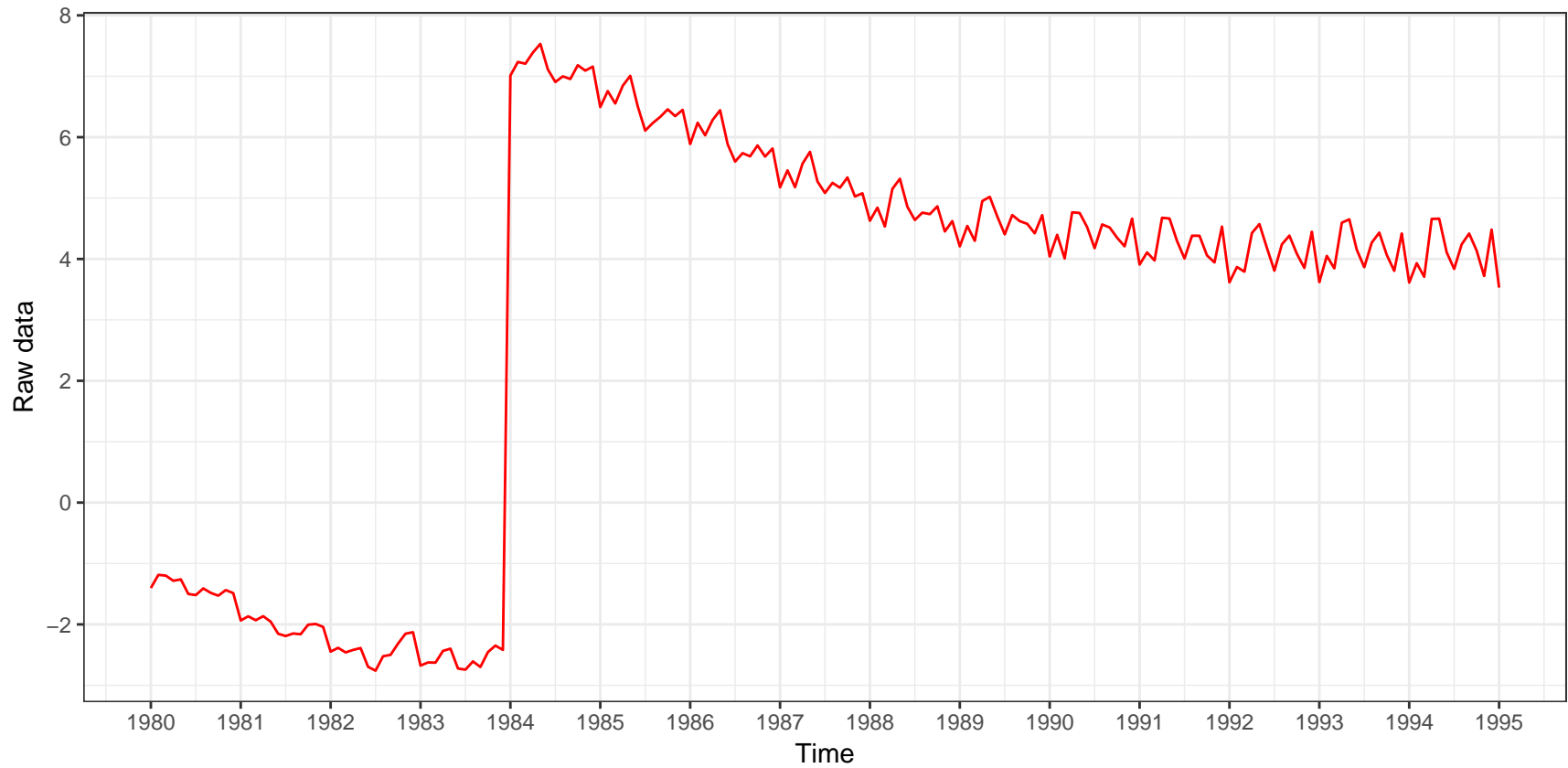


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

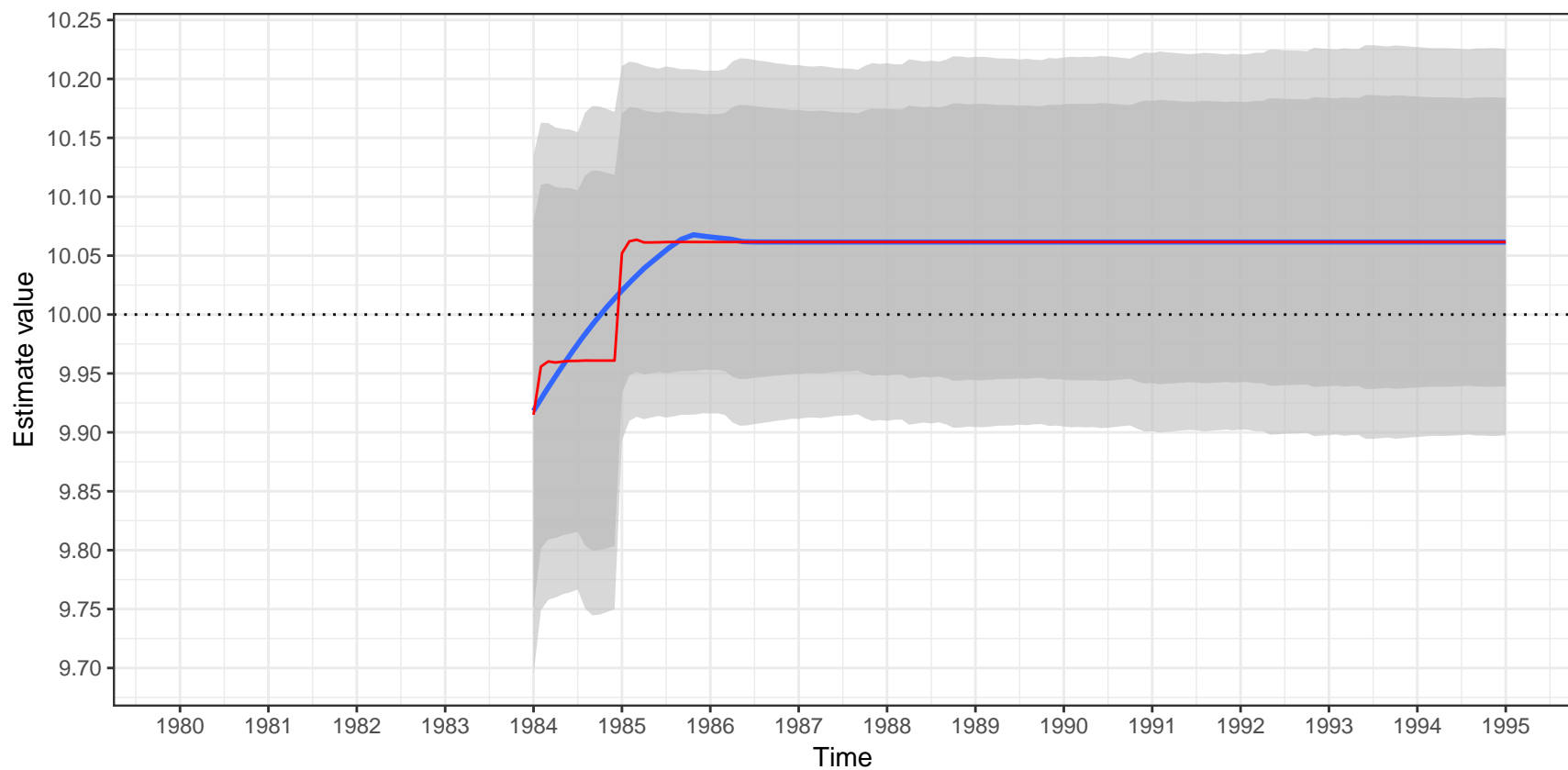


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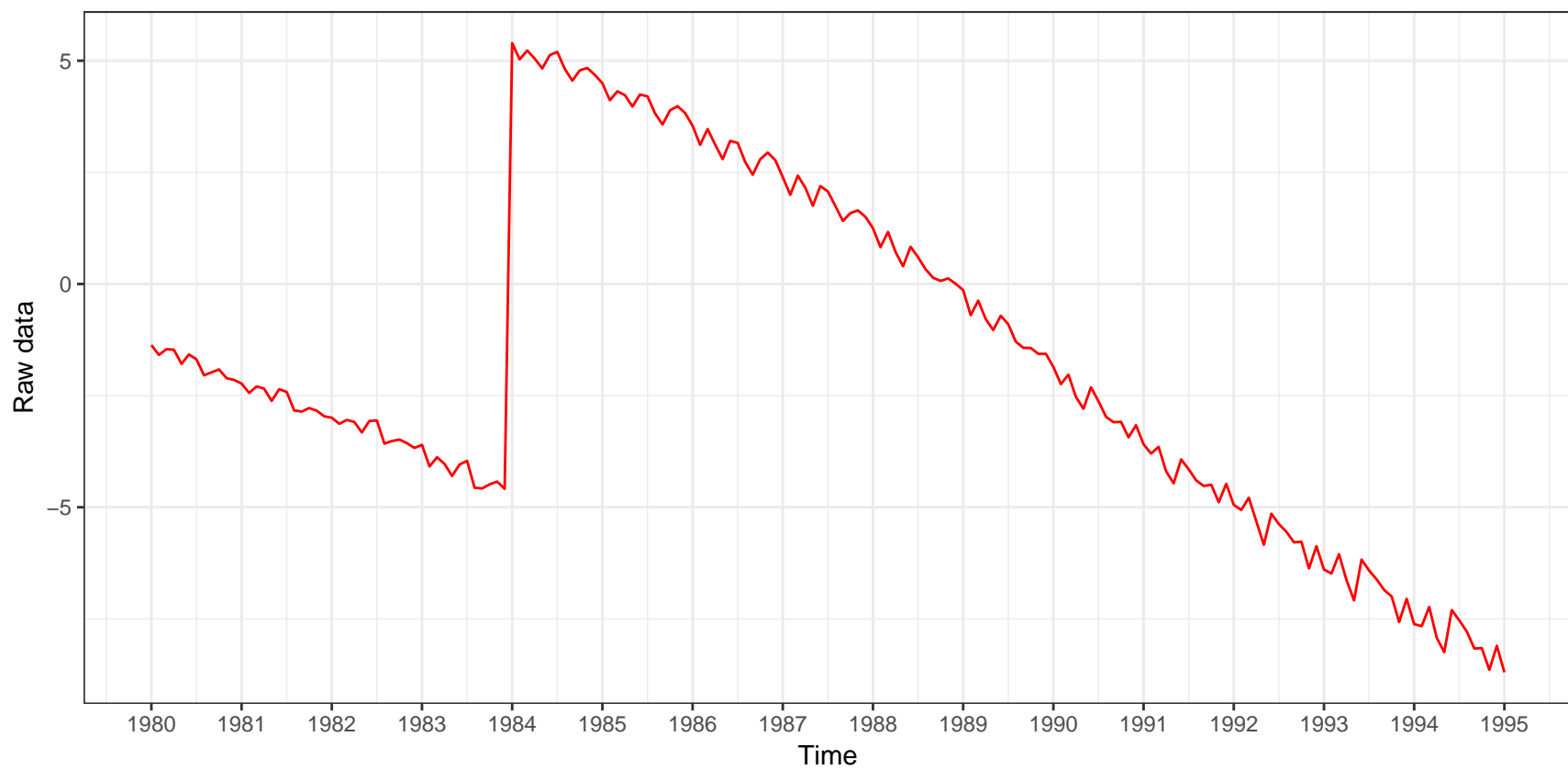


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,0) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)a_t$

Estimation of the outlier

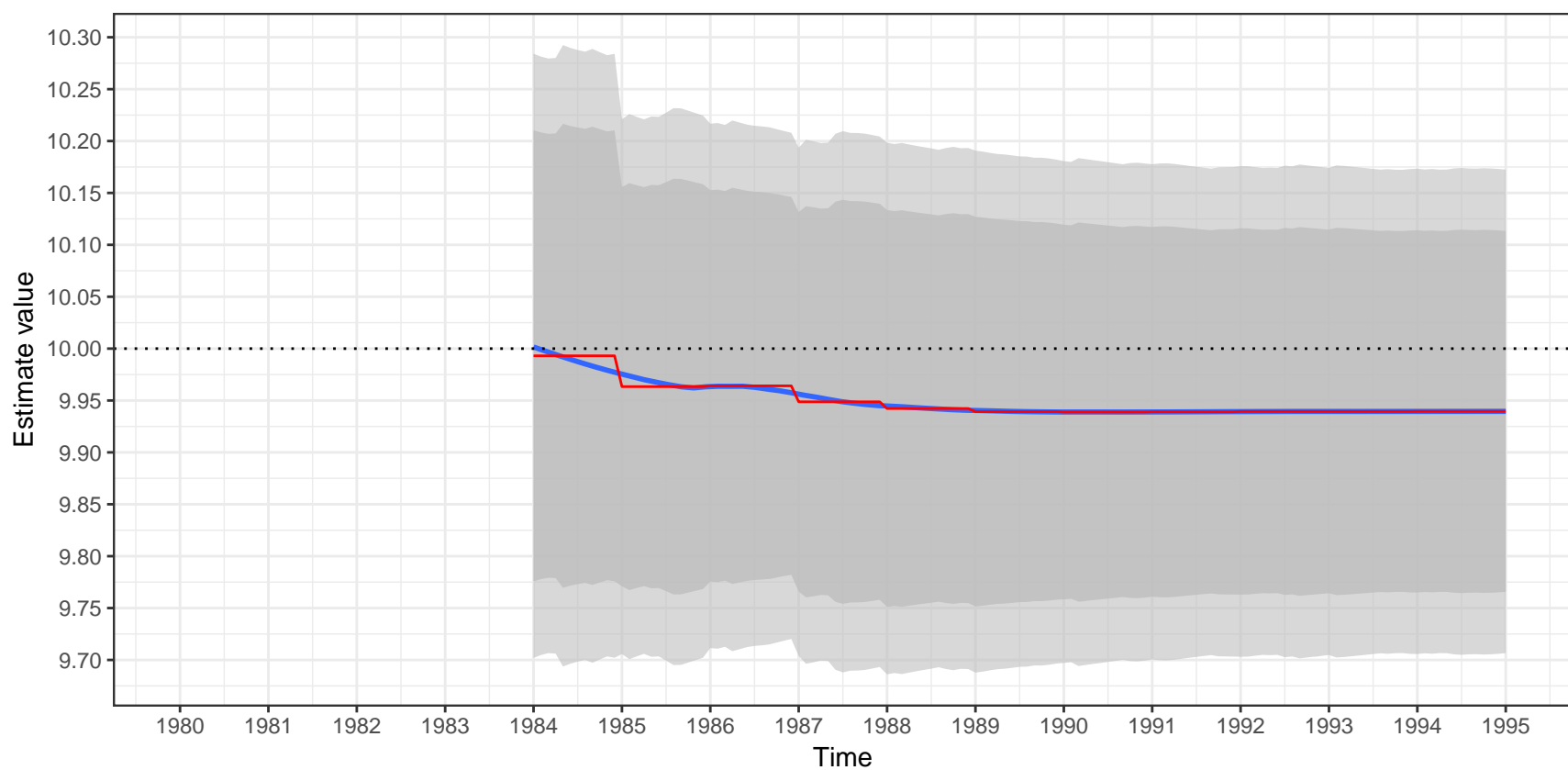


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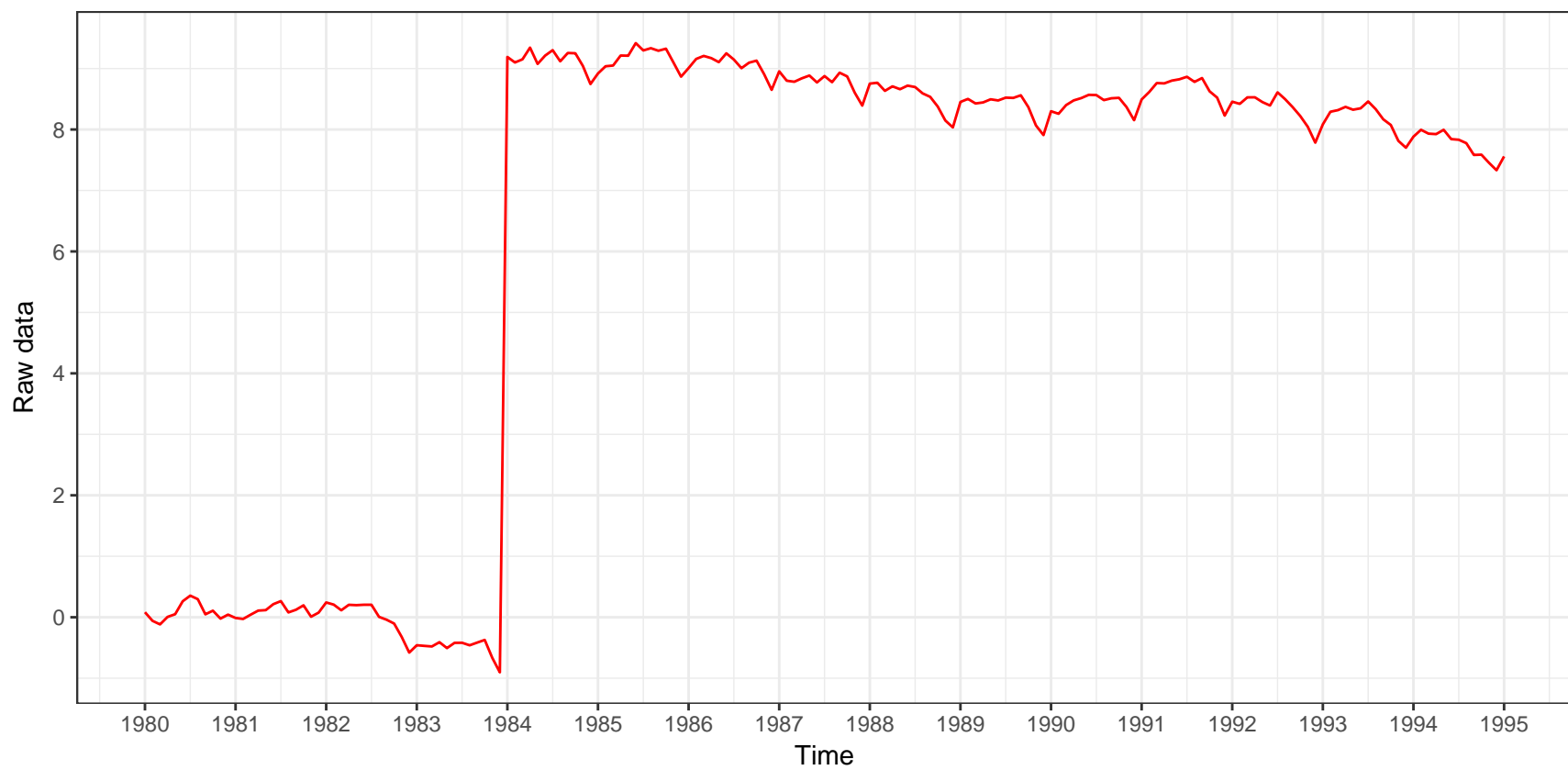


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

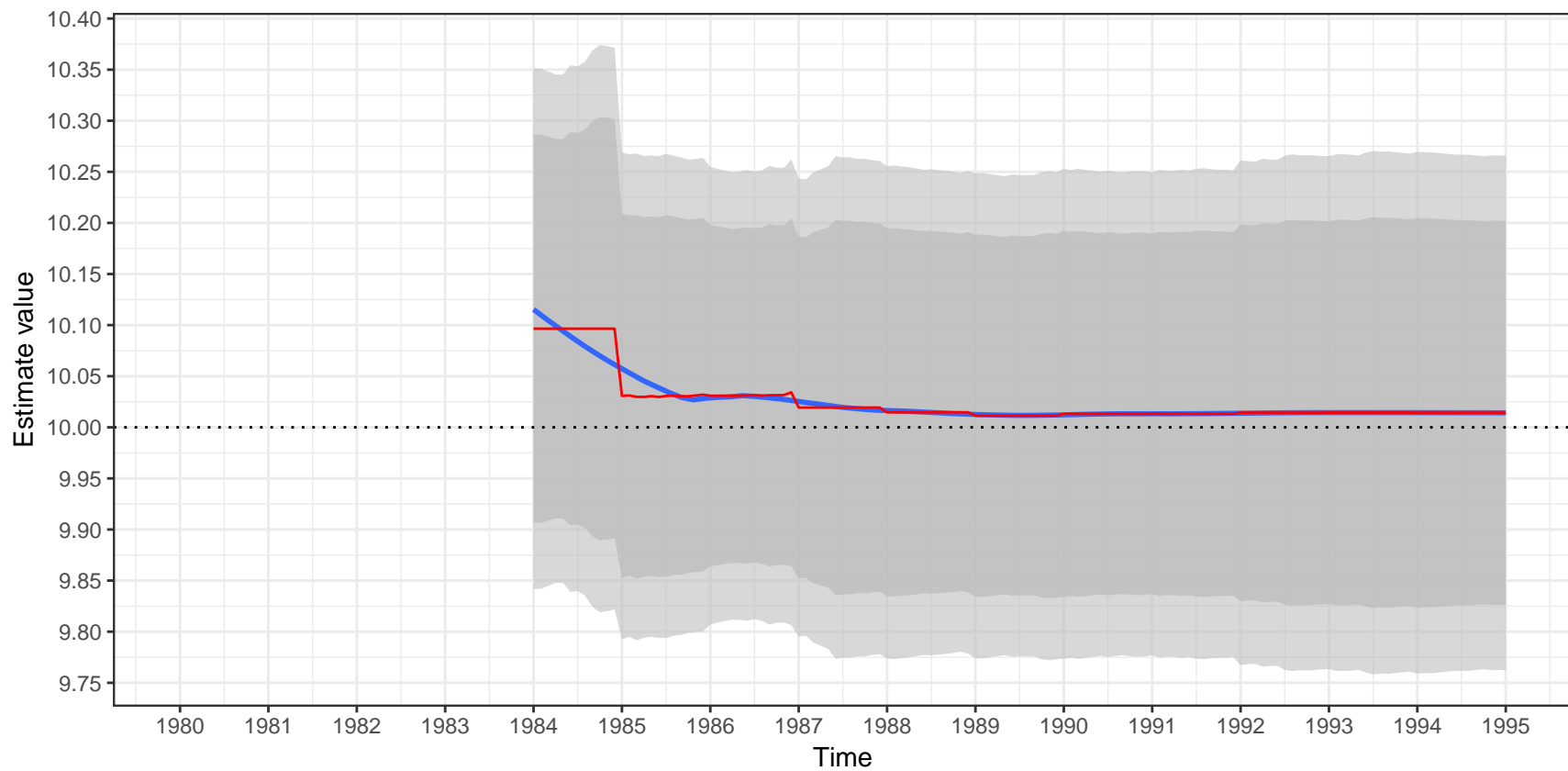


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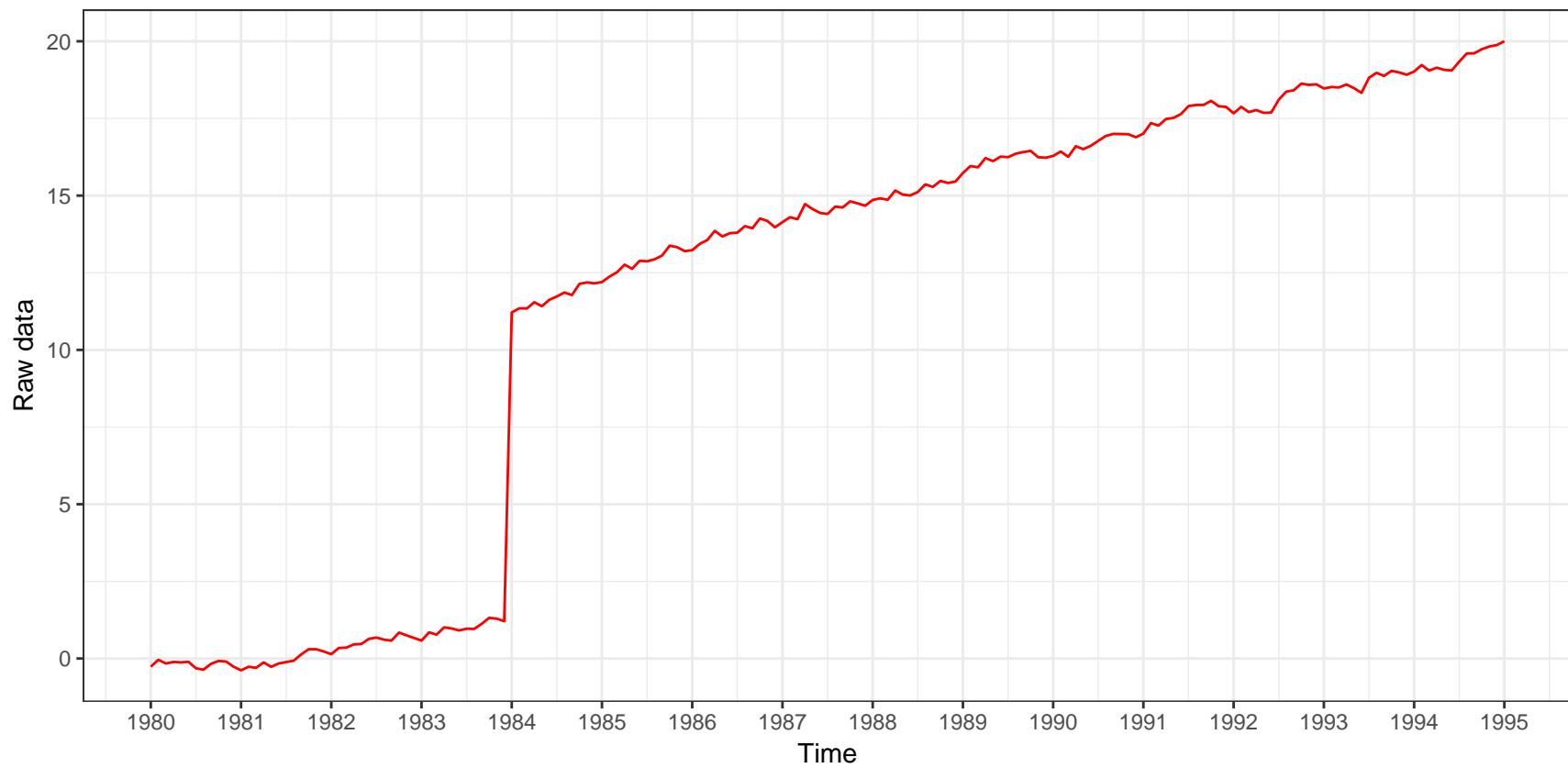


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

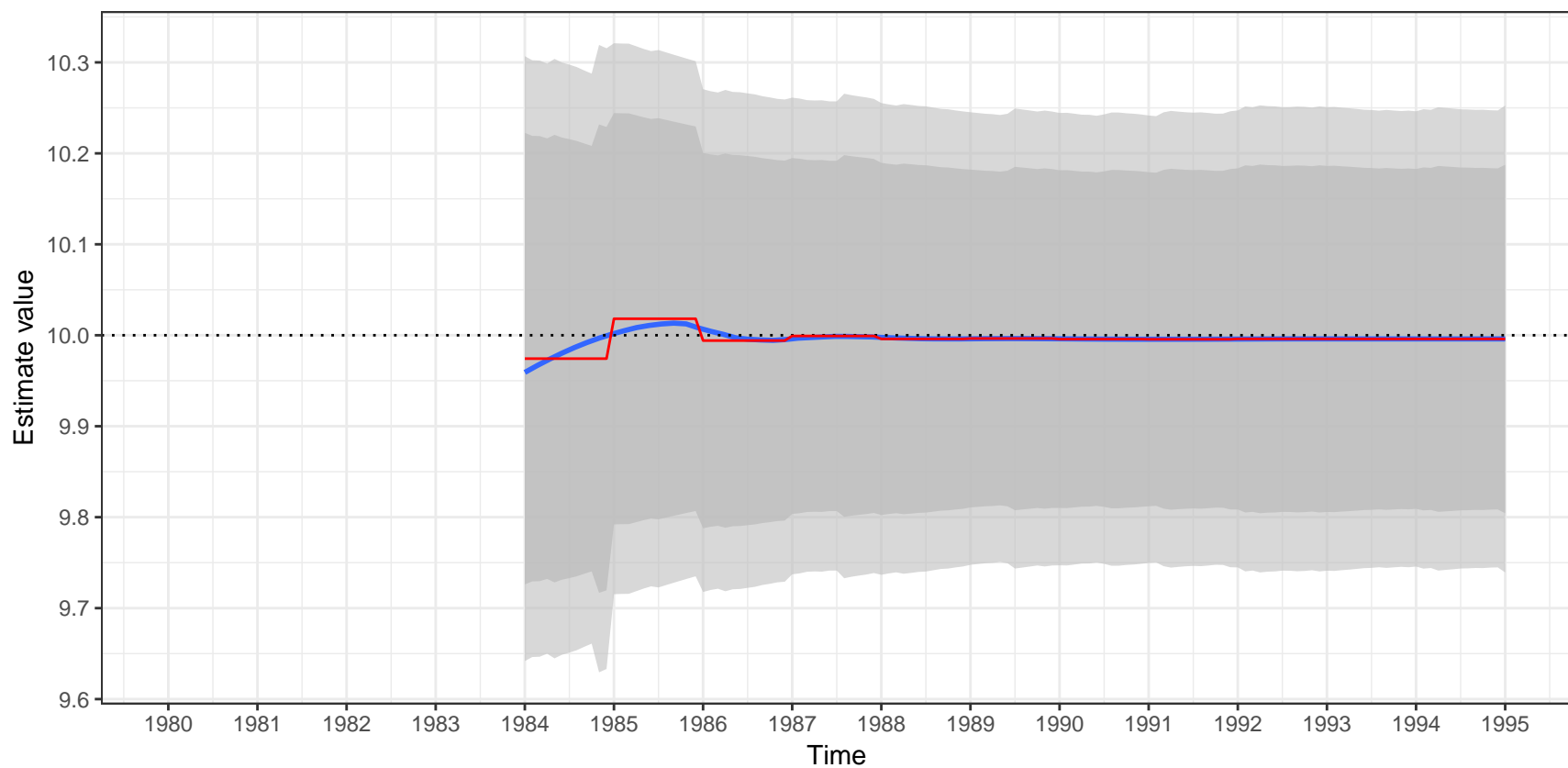


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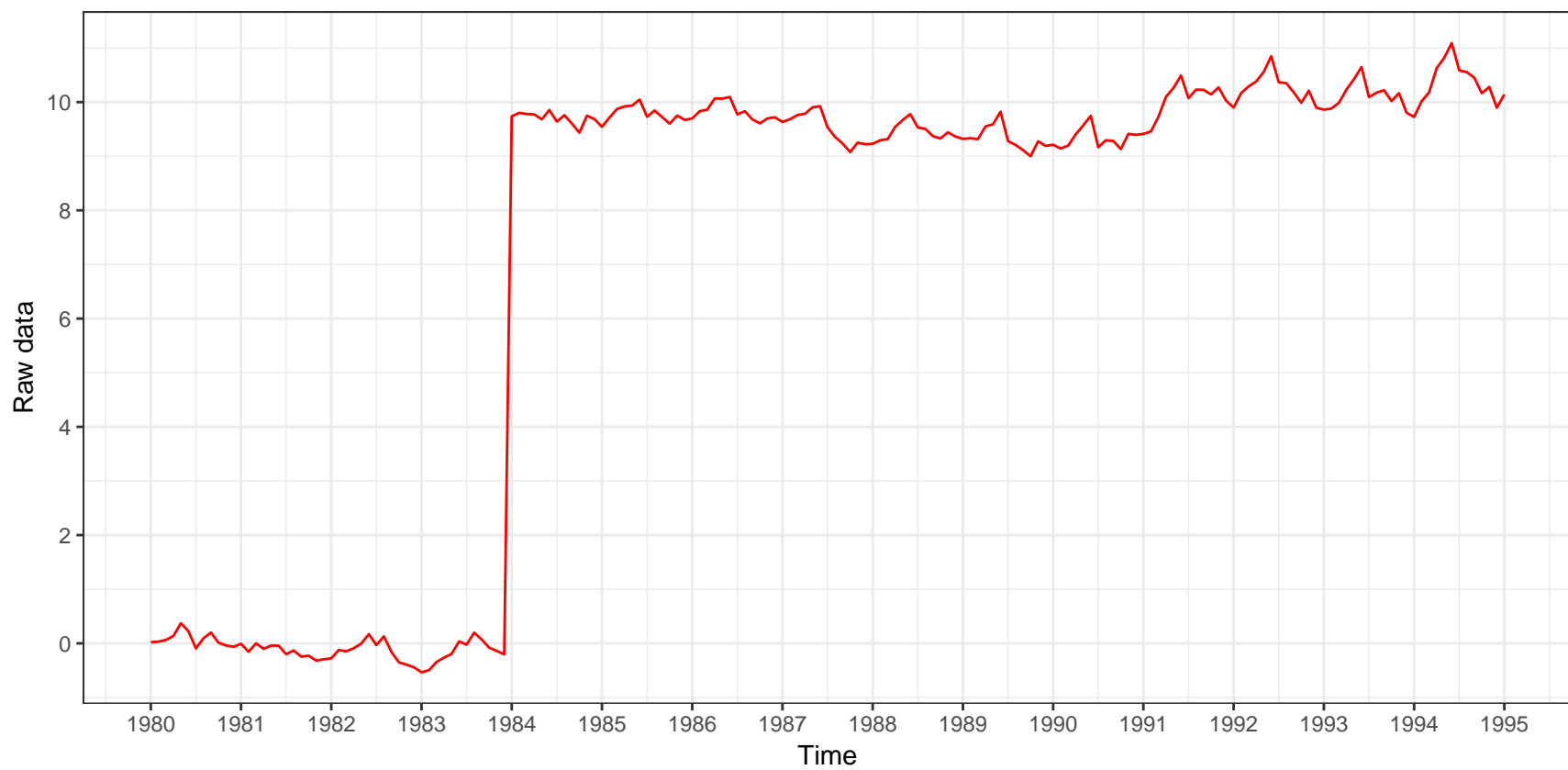


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

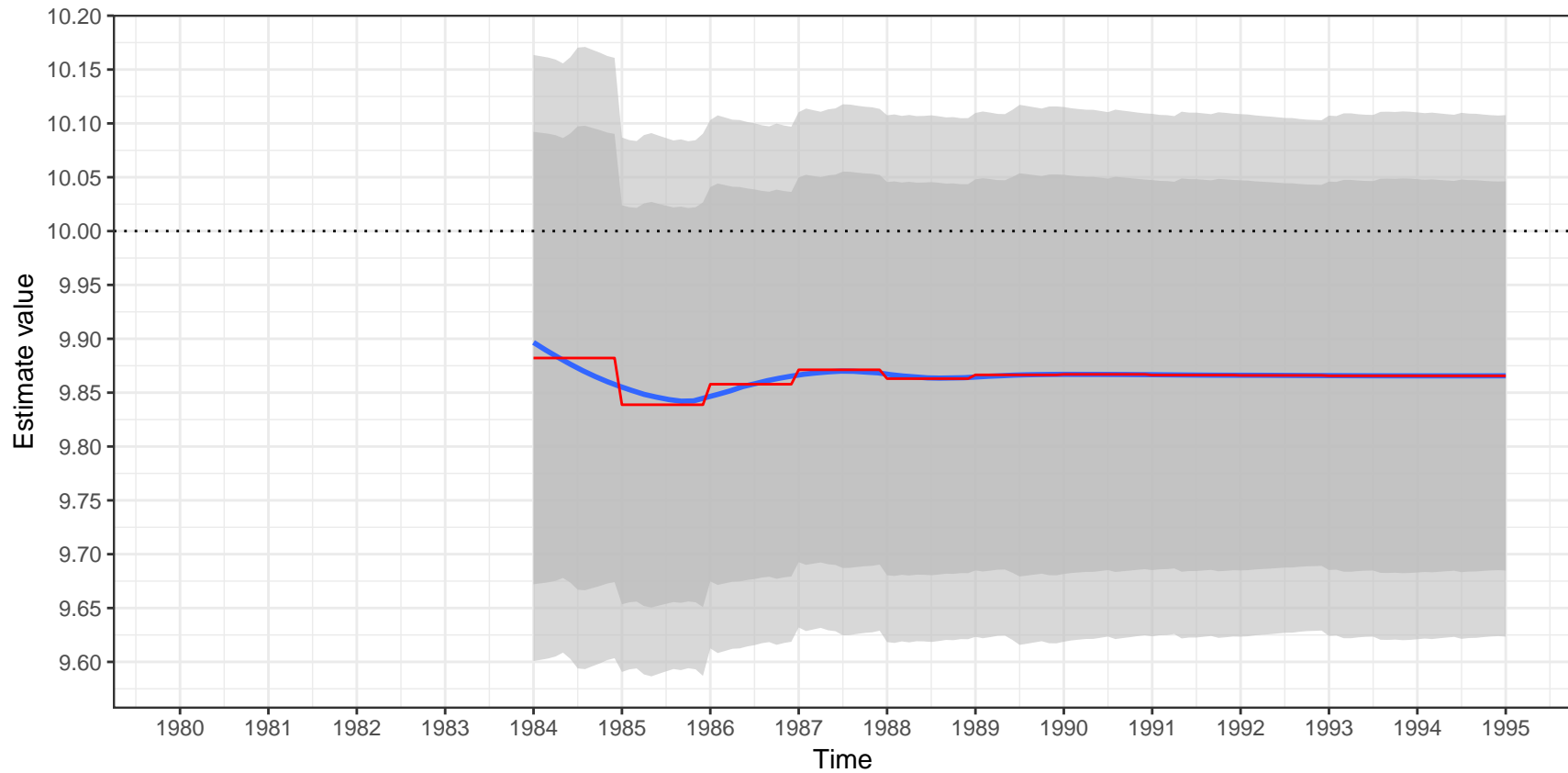


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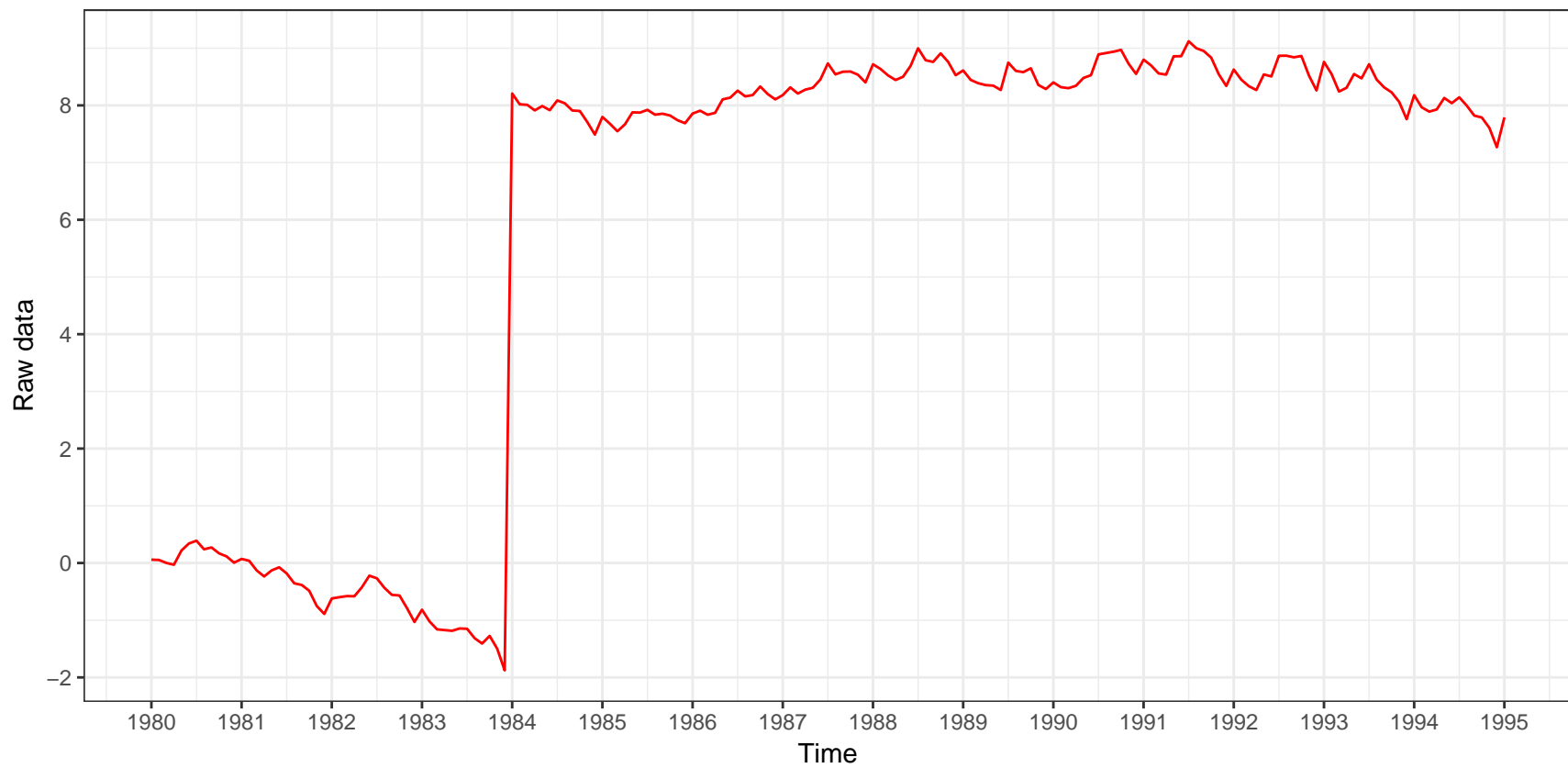


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
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Estimation of the outlier

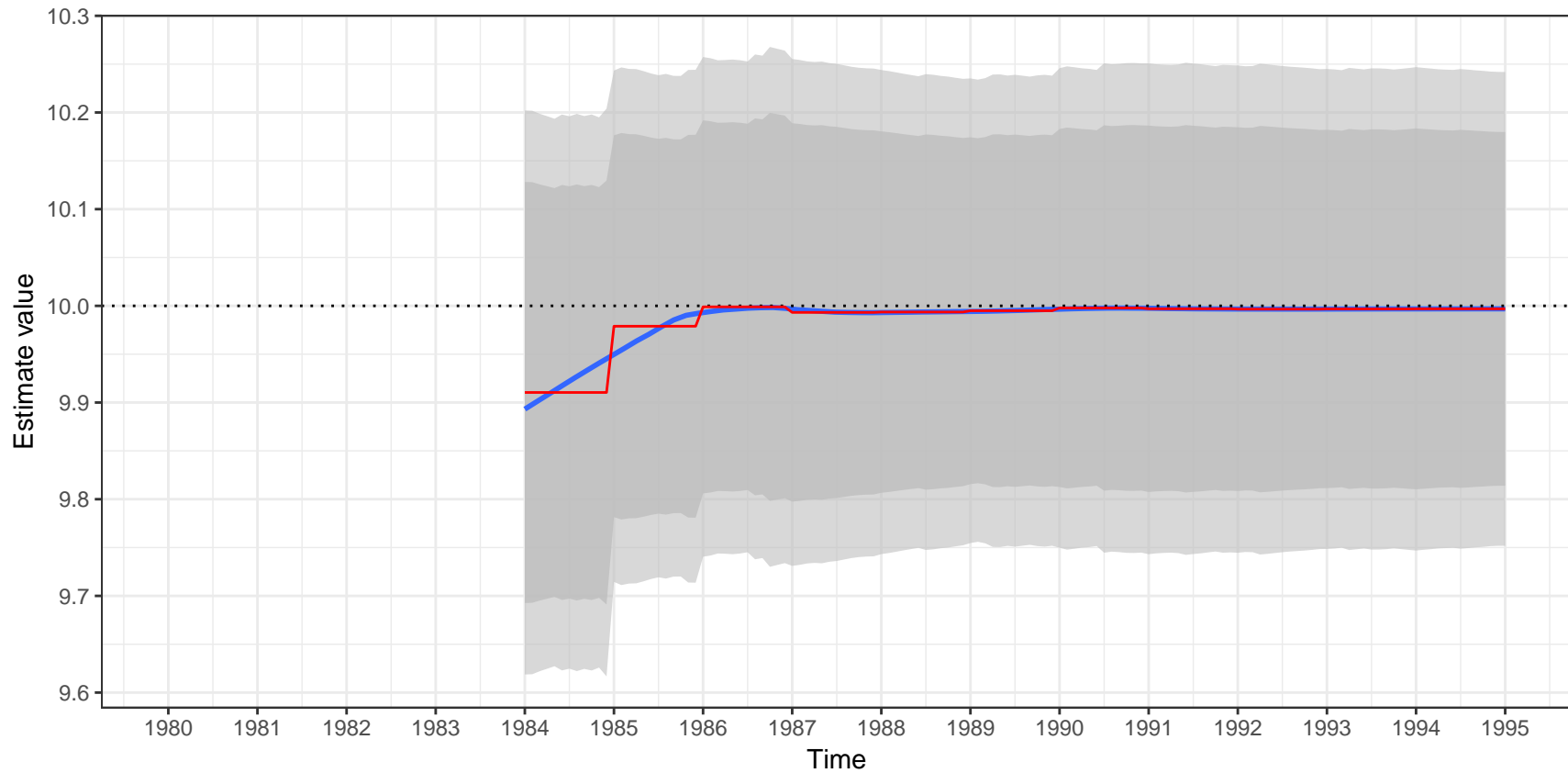


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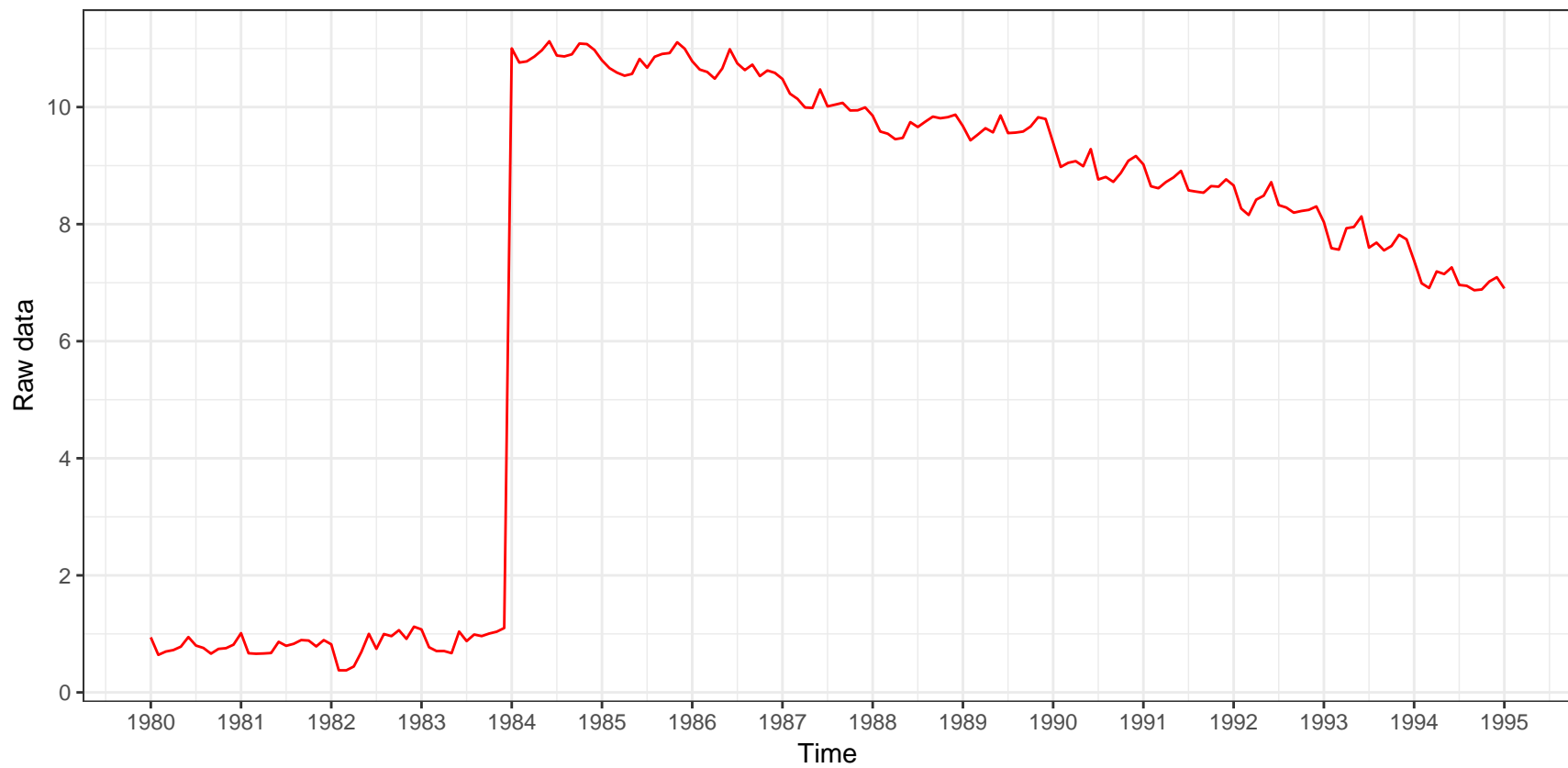


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

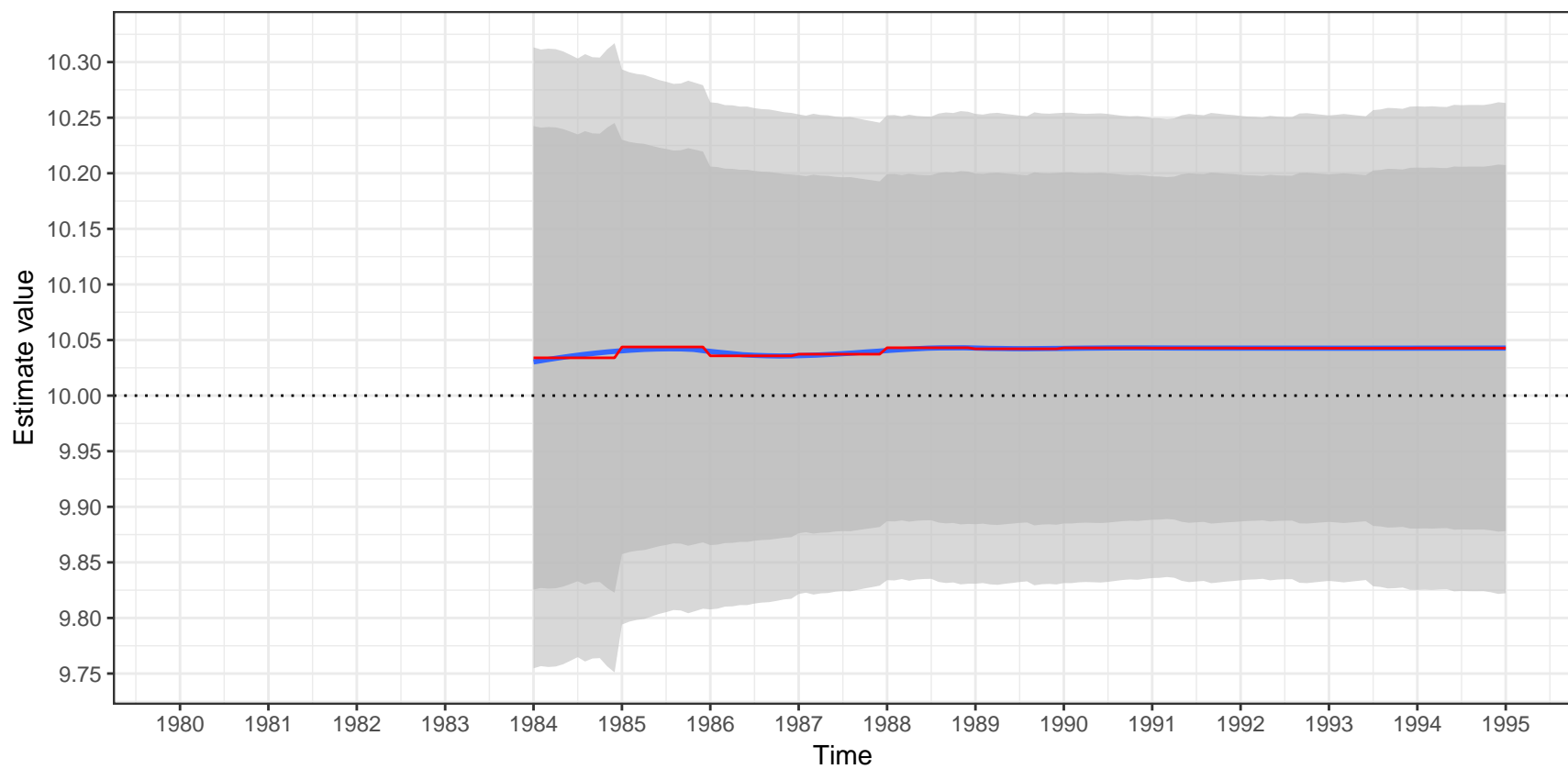


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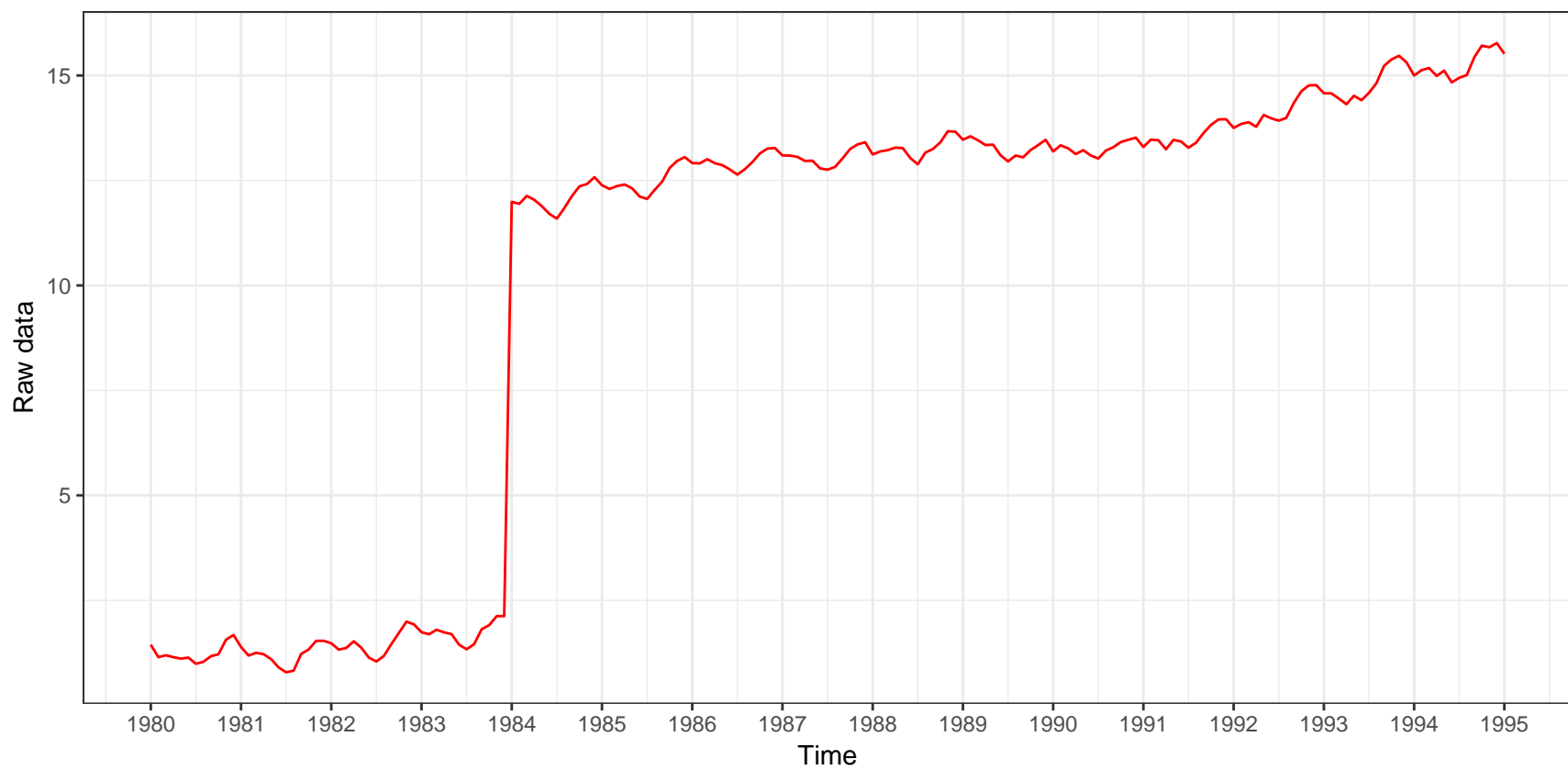


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

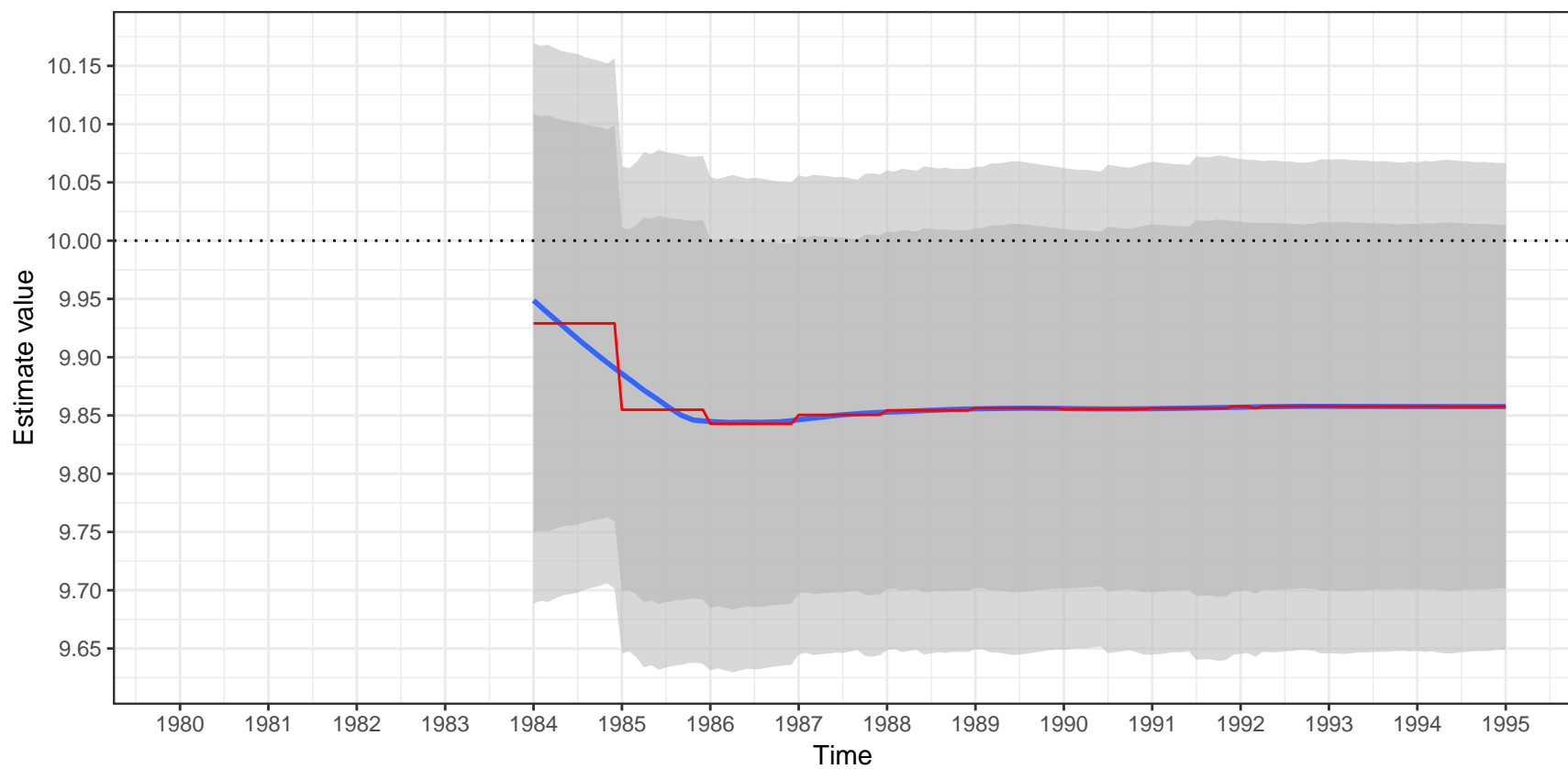


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Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.5B_{12})a_t$

Estimation of the outlier

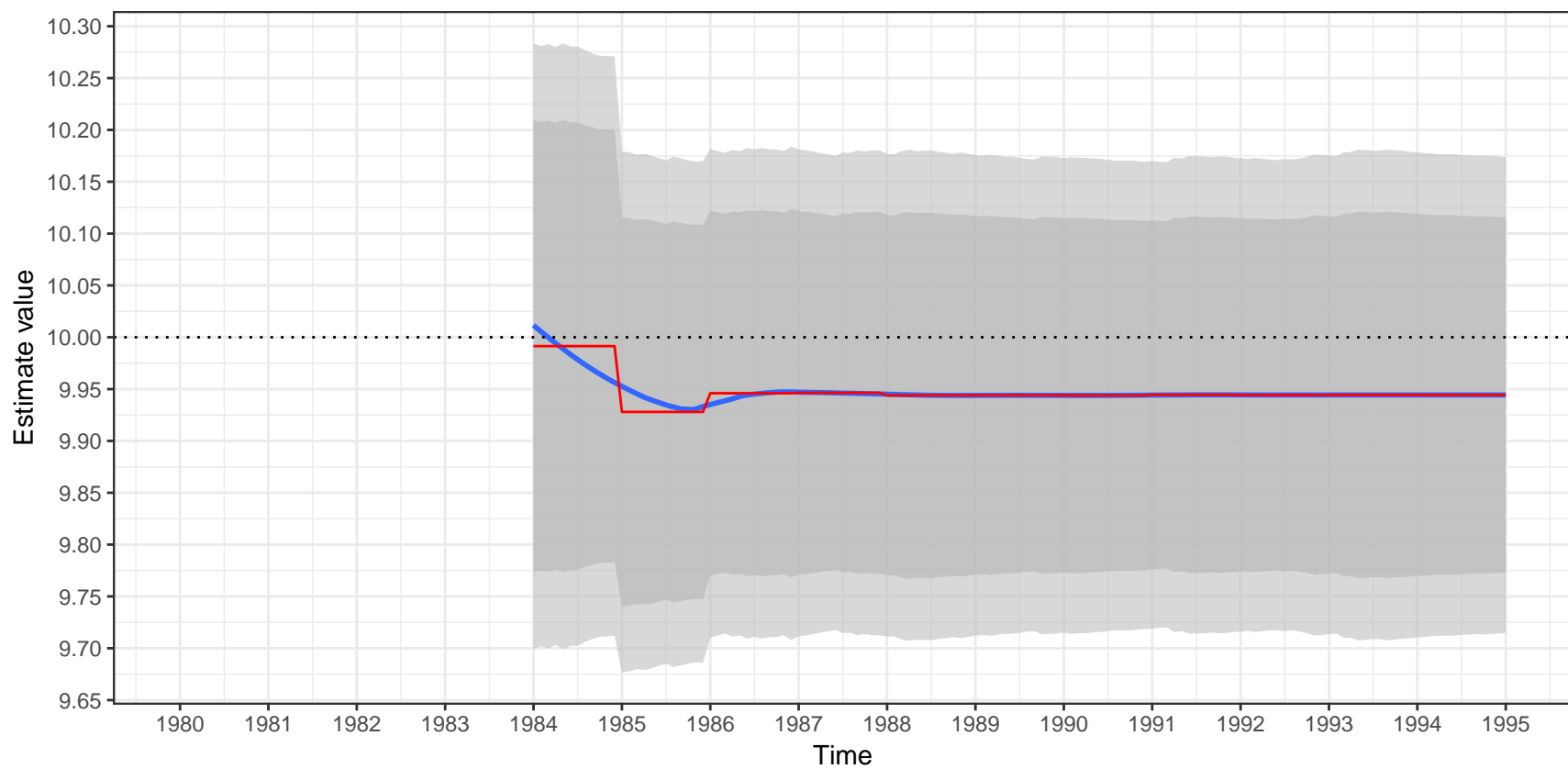


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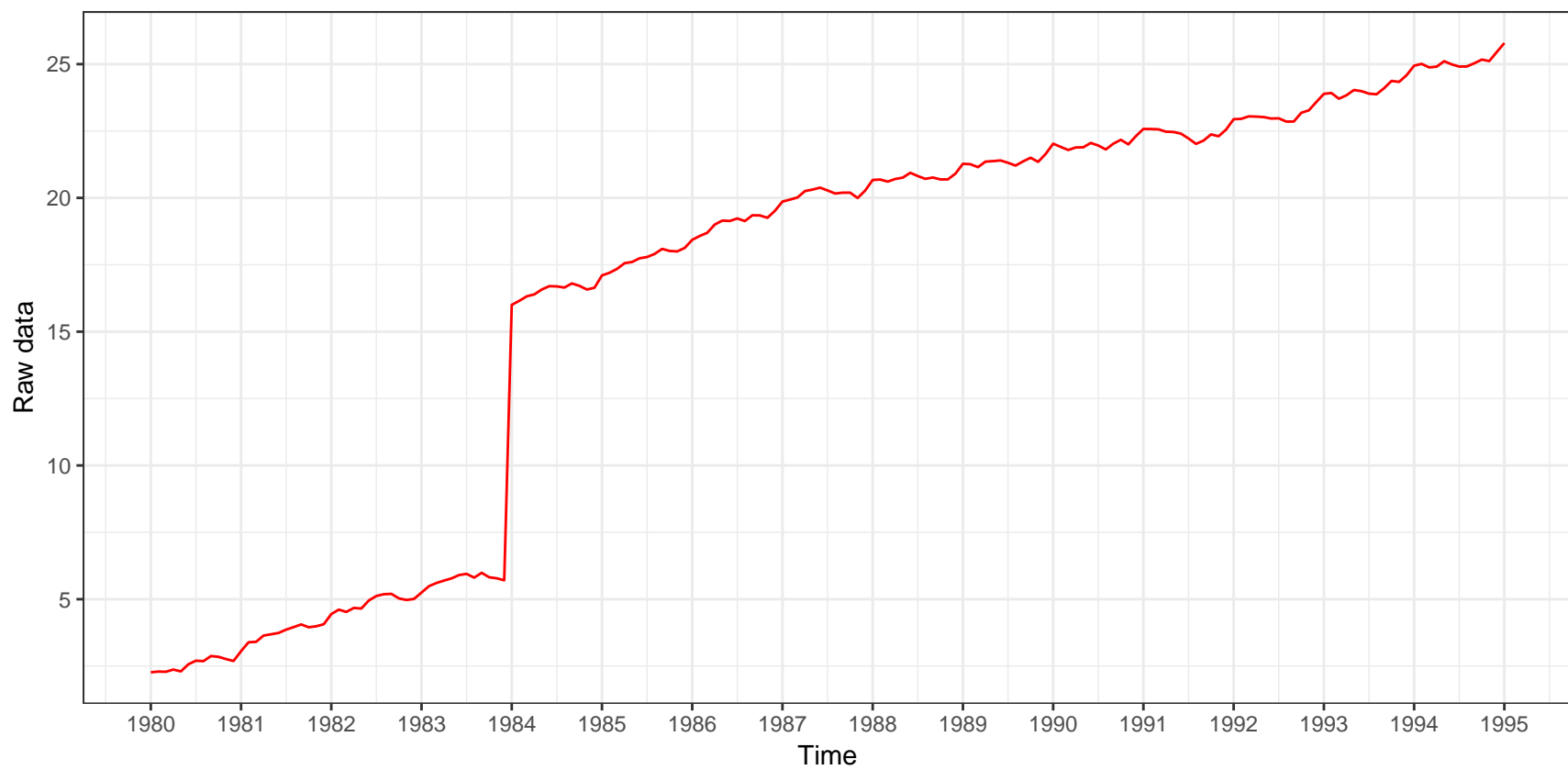


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

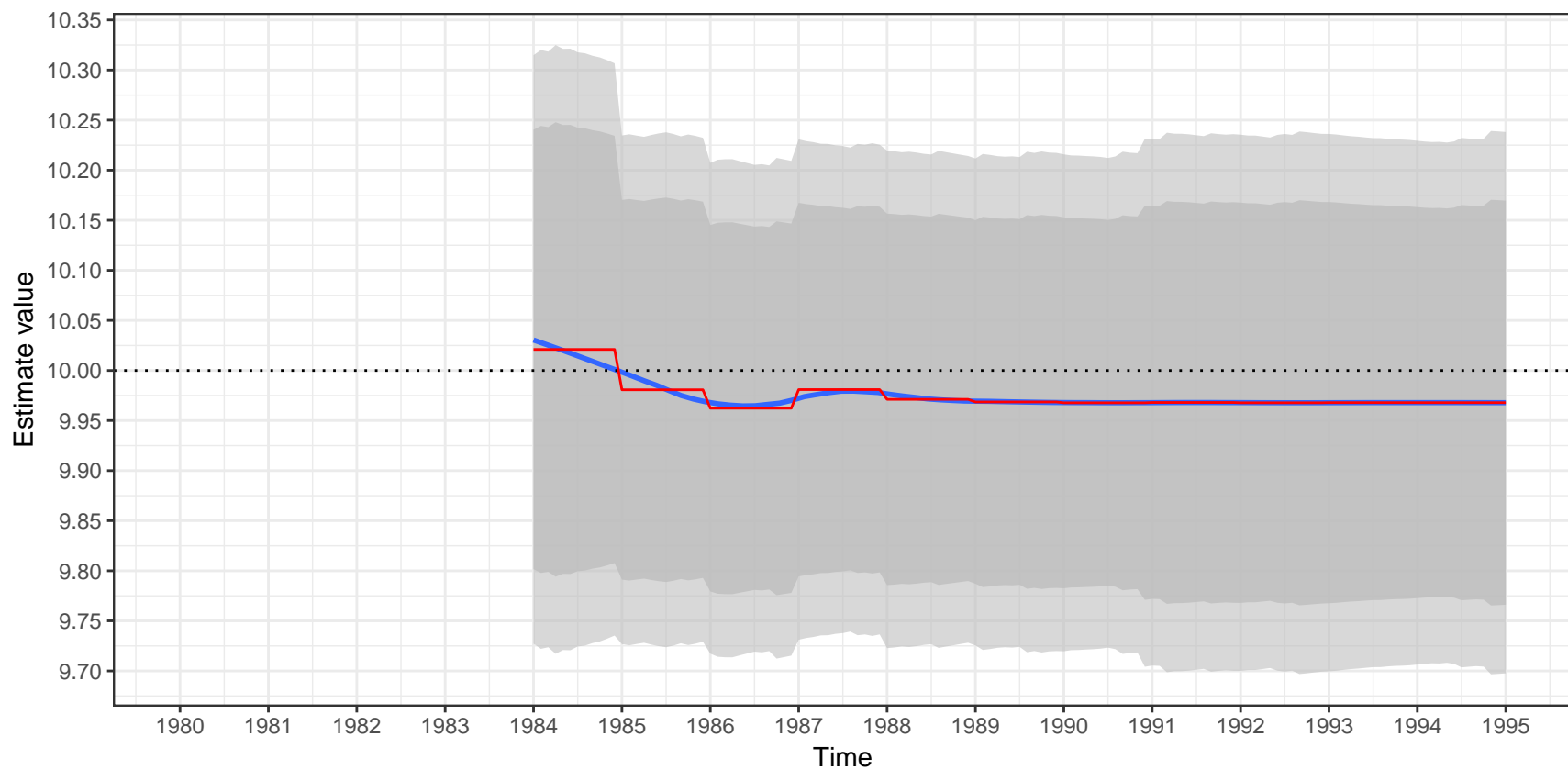


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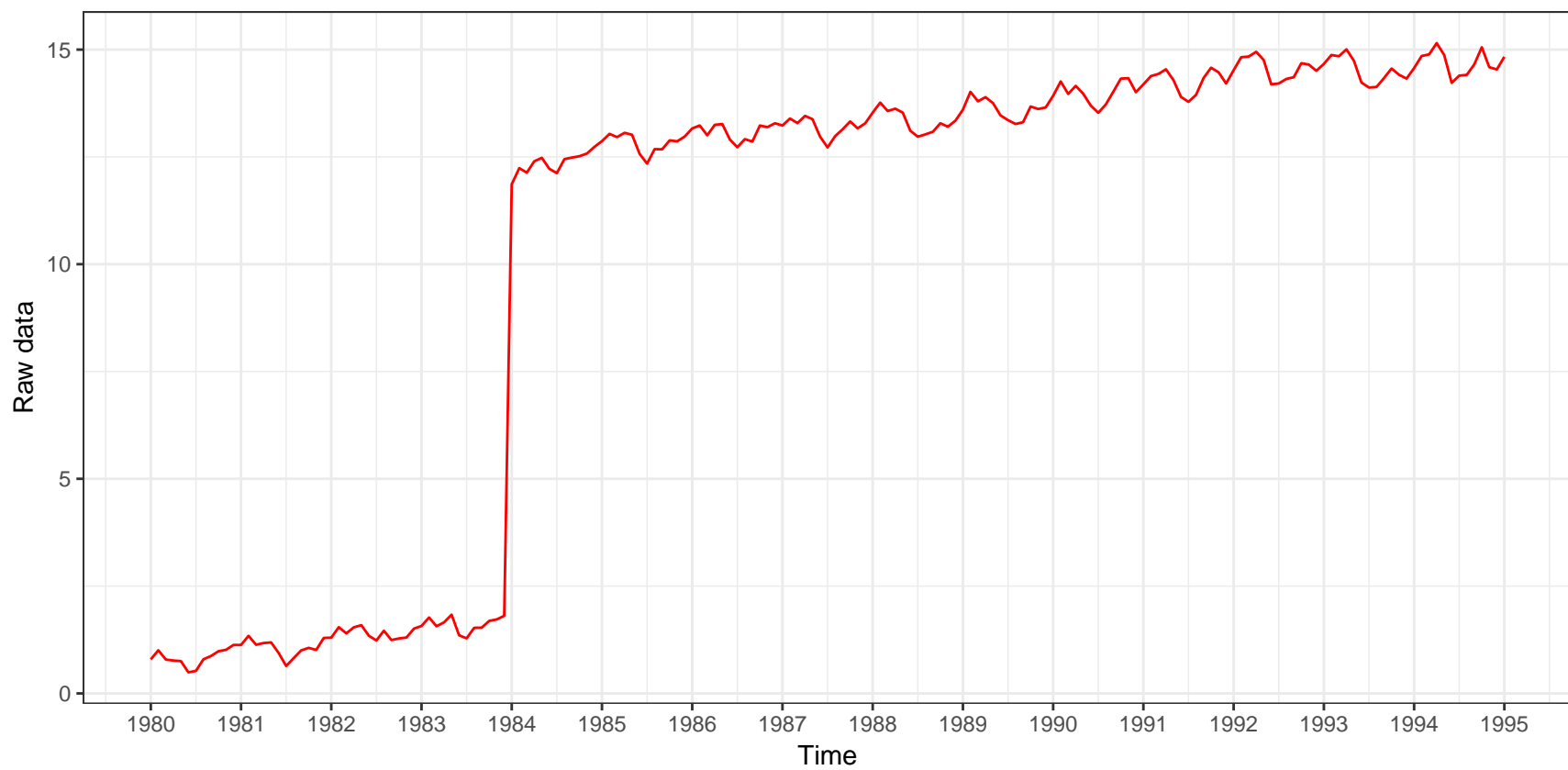


Estimate value of a LS(1984-01)
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 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

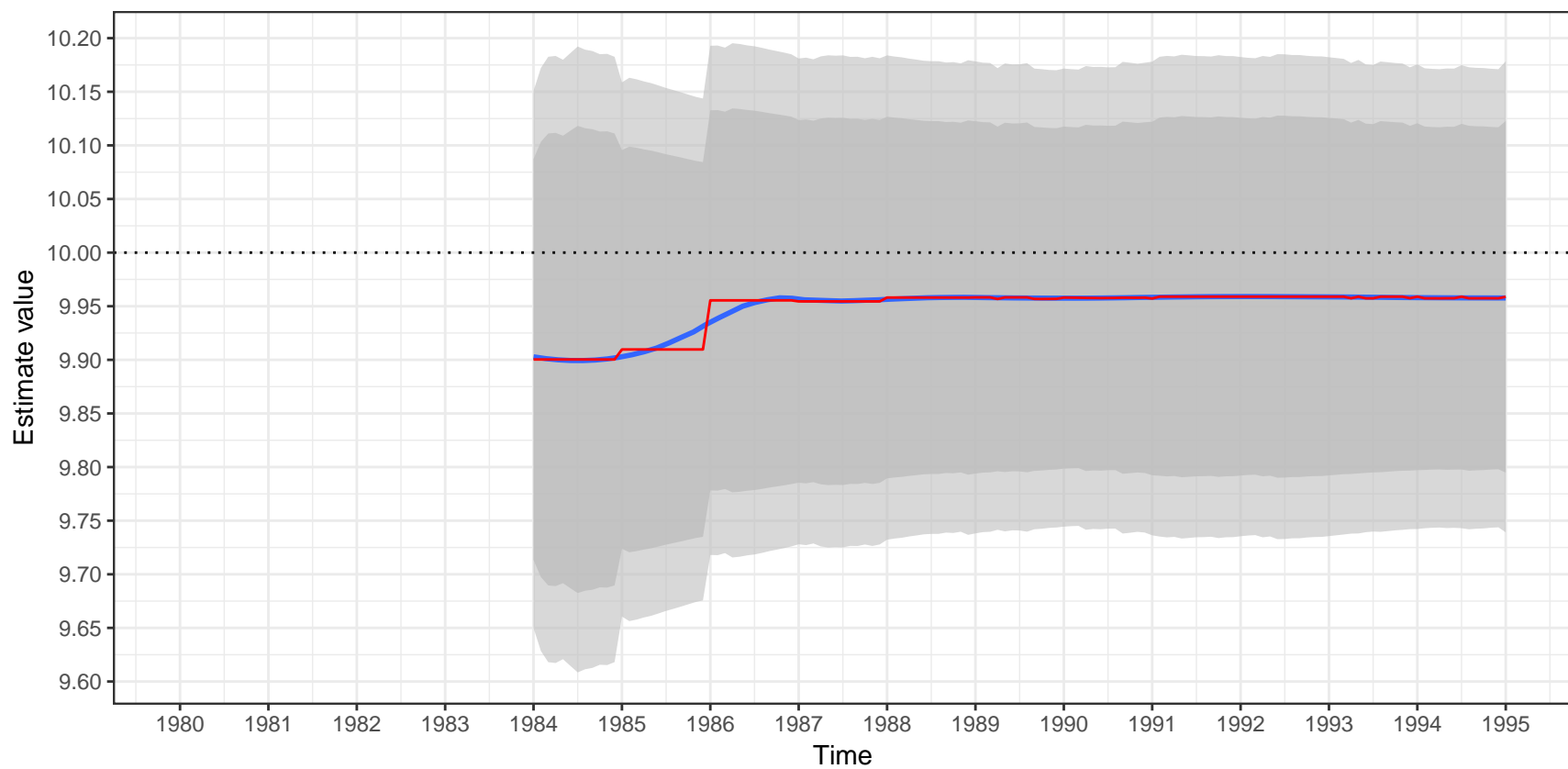


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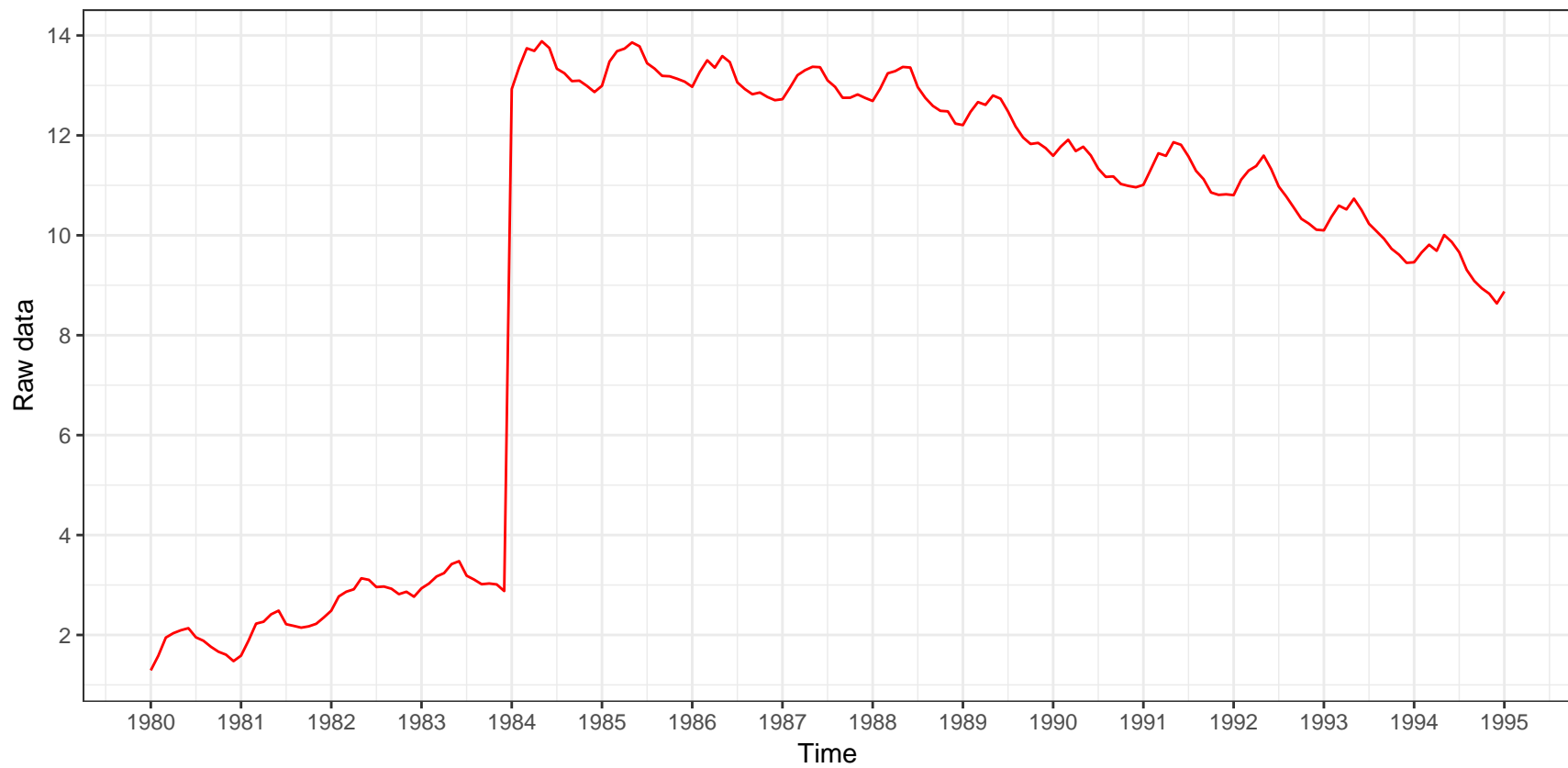


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

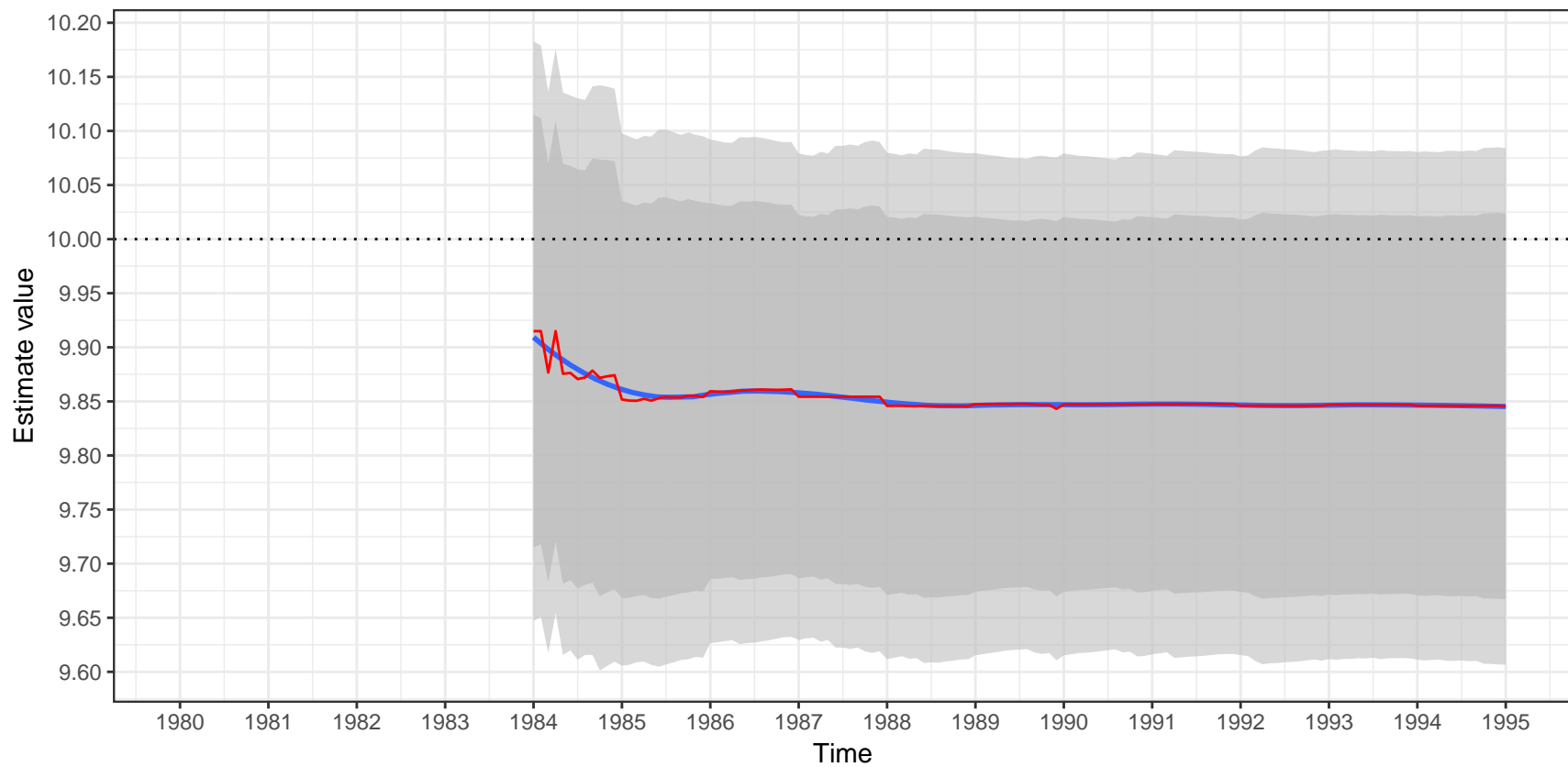


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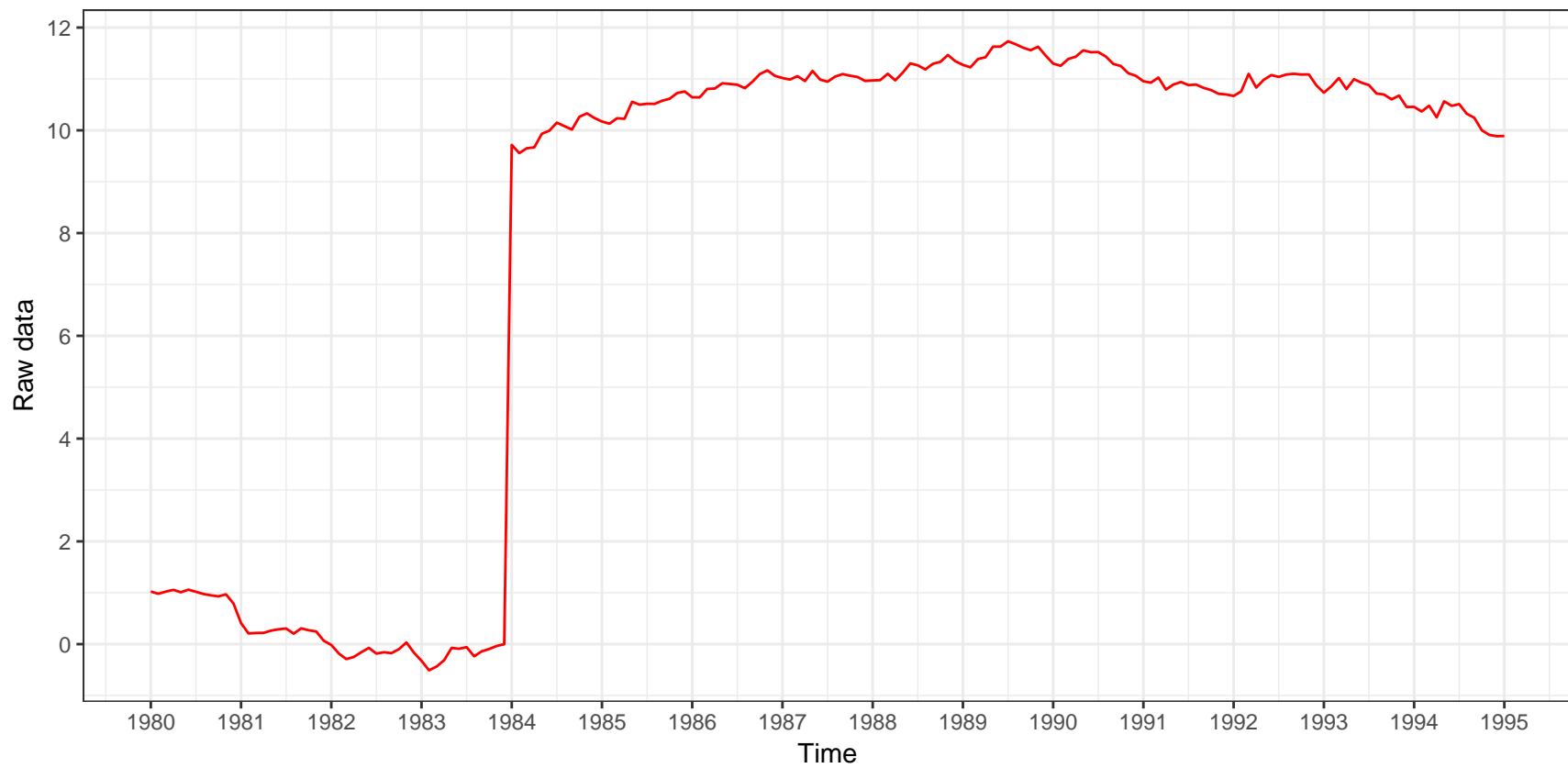


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

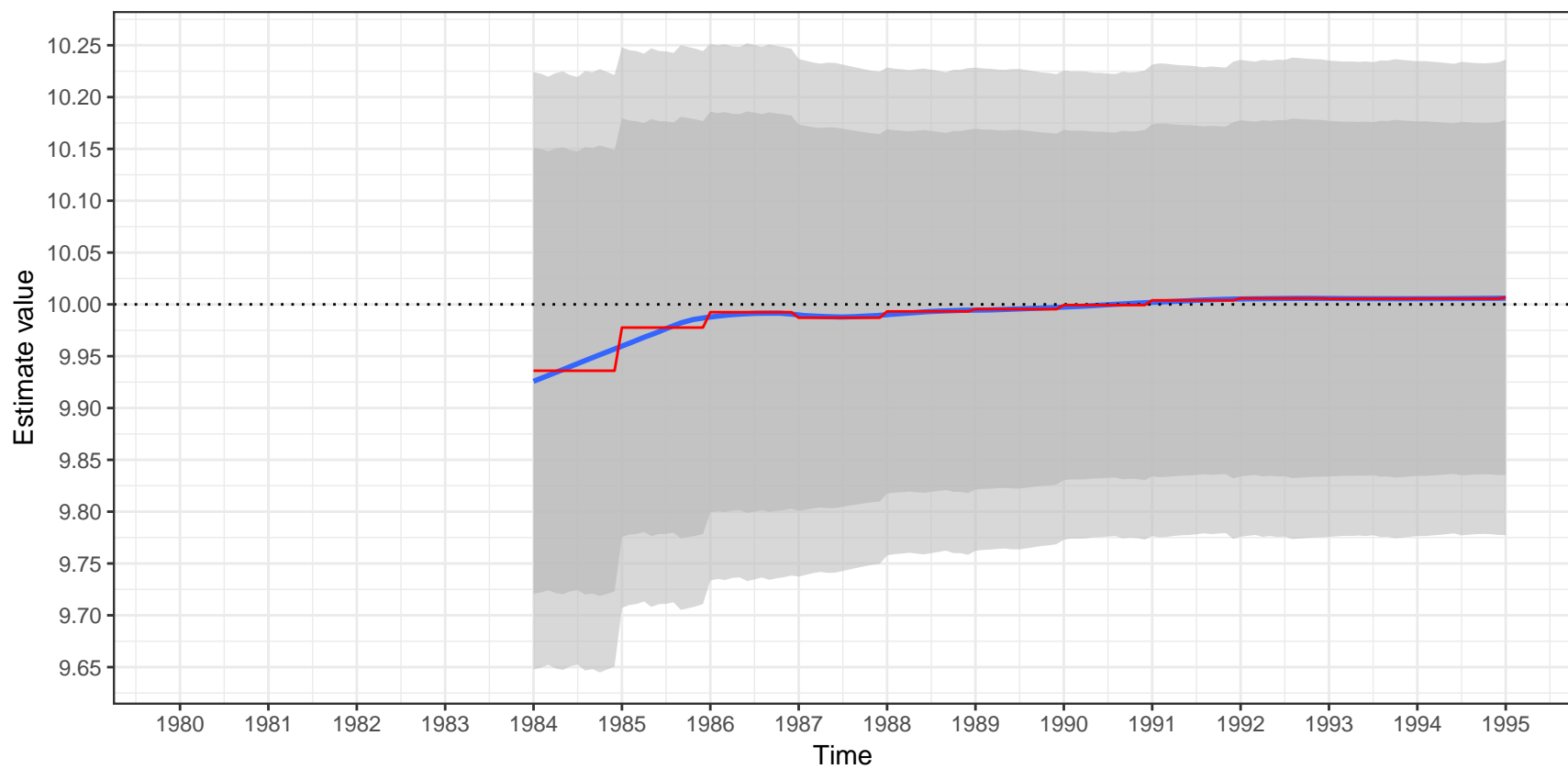


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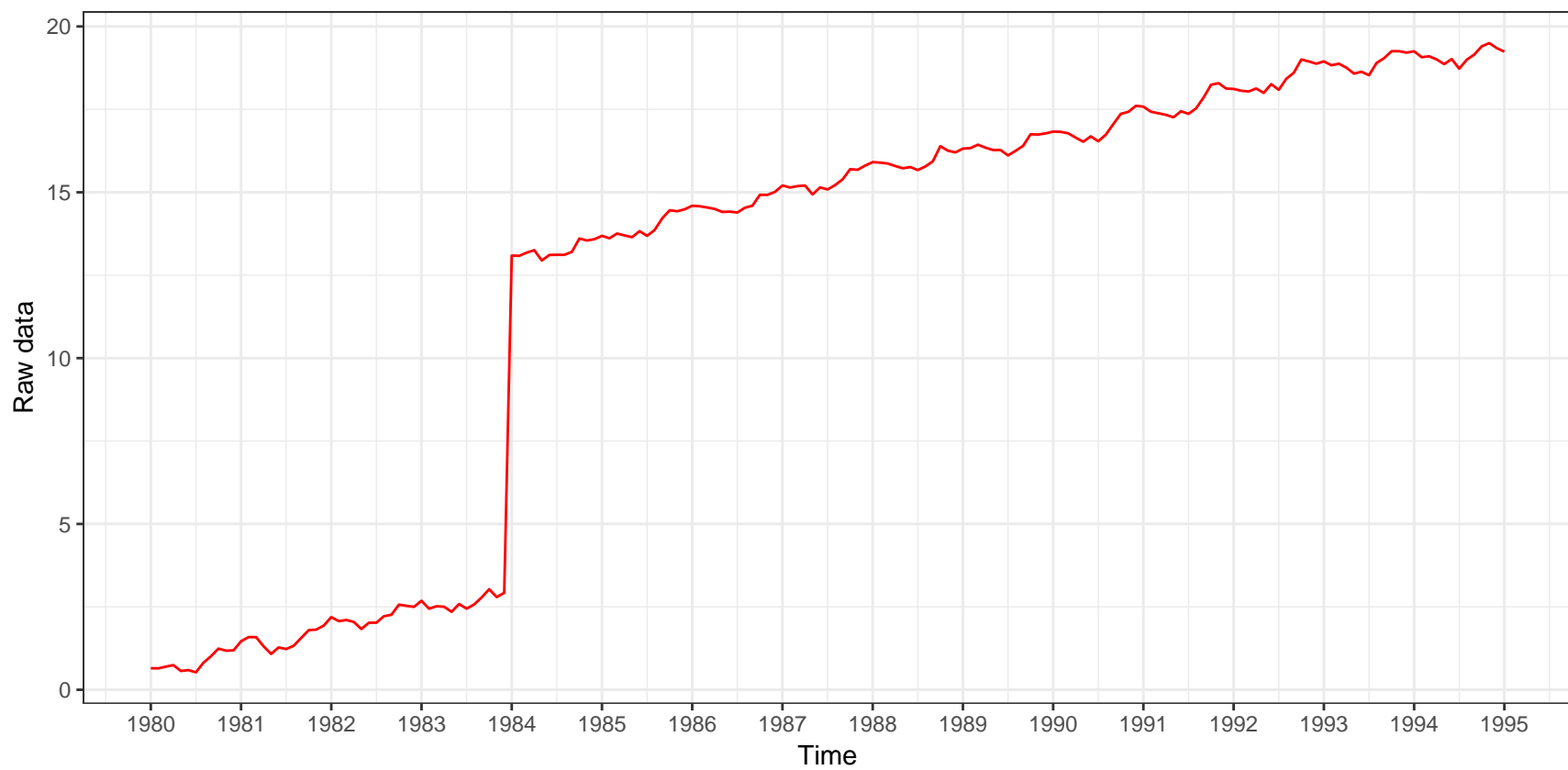


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

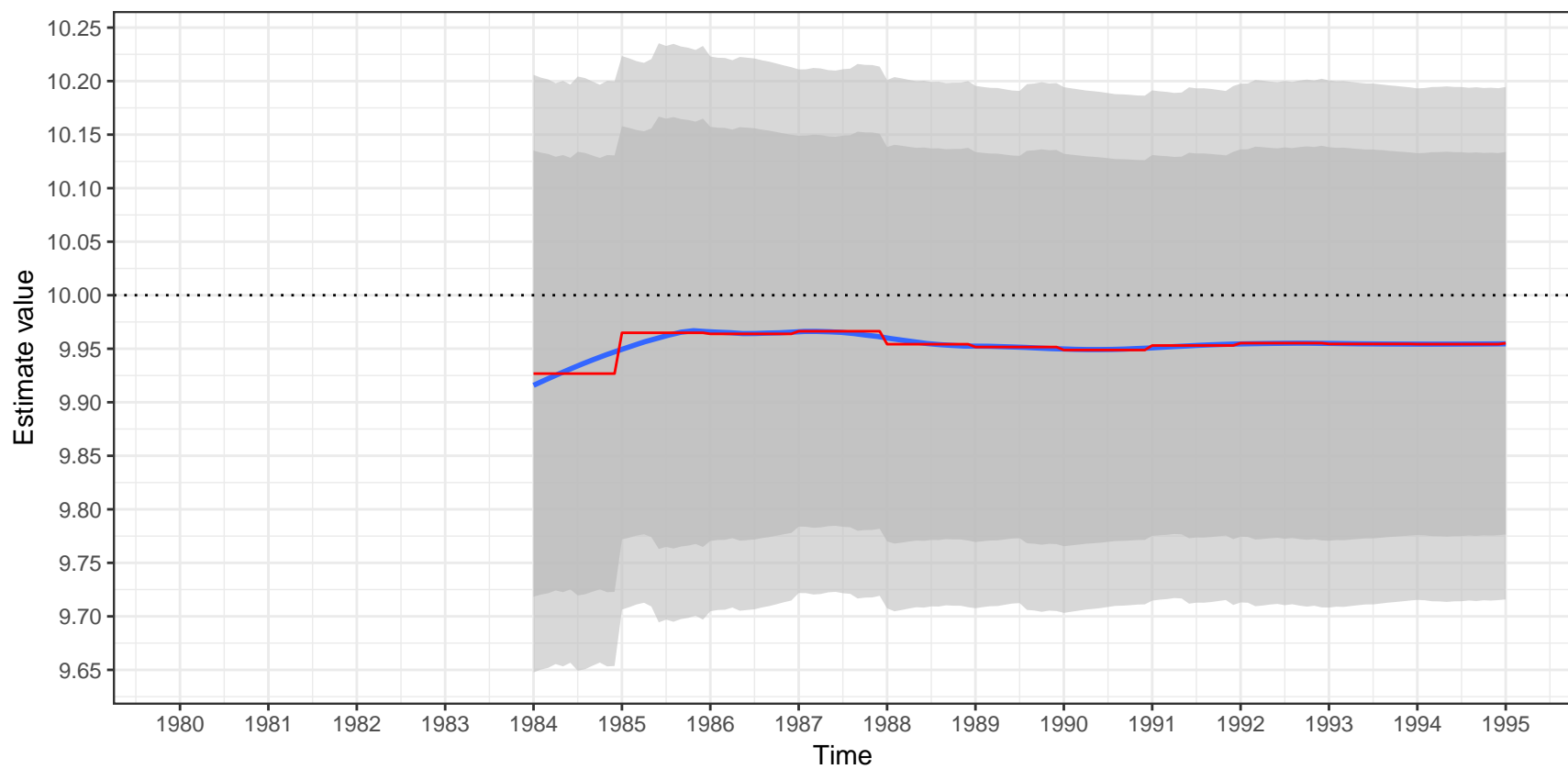


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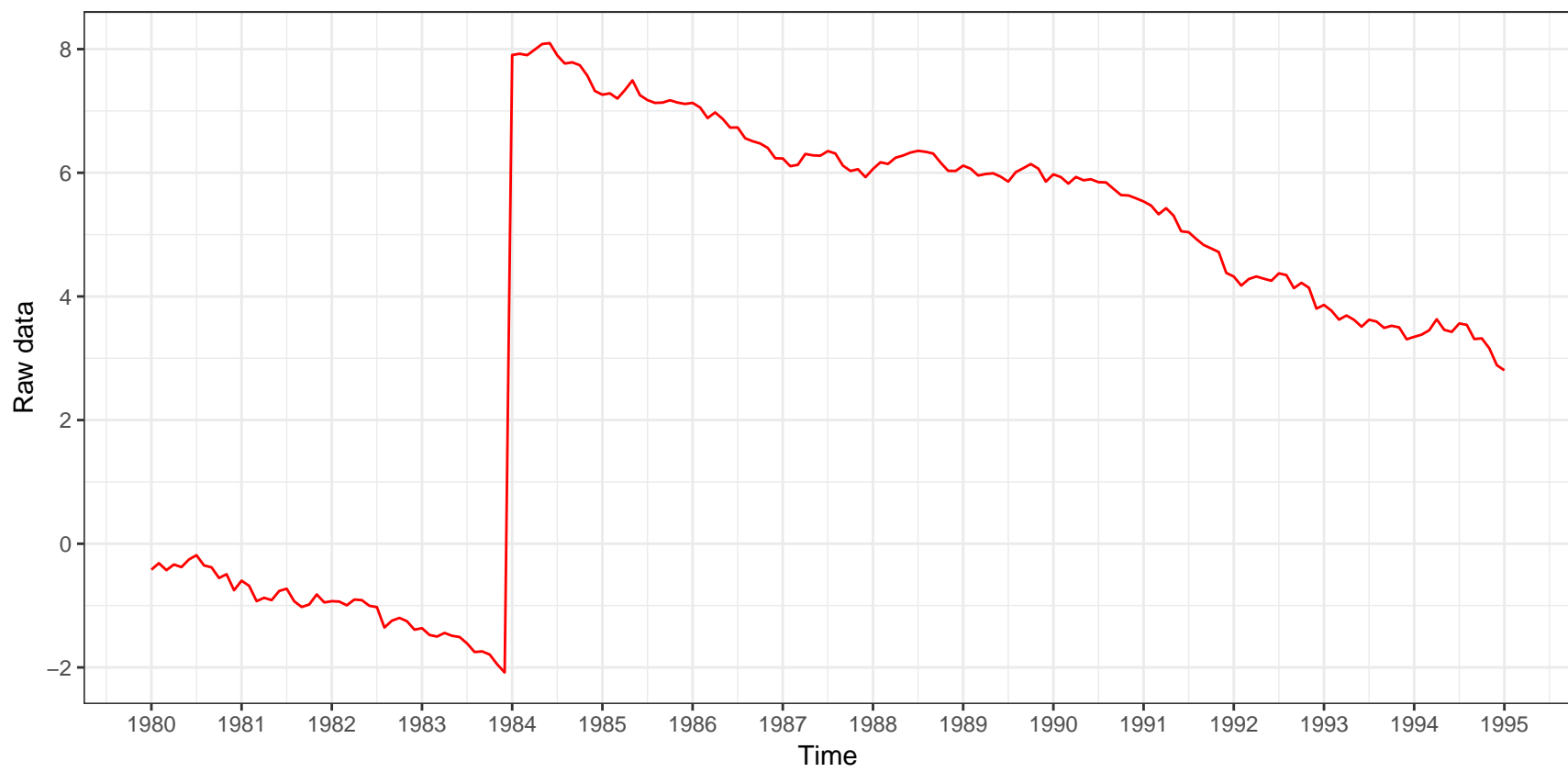


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

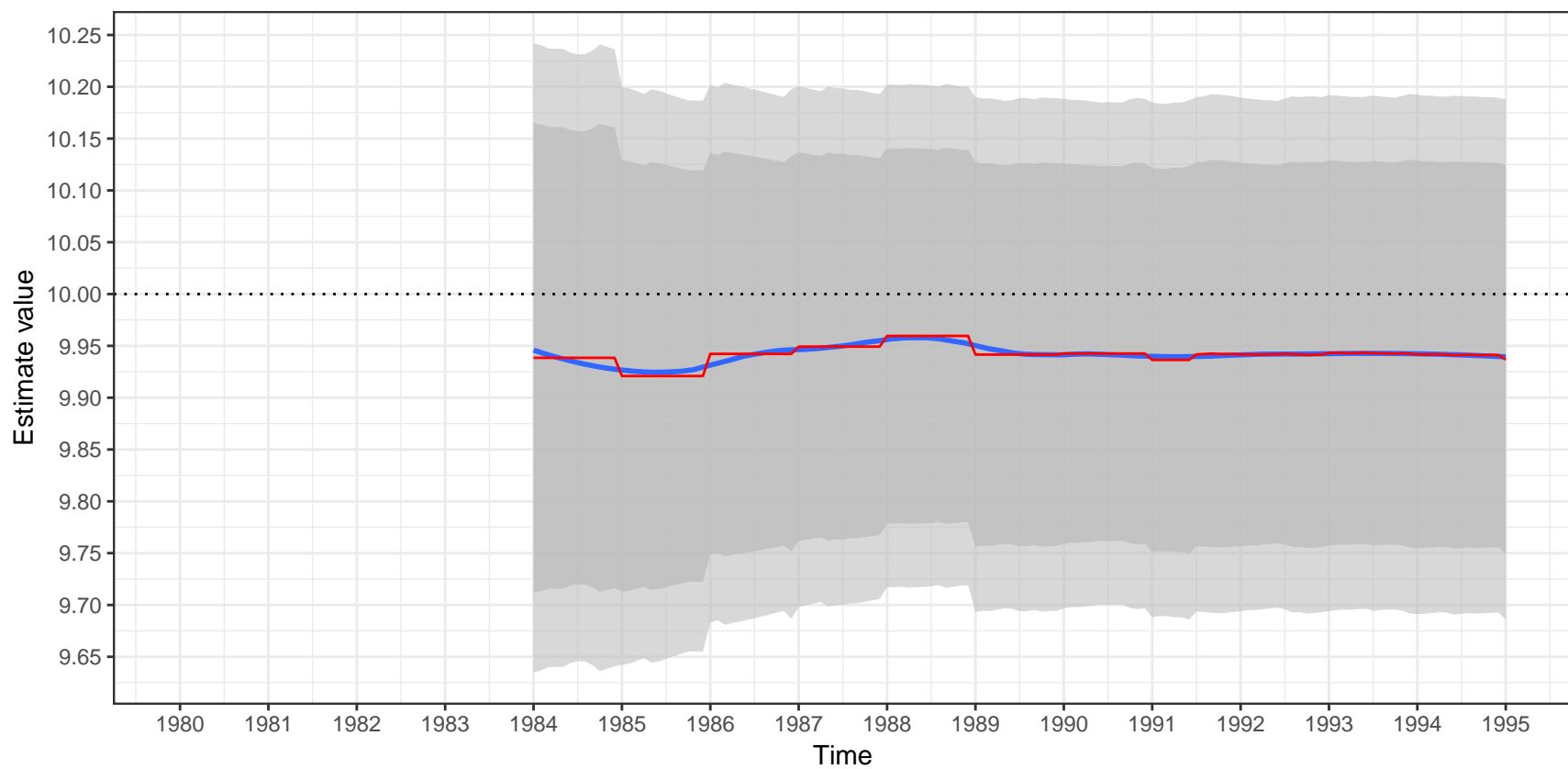


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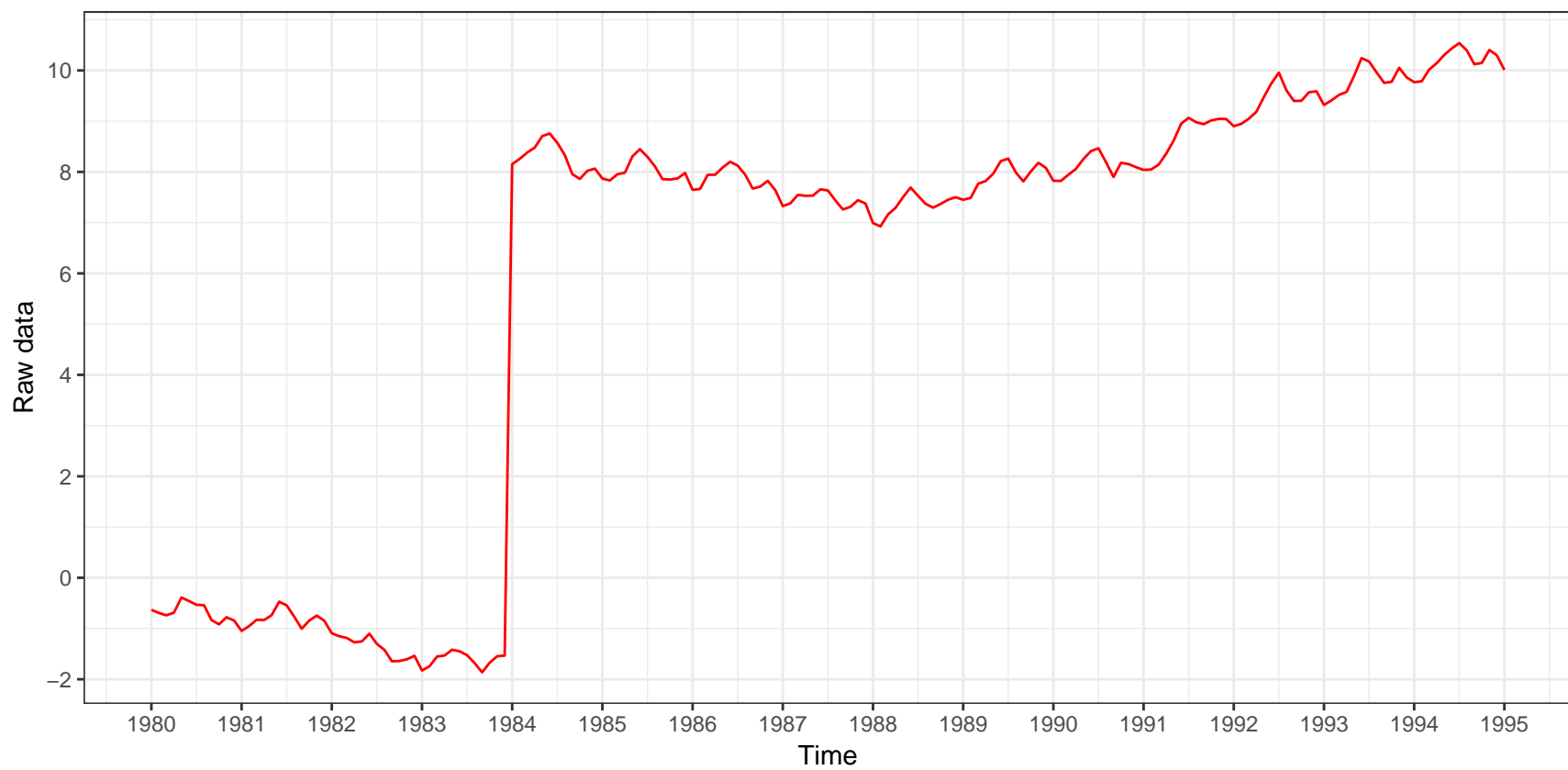


Estimate value of a LS(1984-01)
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Estimation of the outlier

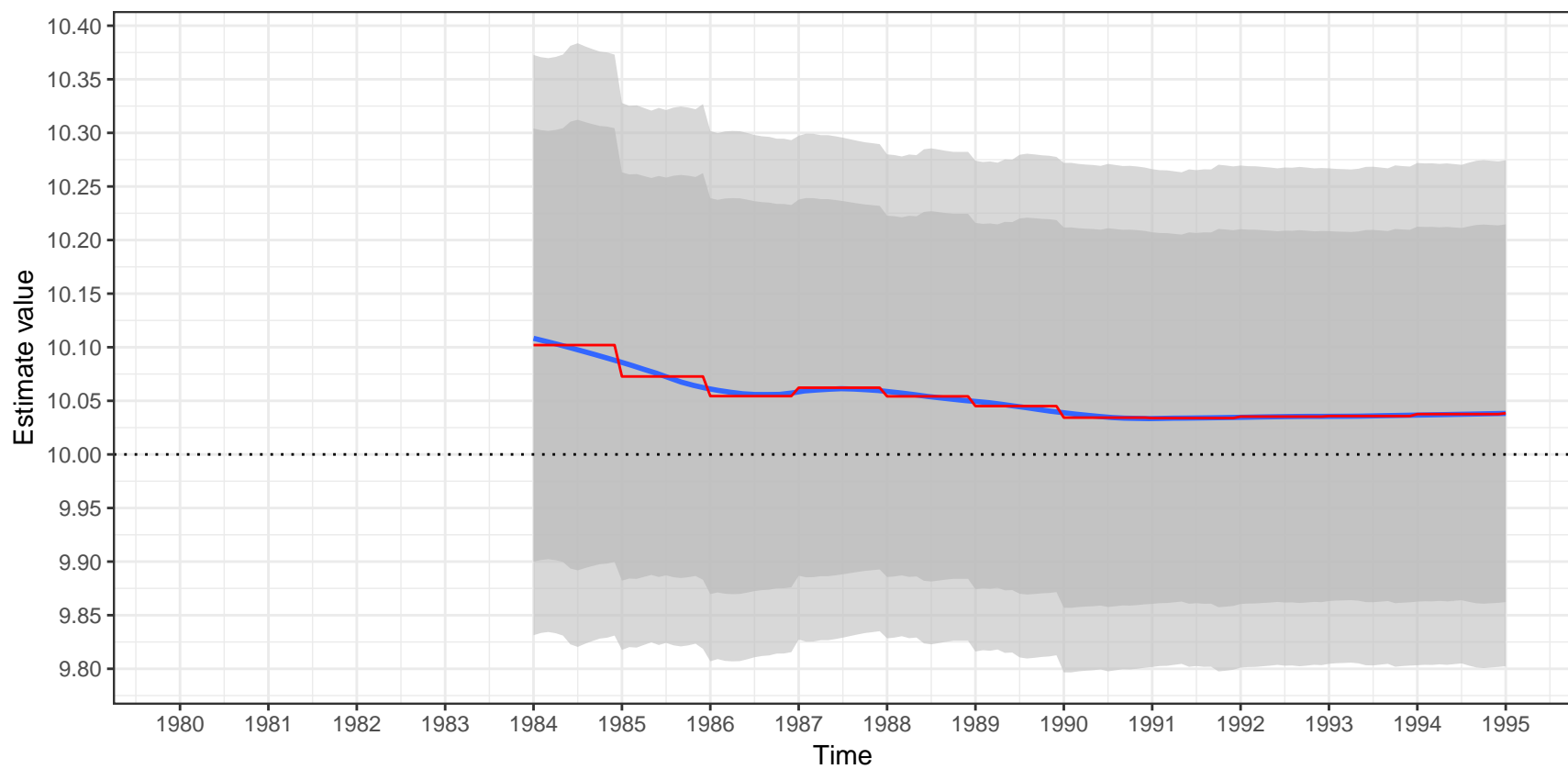


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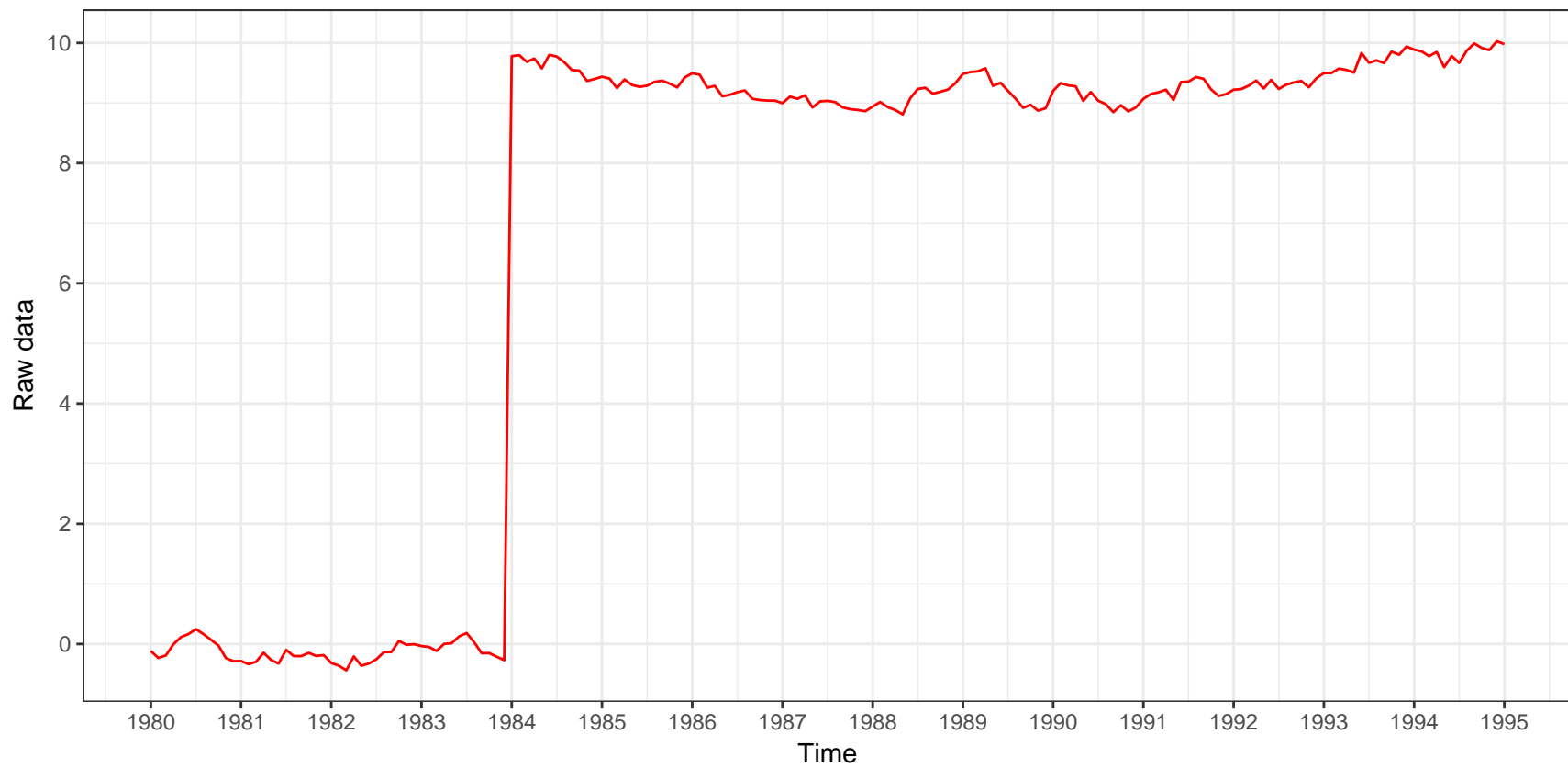


Estimate value of a LS(1984-01)
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 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

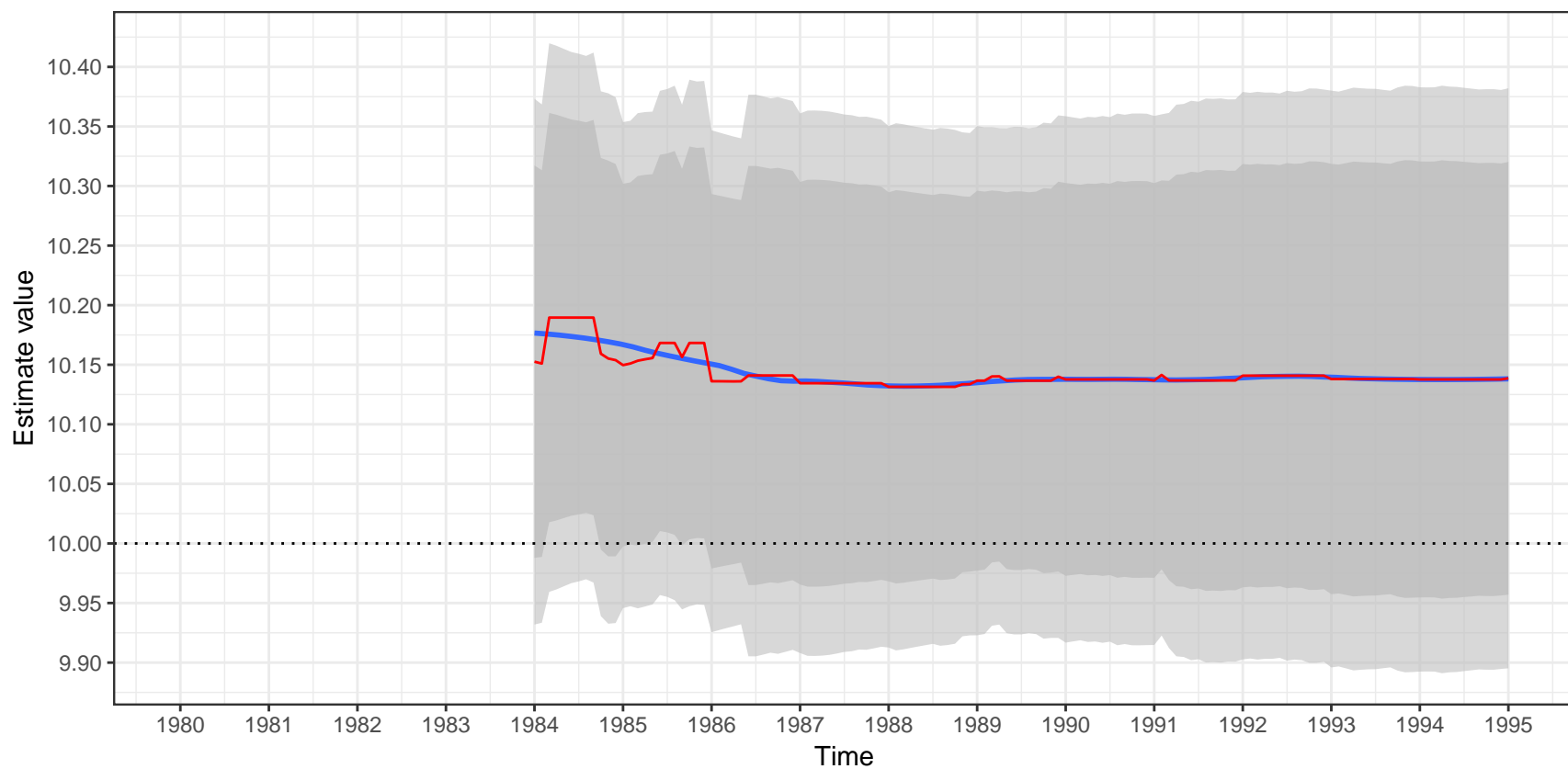


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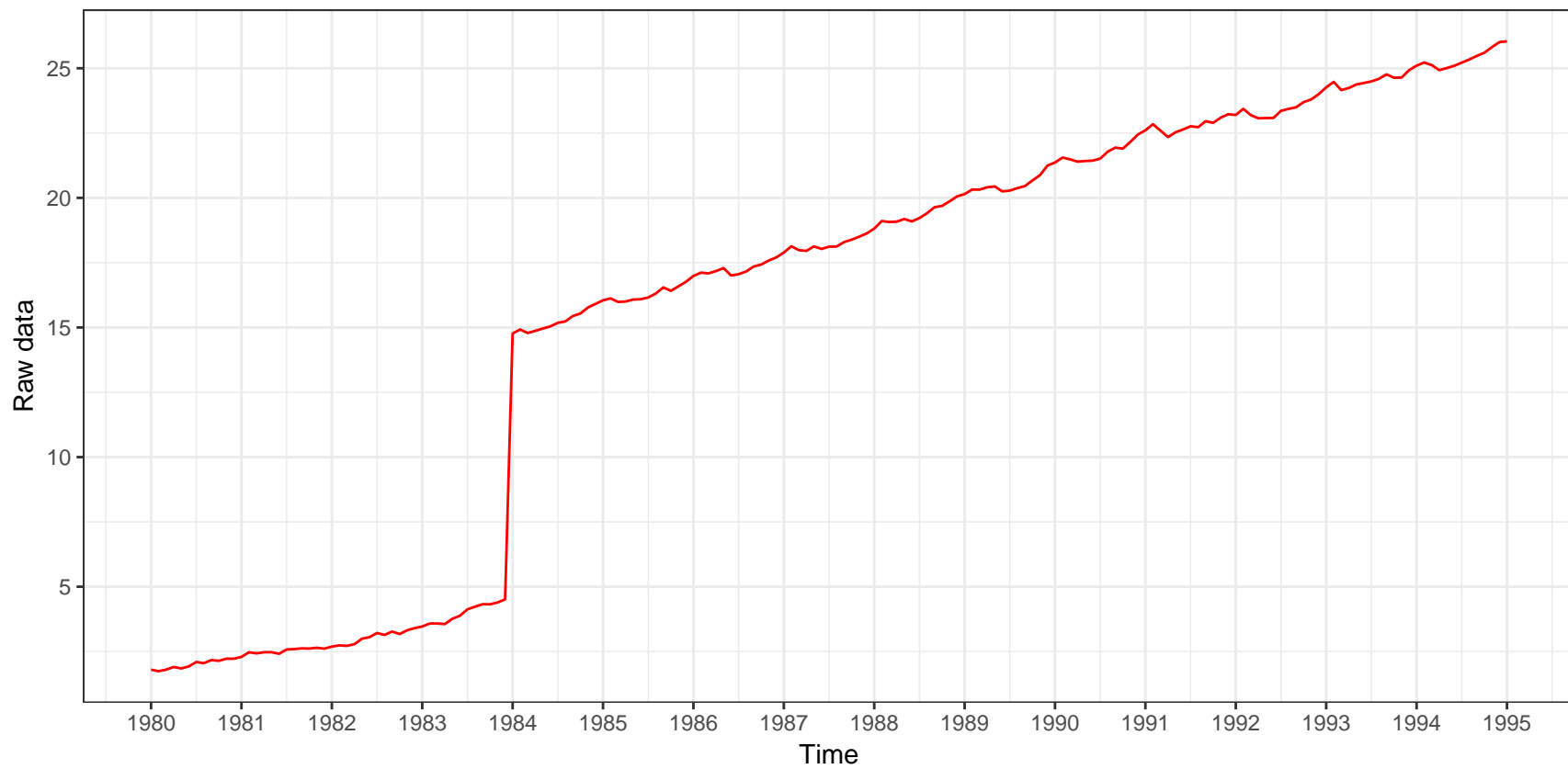


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

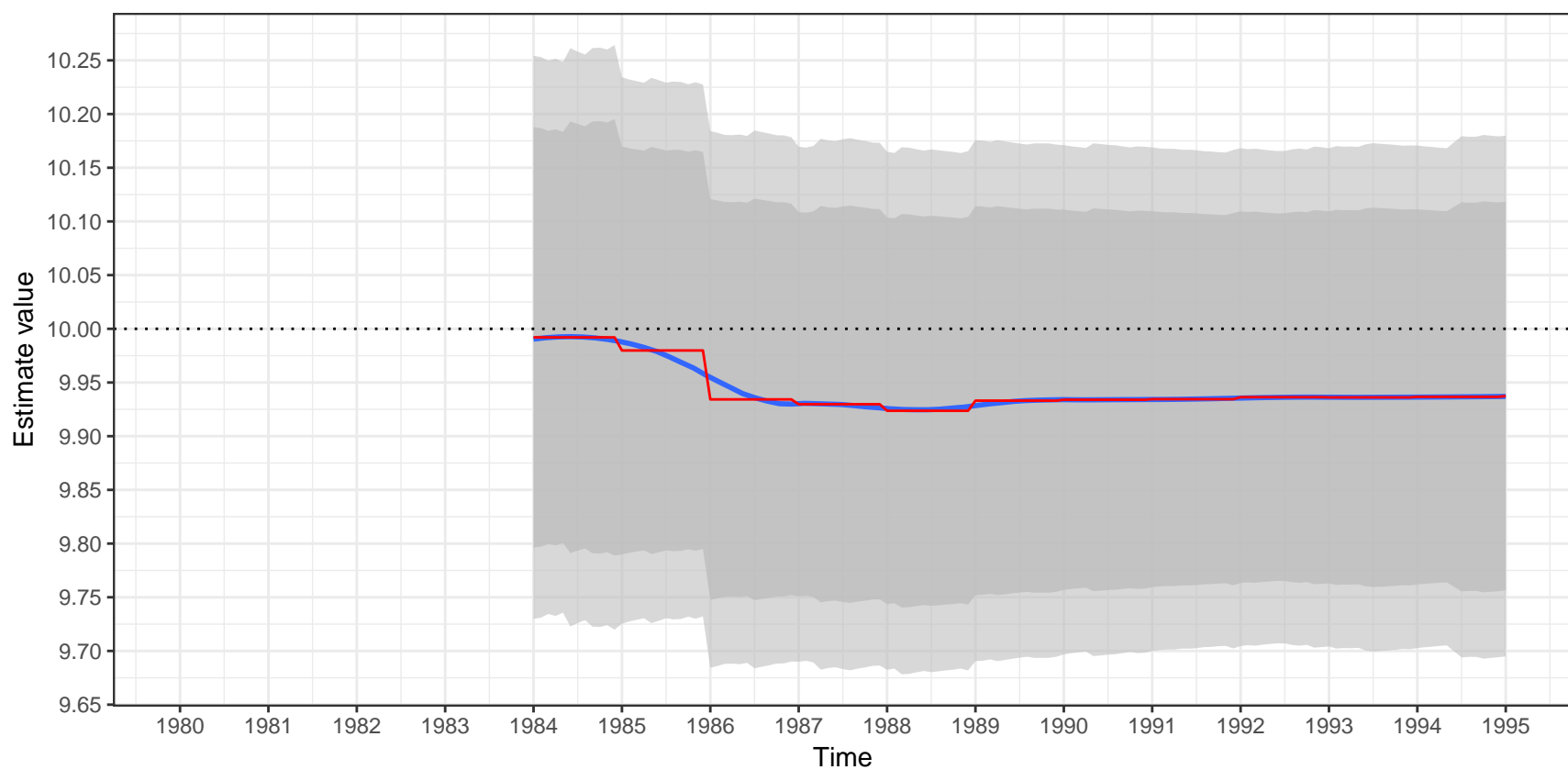


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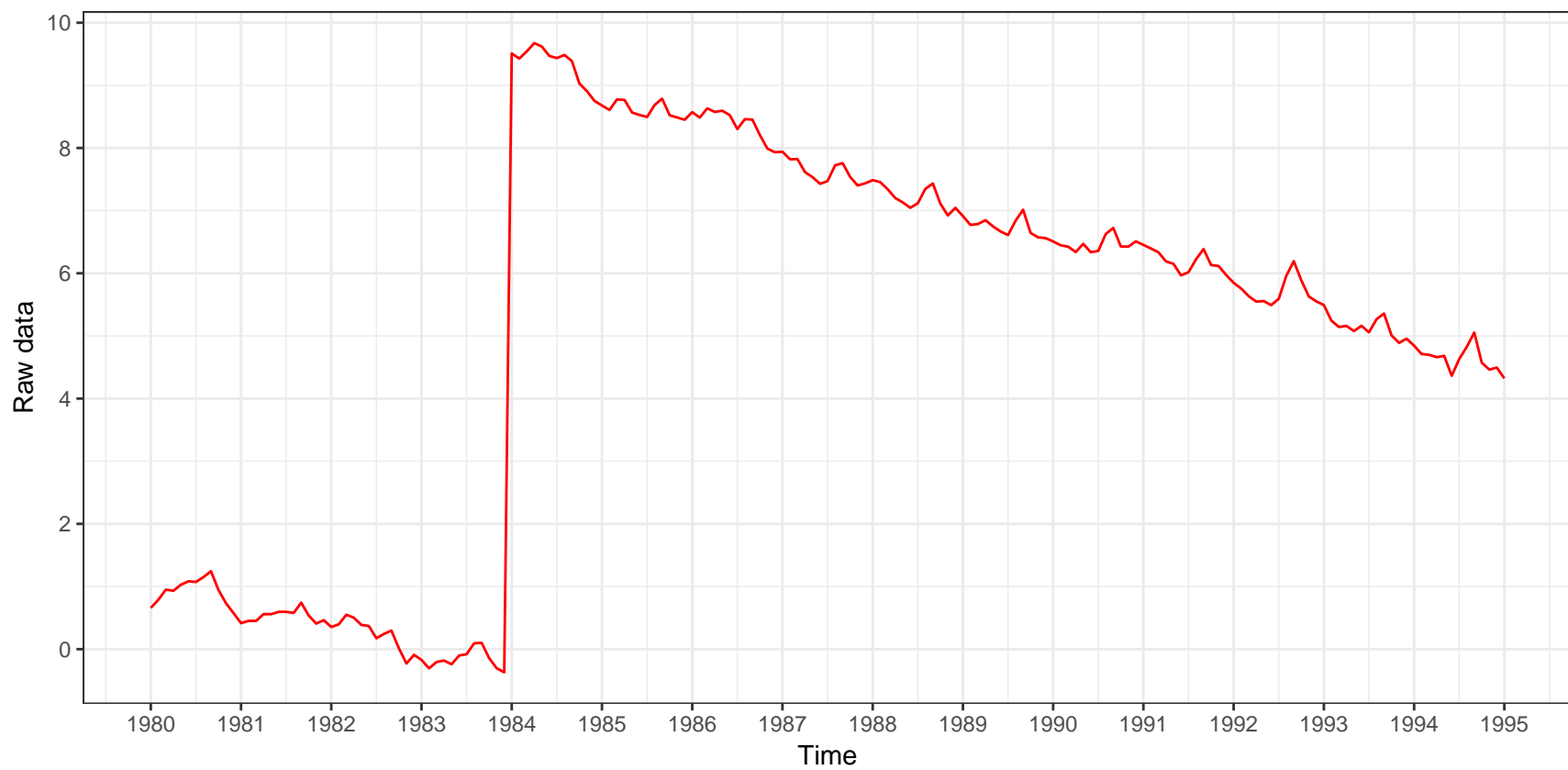


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t = (1-0.7B_{12})a_t$

Estimation of the outlier

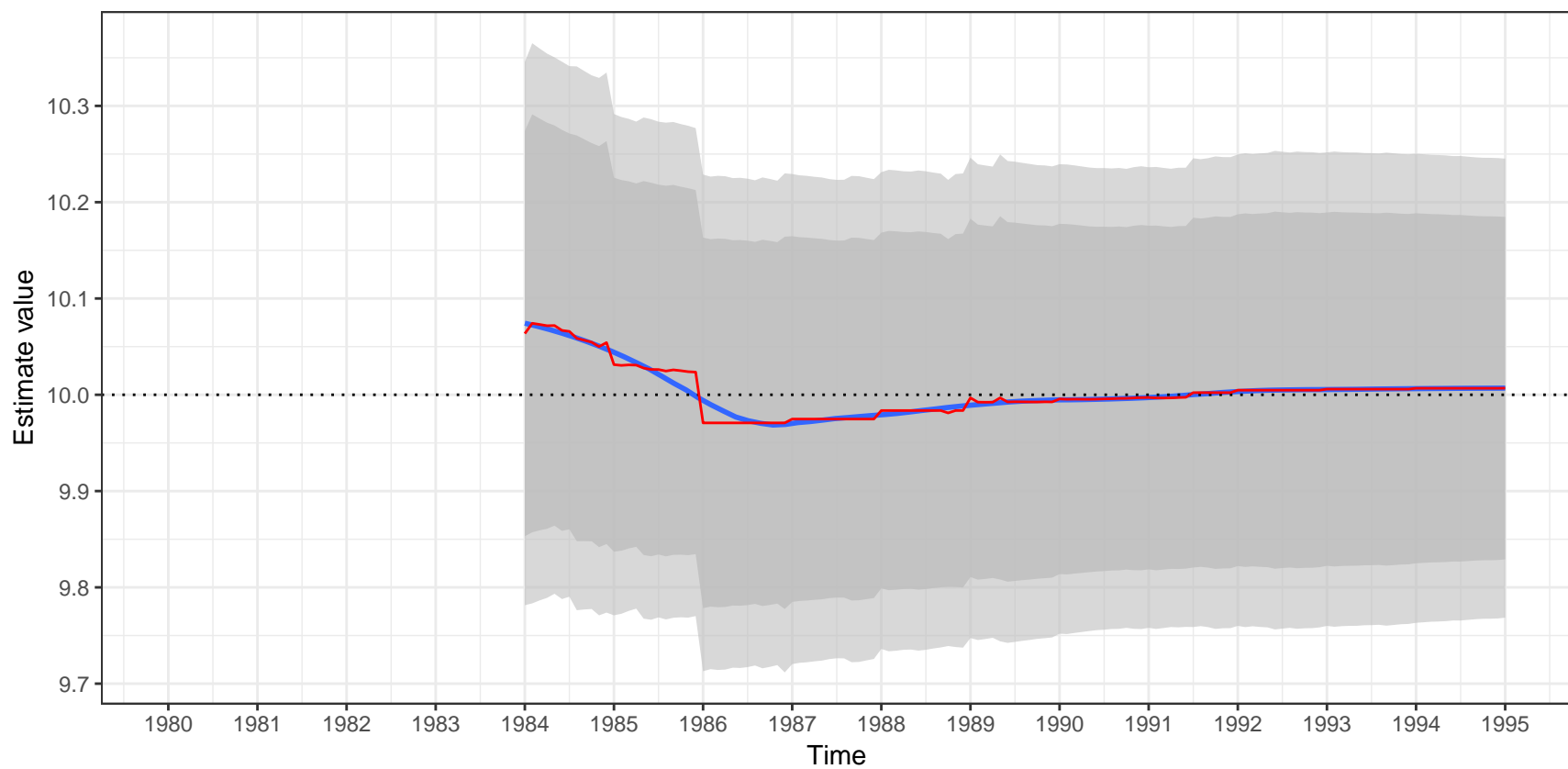


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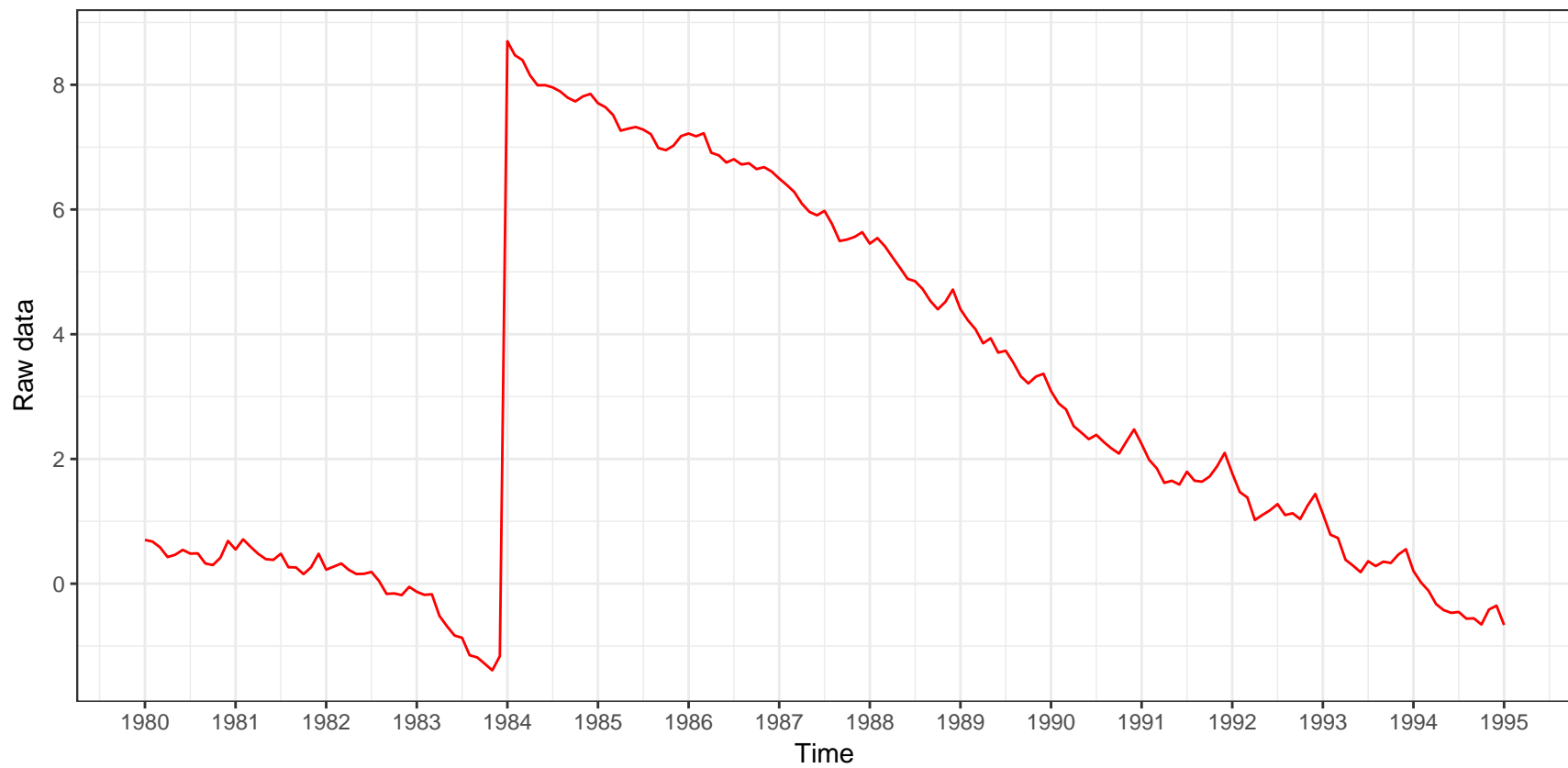


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

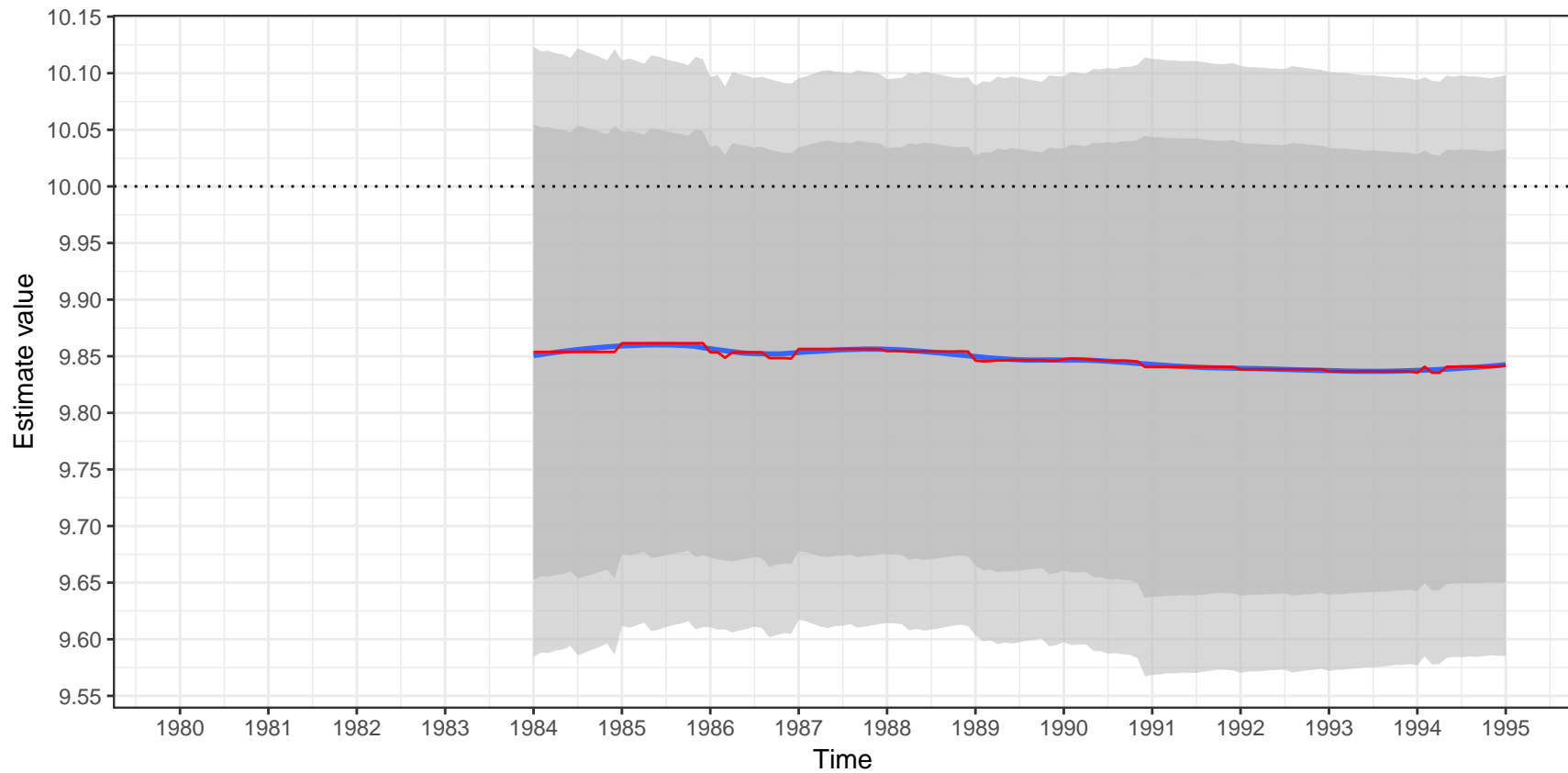


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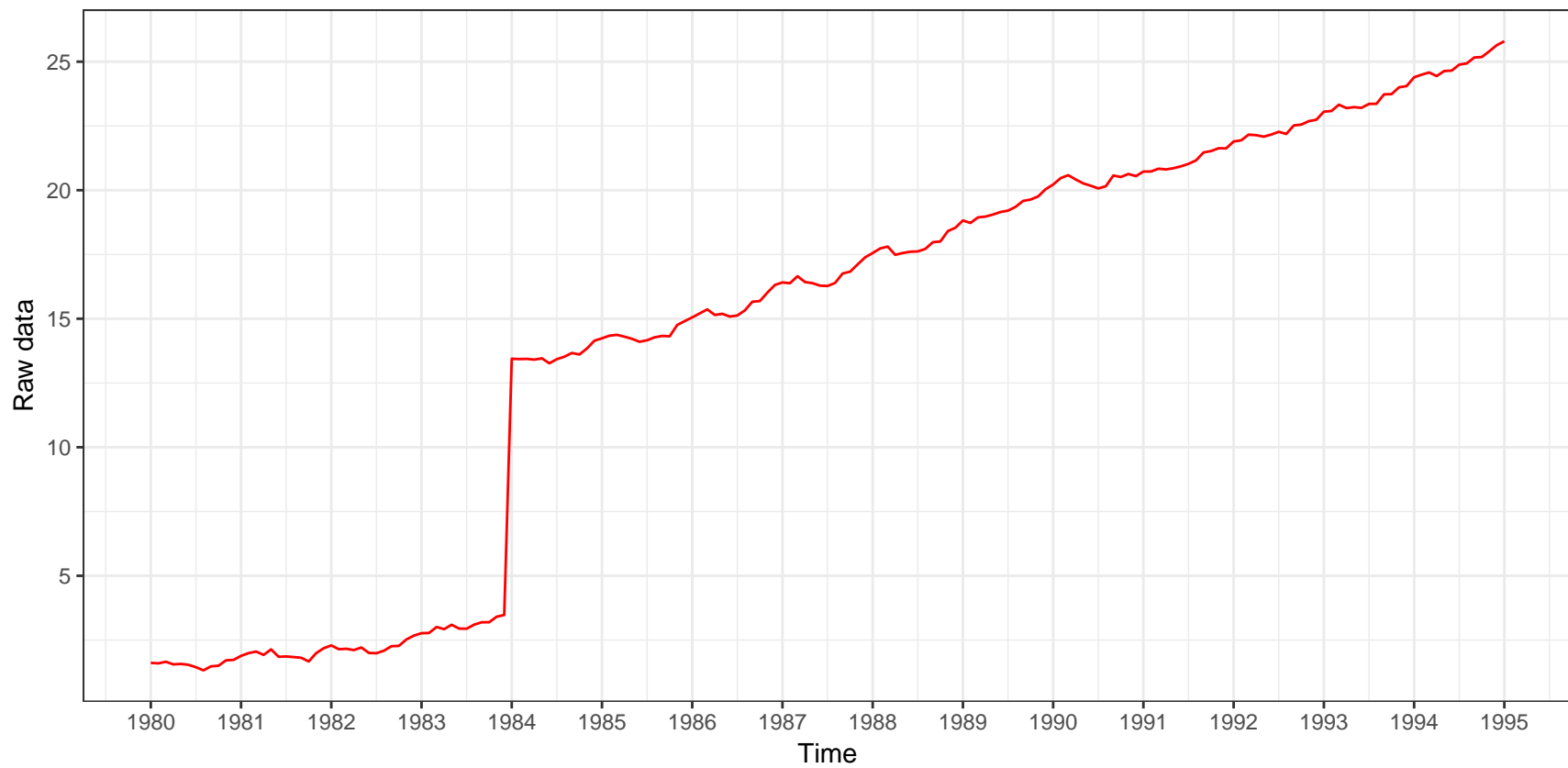


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ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

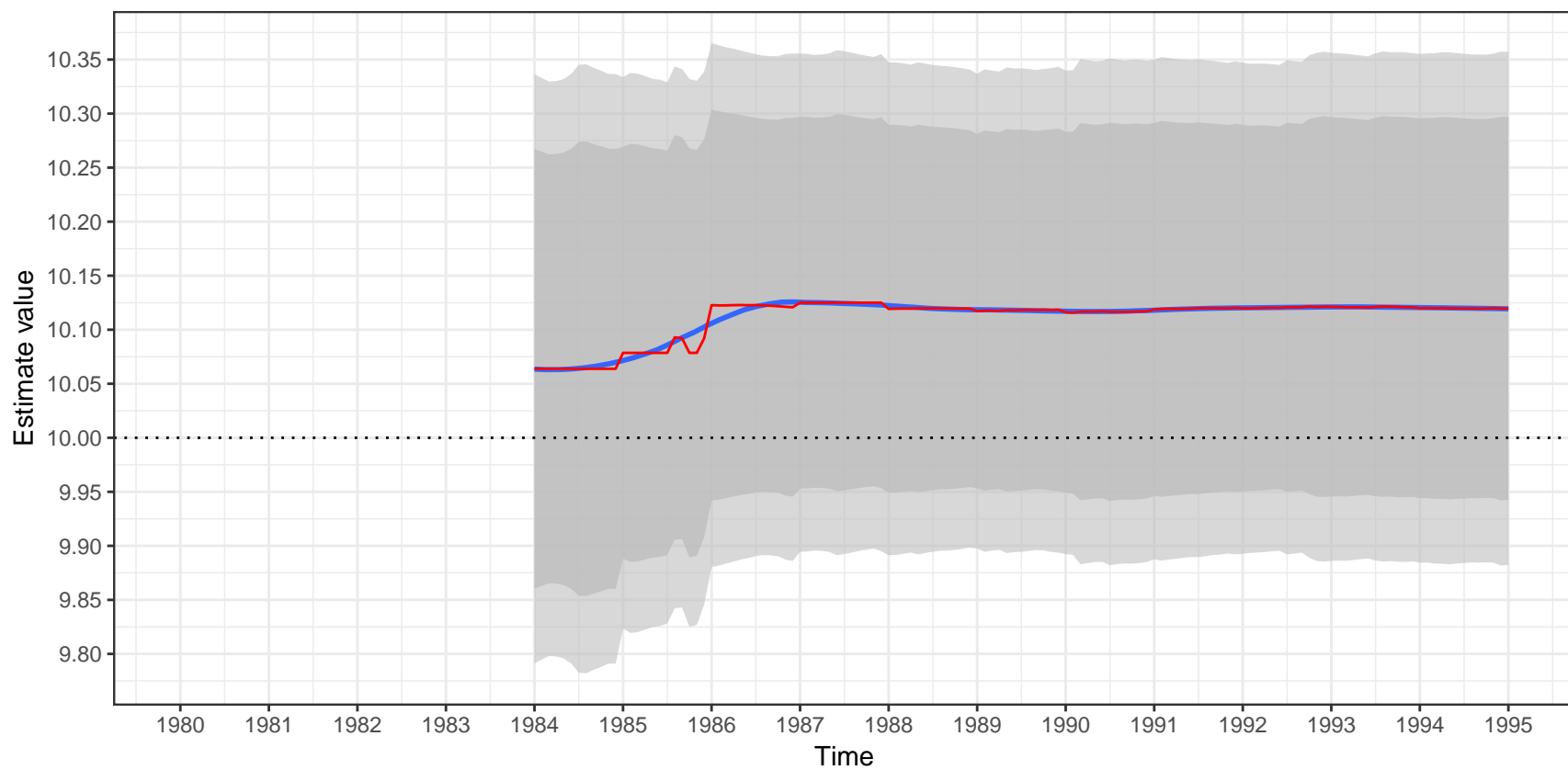


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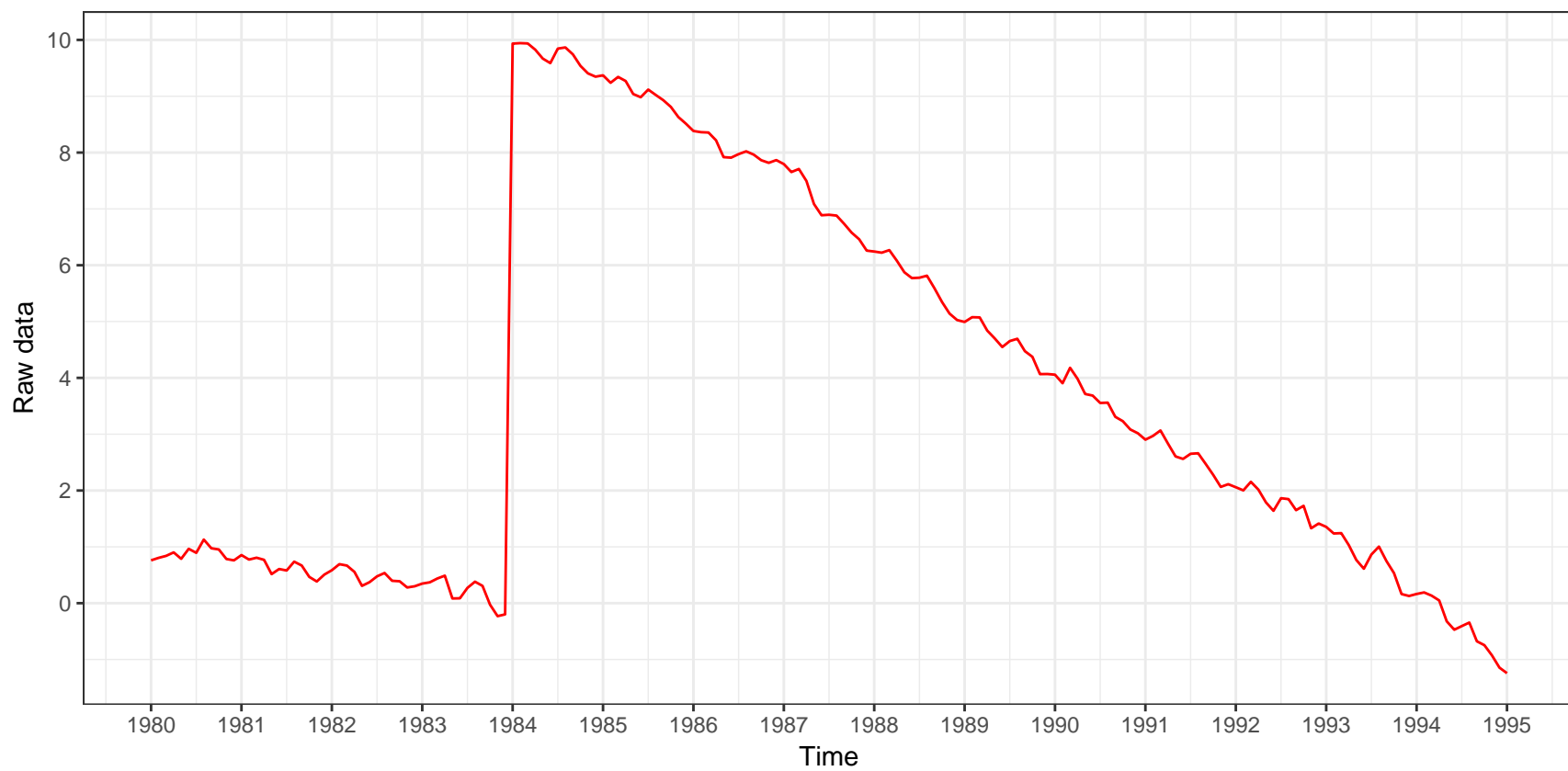


Estimate value of a LS(1984-01)
ARIMA (0,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B^{12})a_t$

Estimation of the outlier

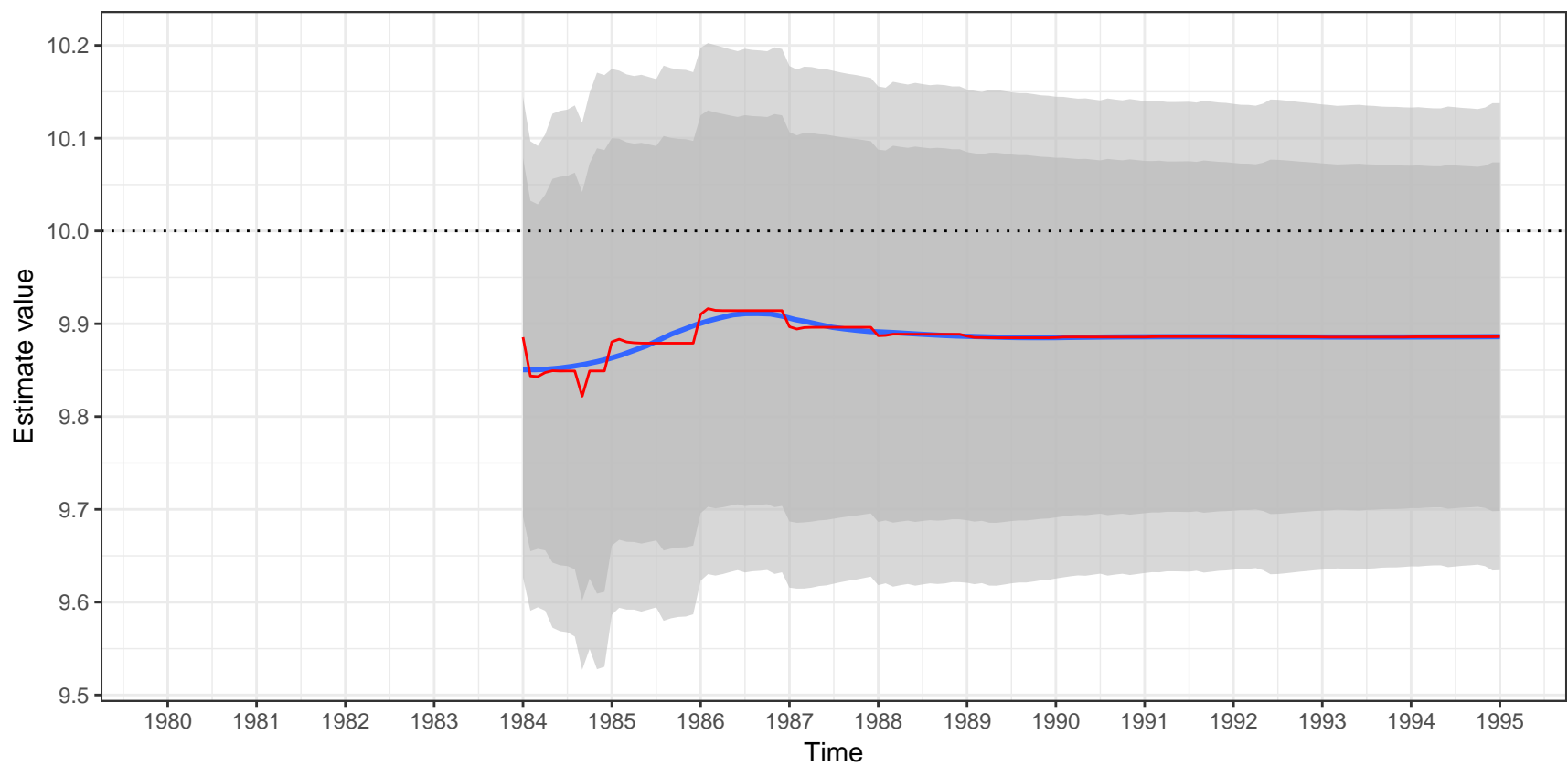


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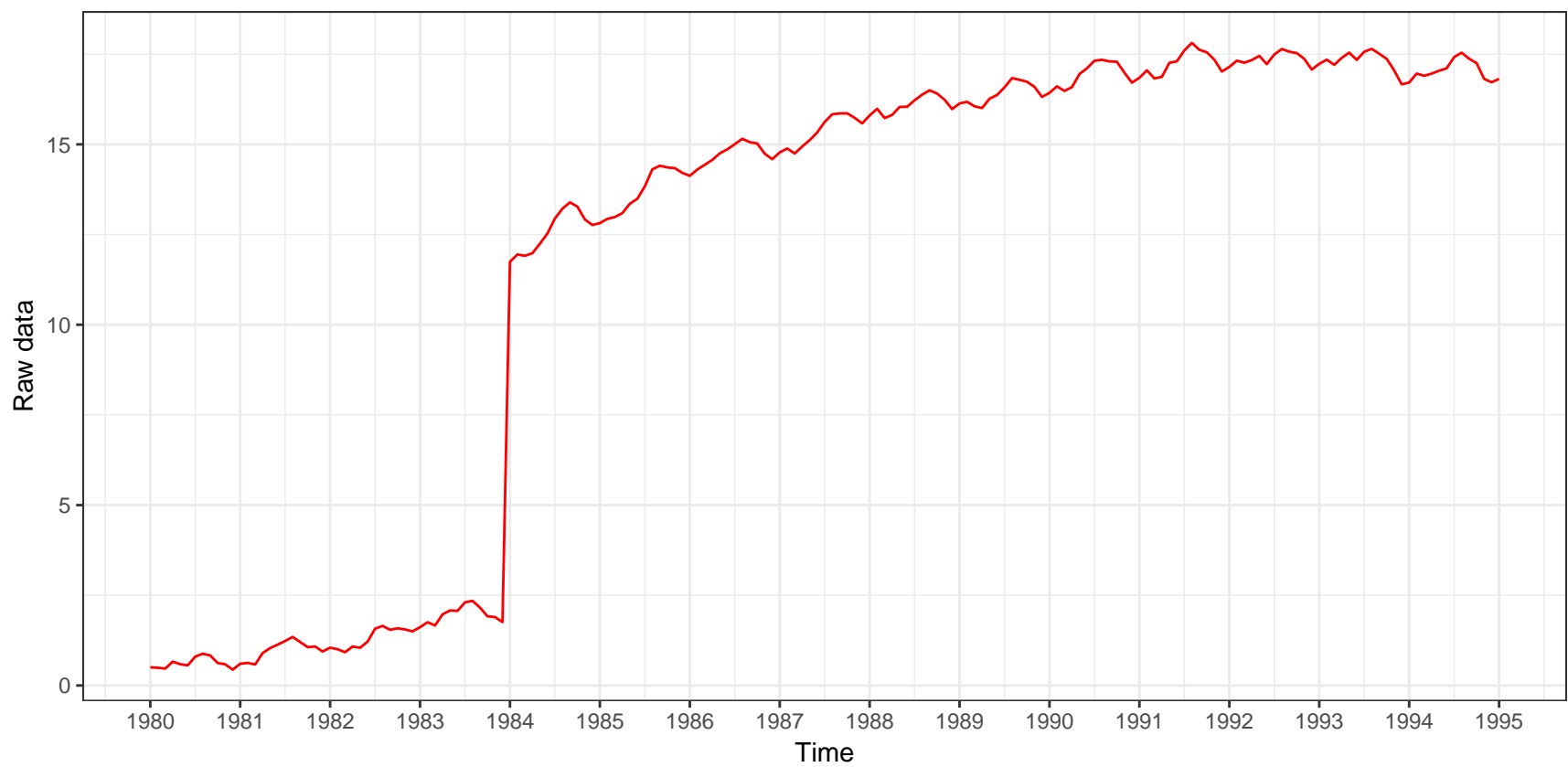


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

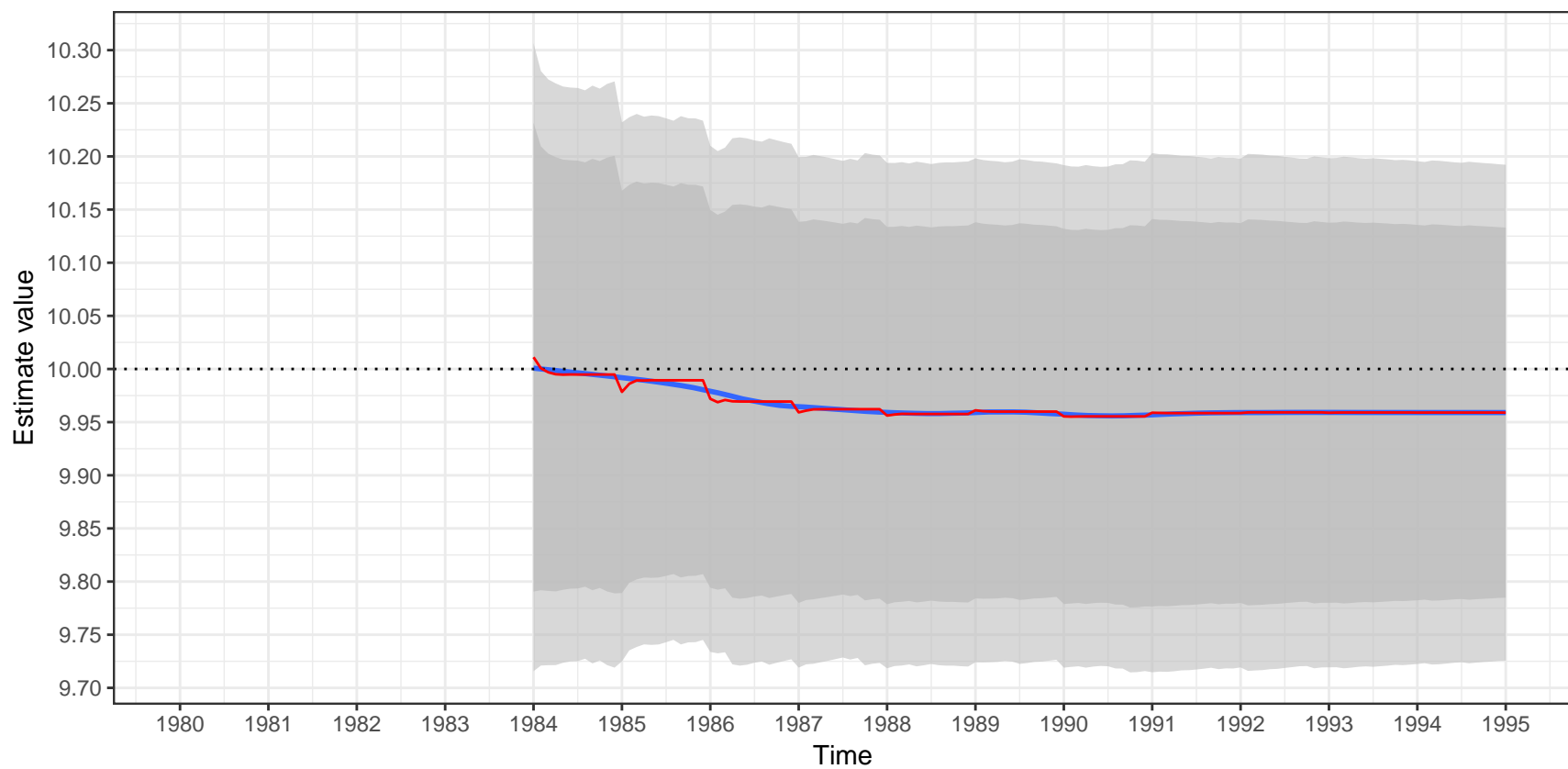


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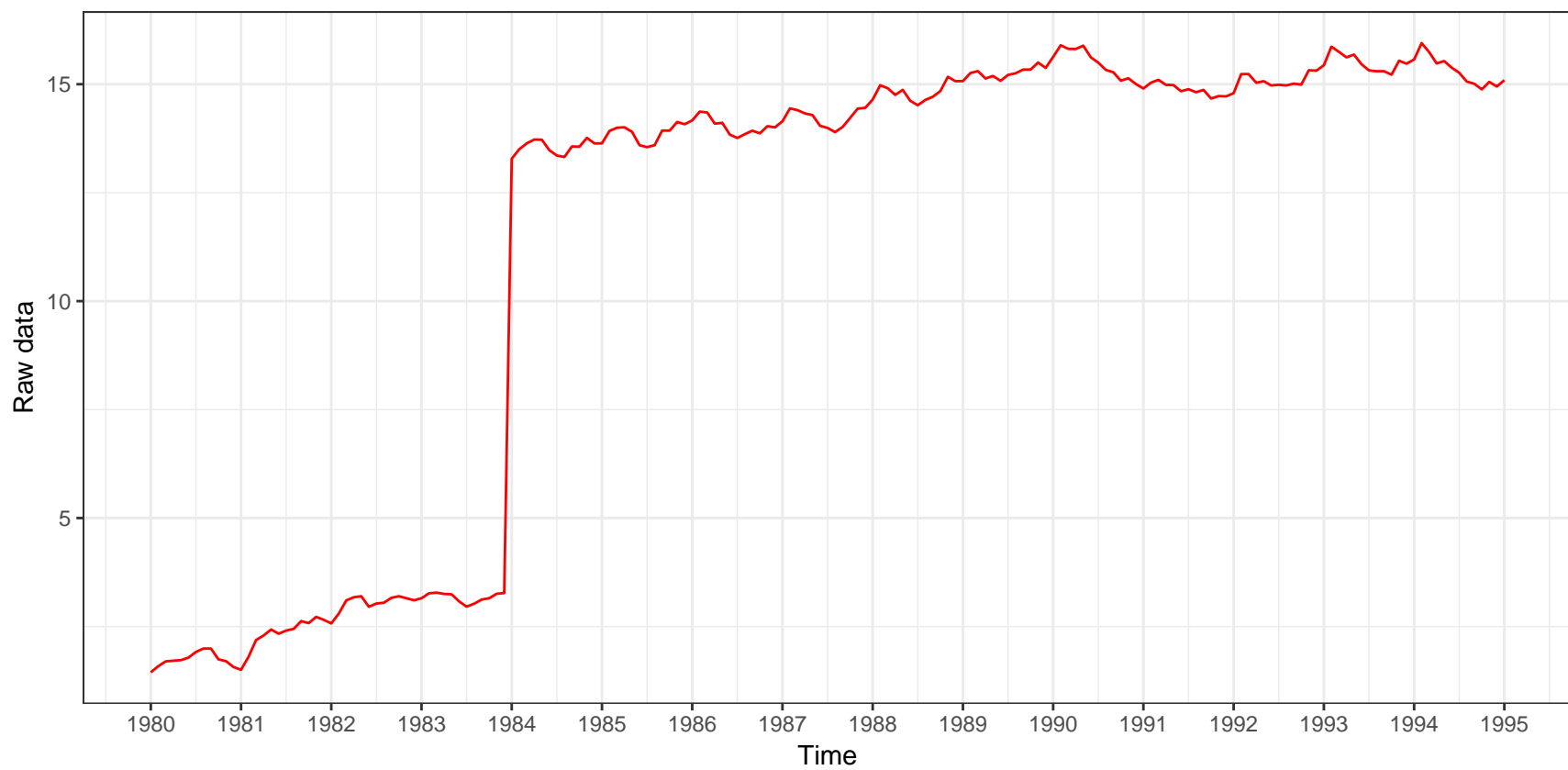


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

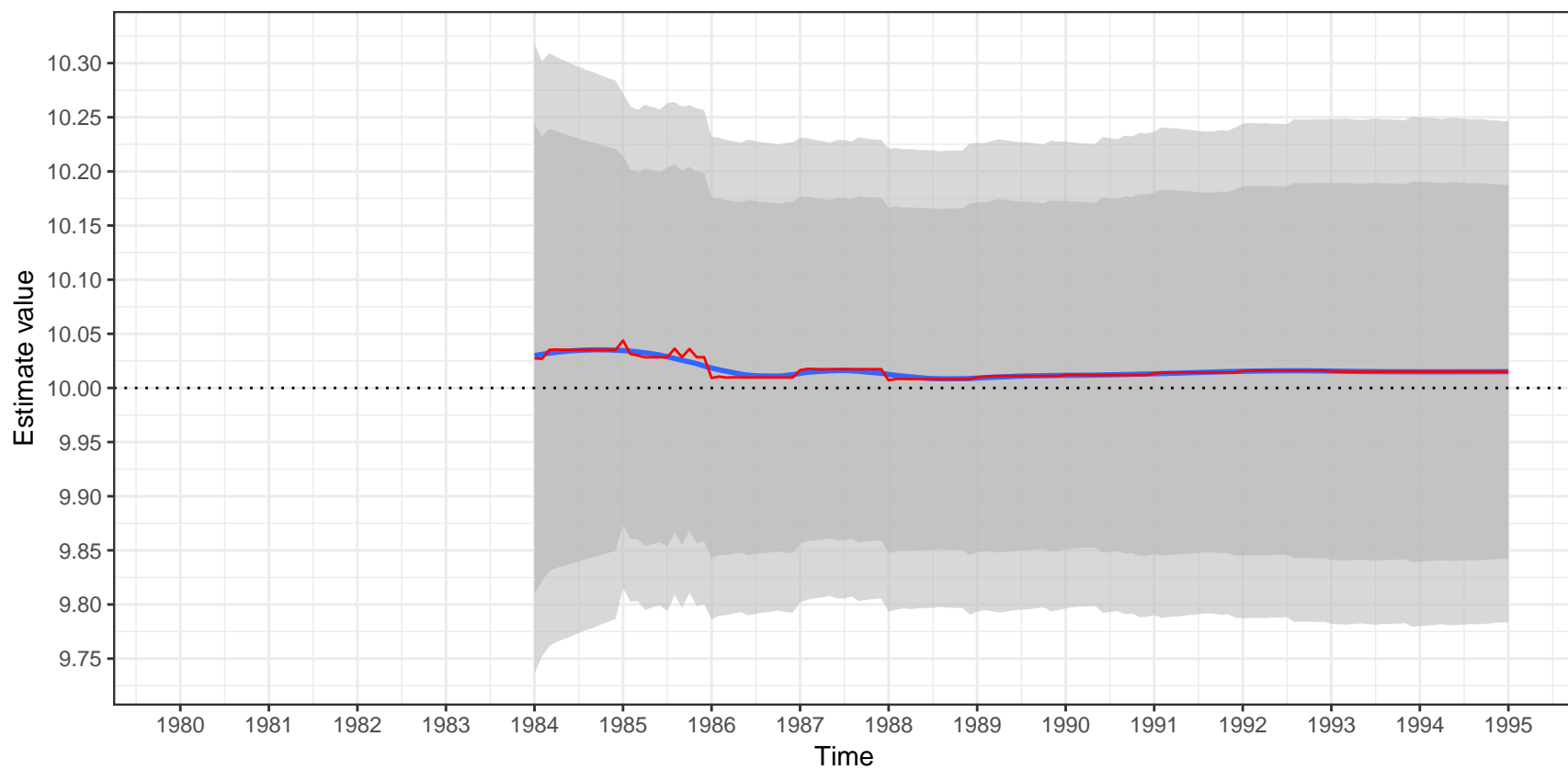


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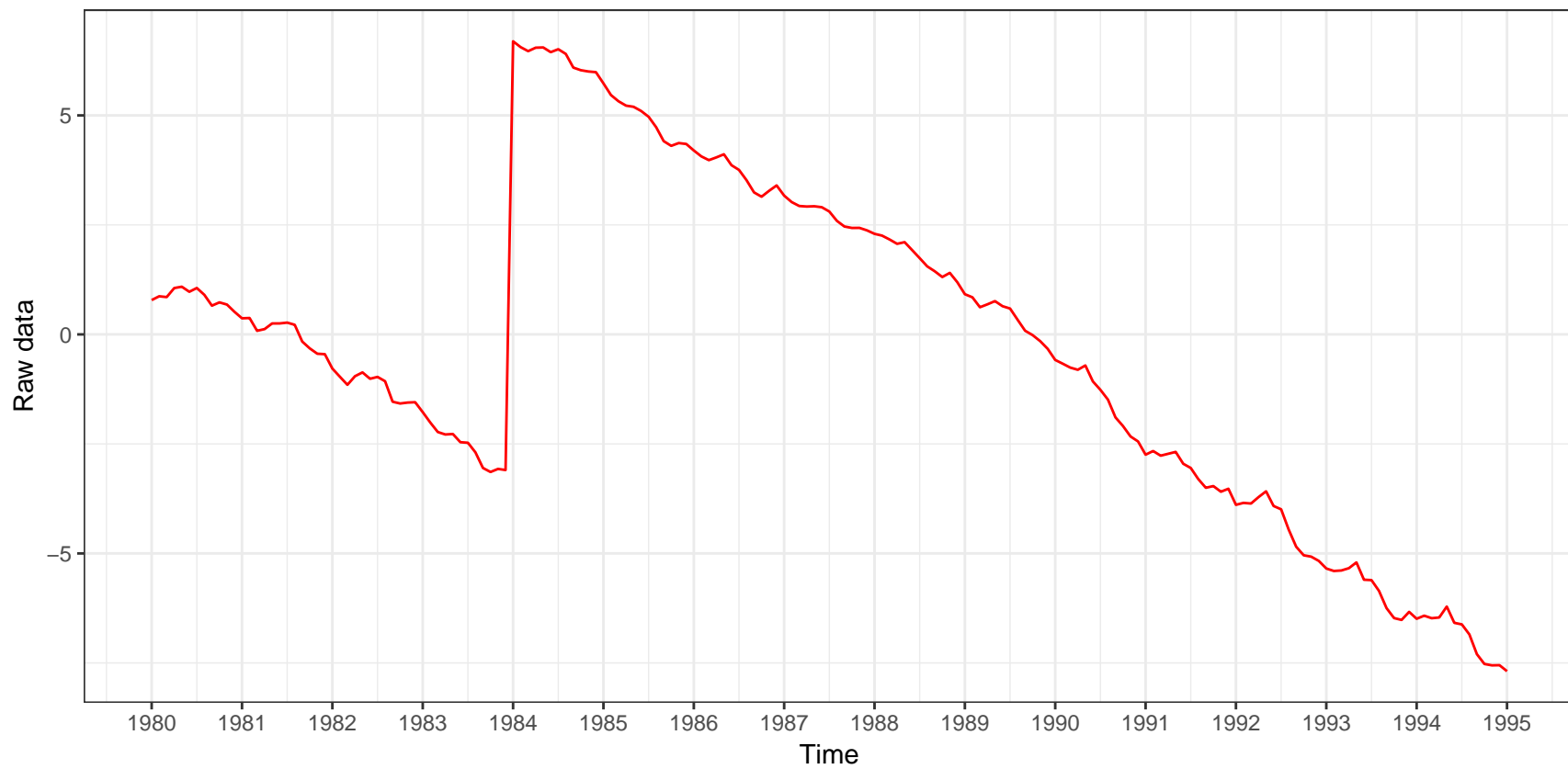


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

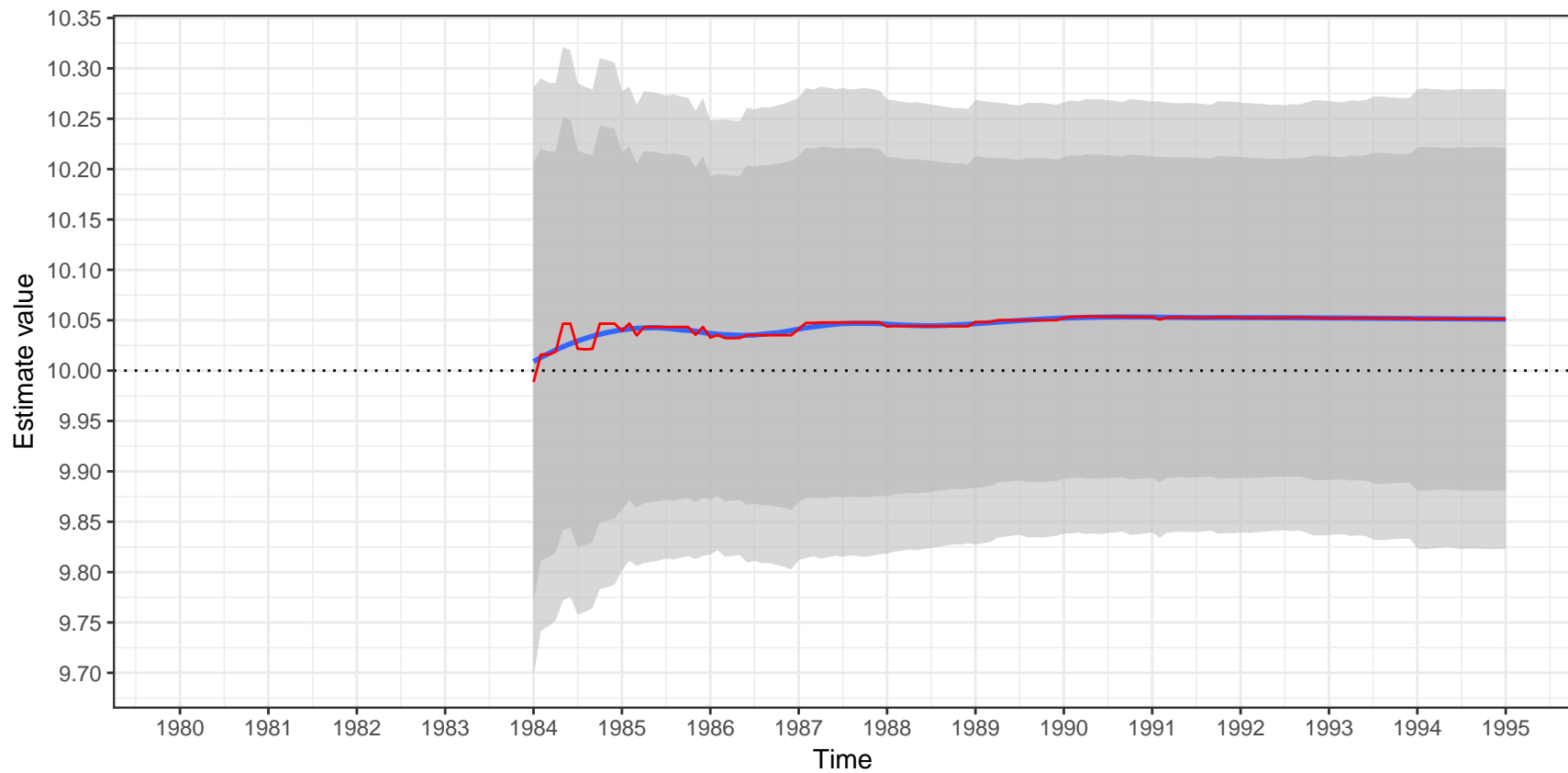


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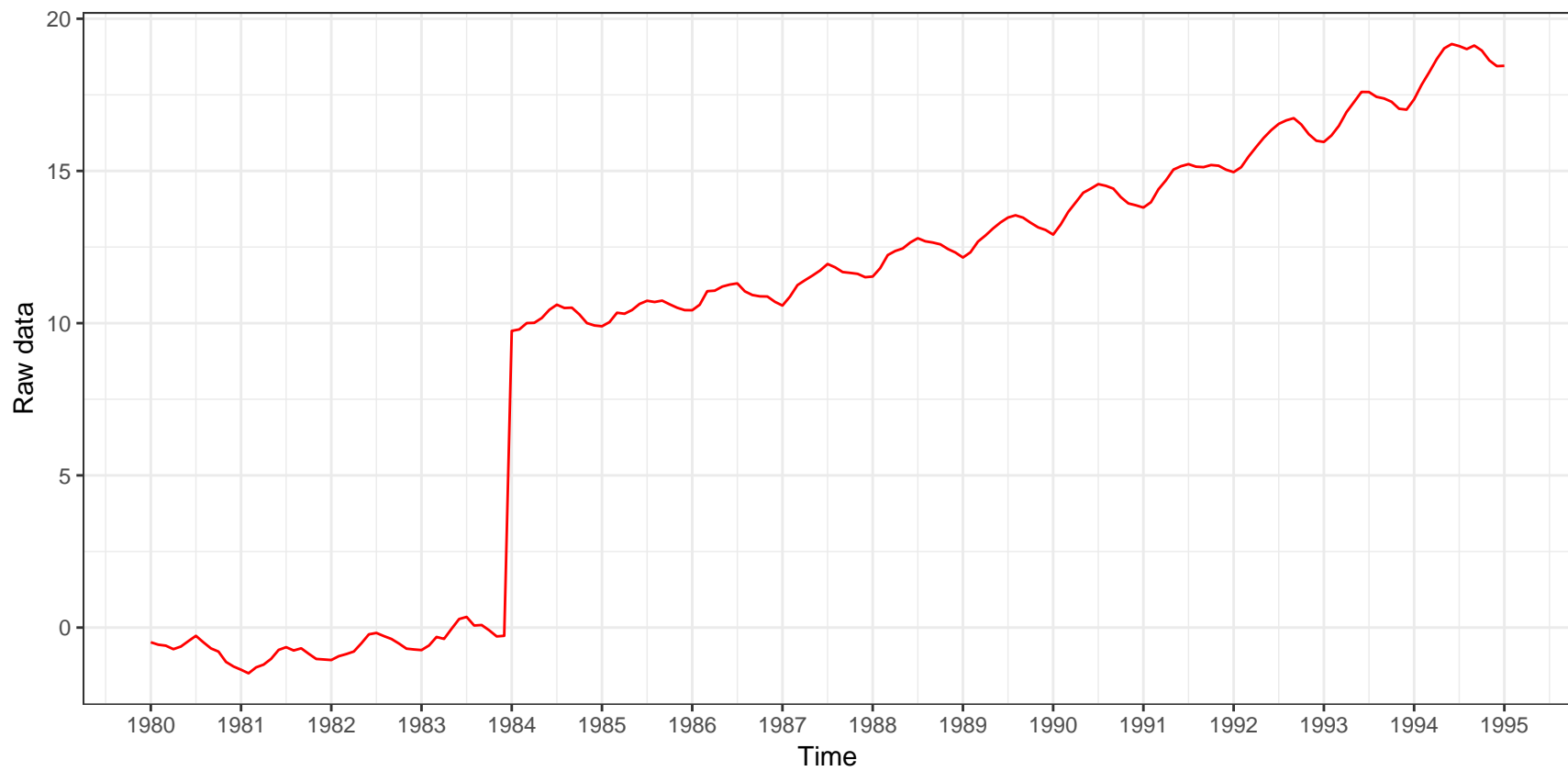


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

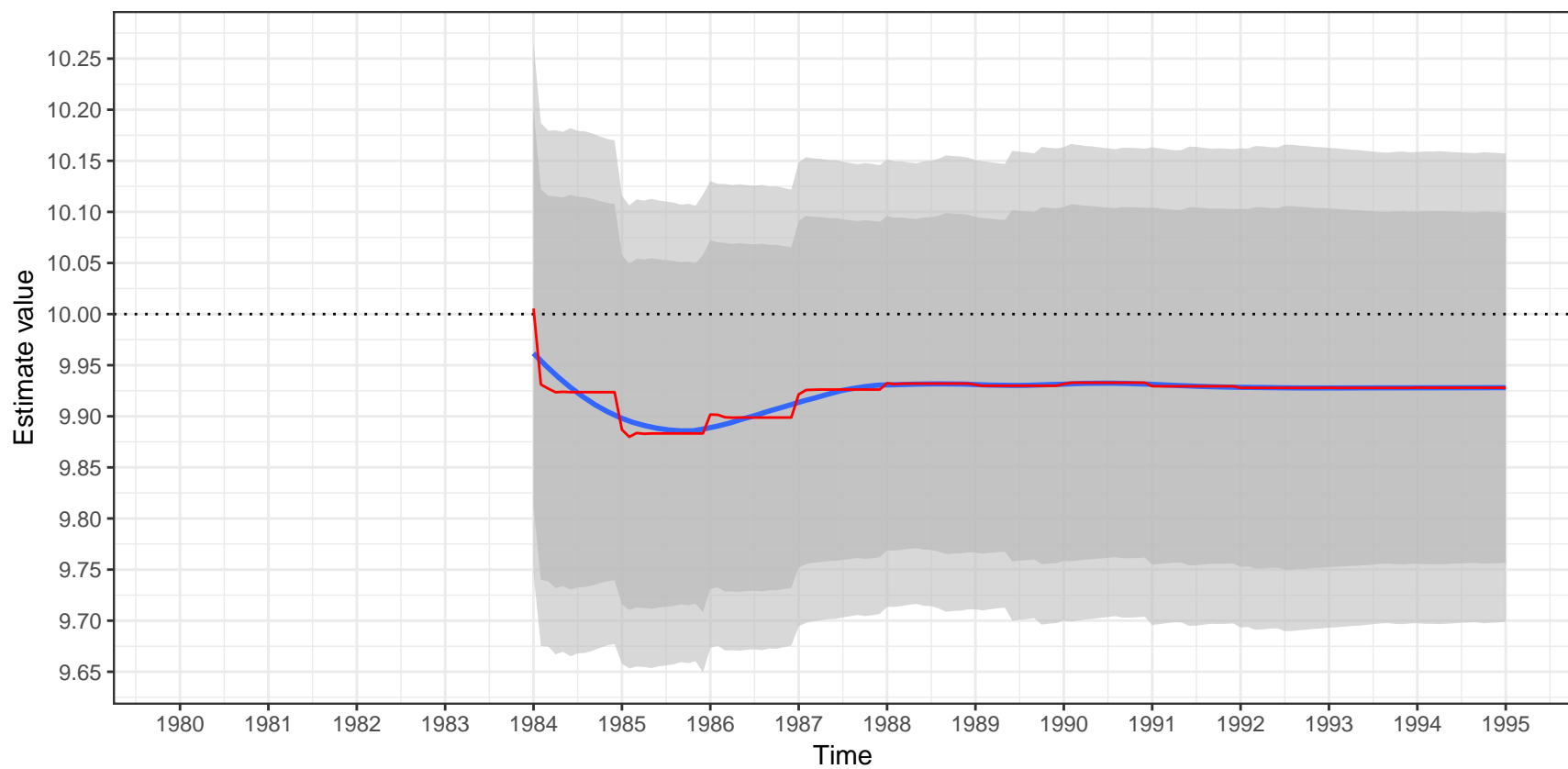


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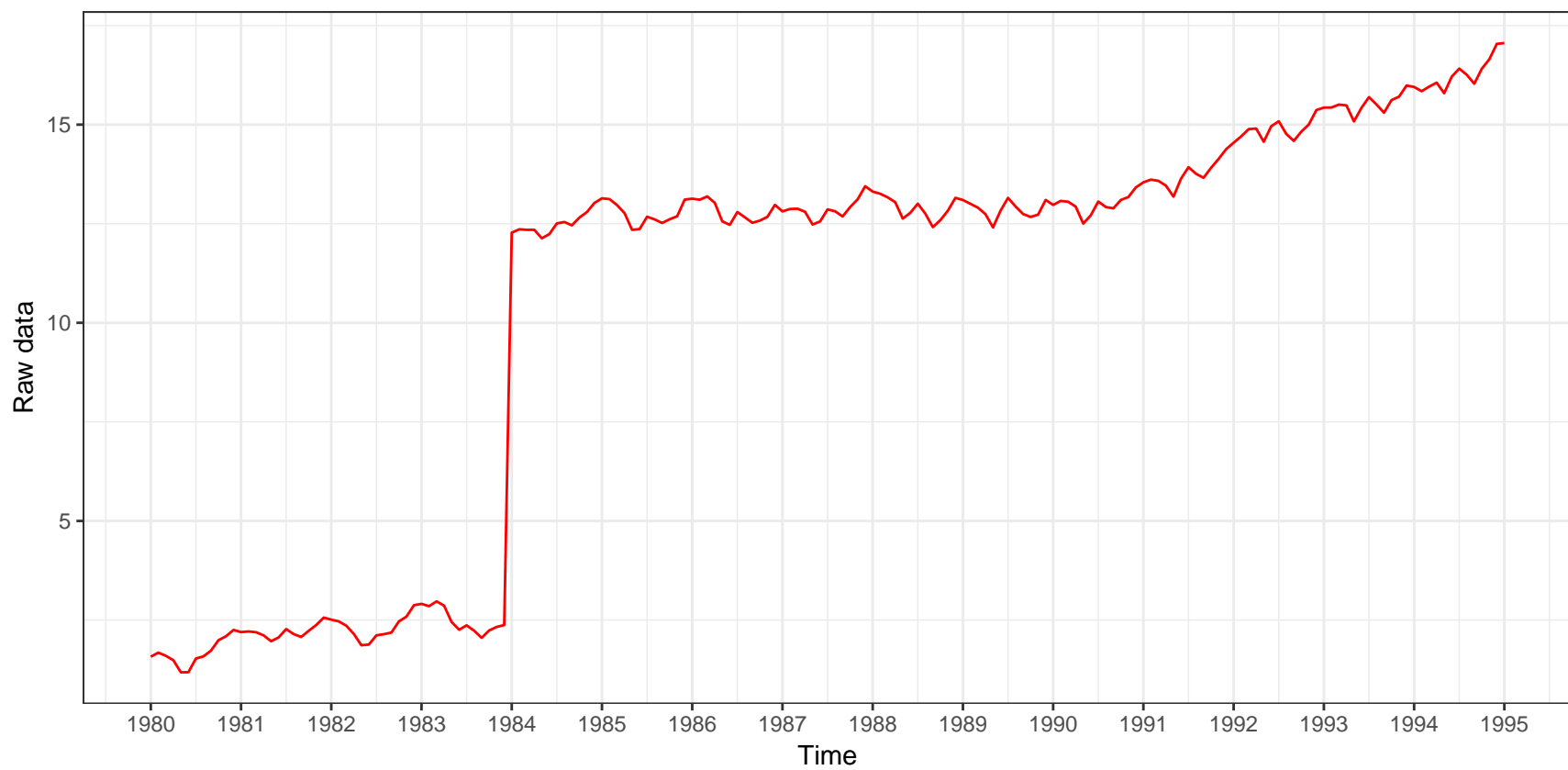


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

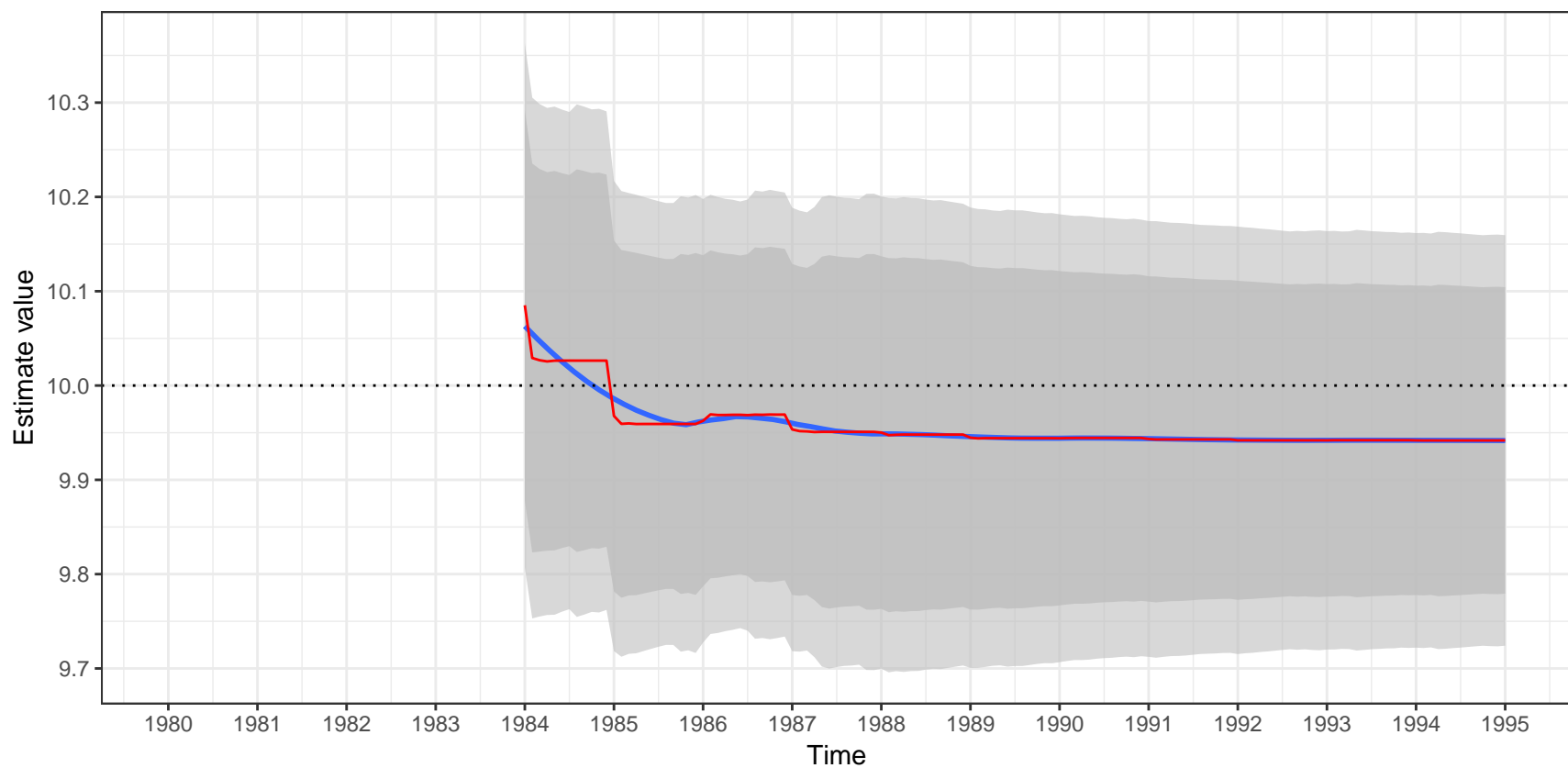


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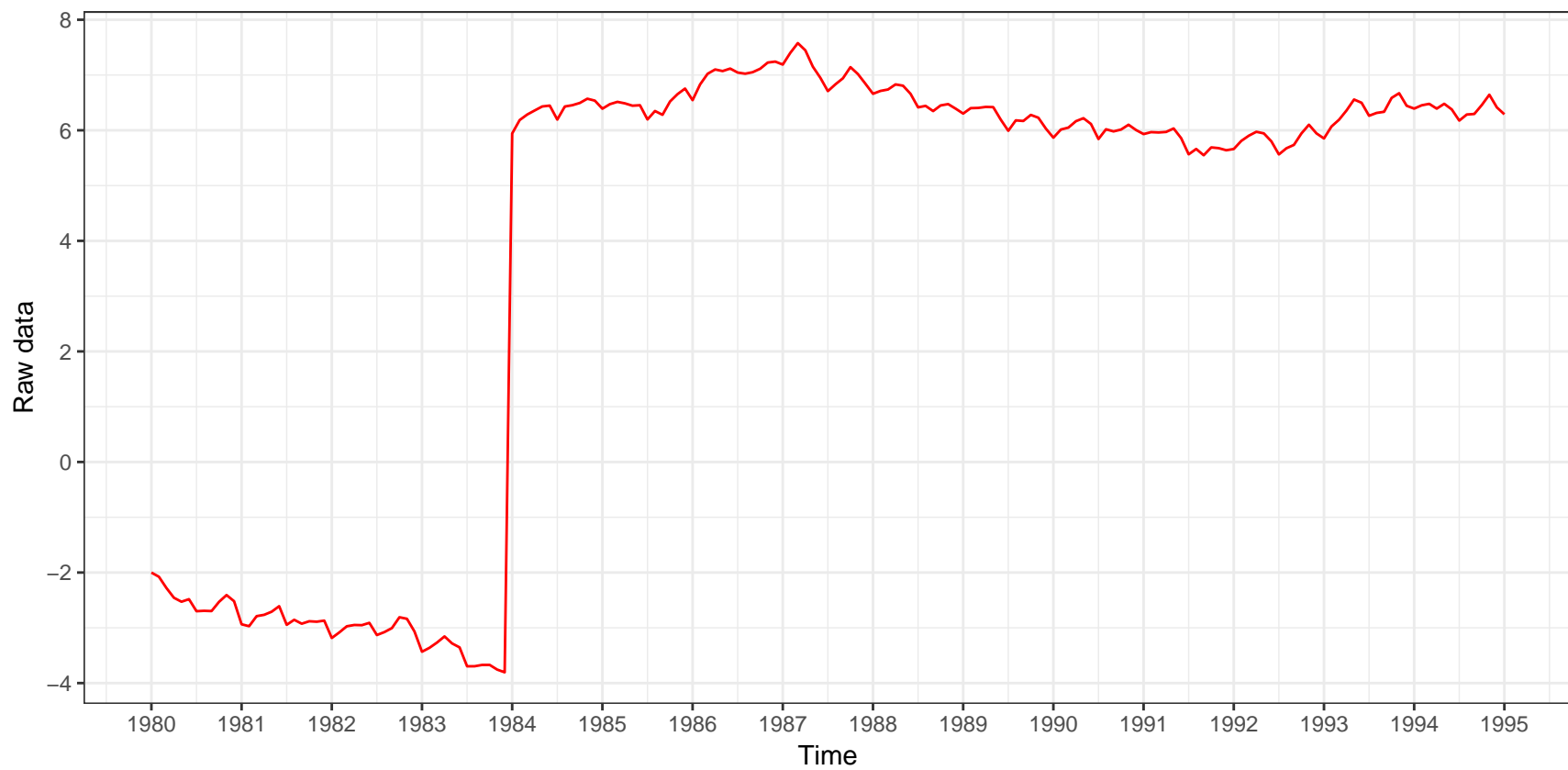


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

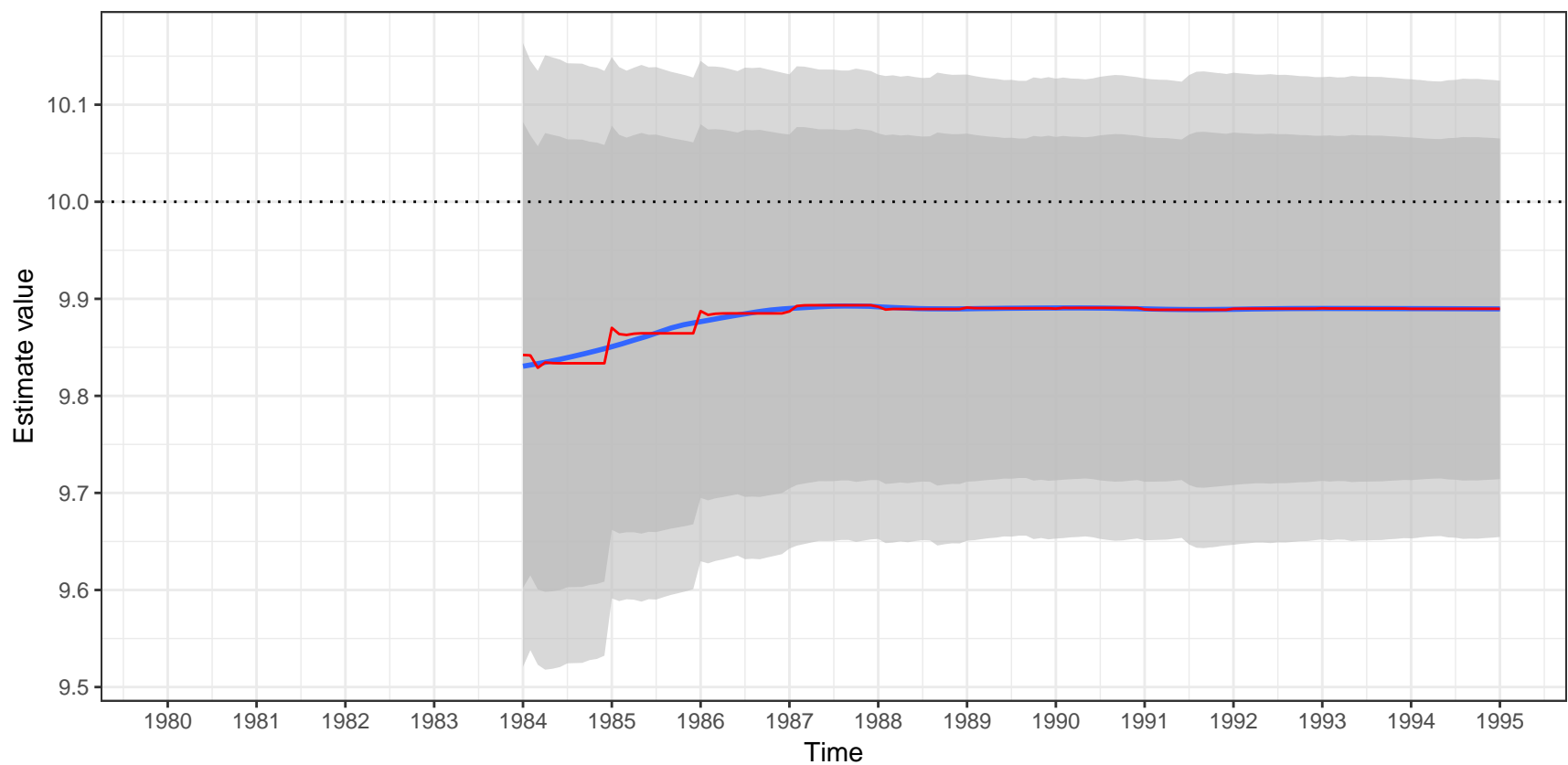


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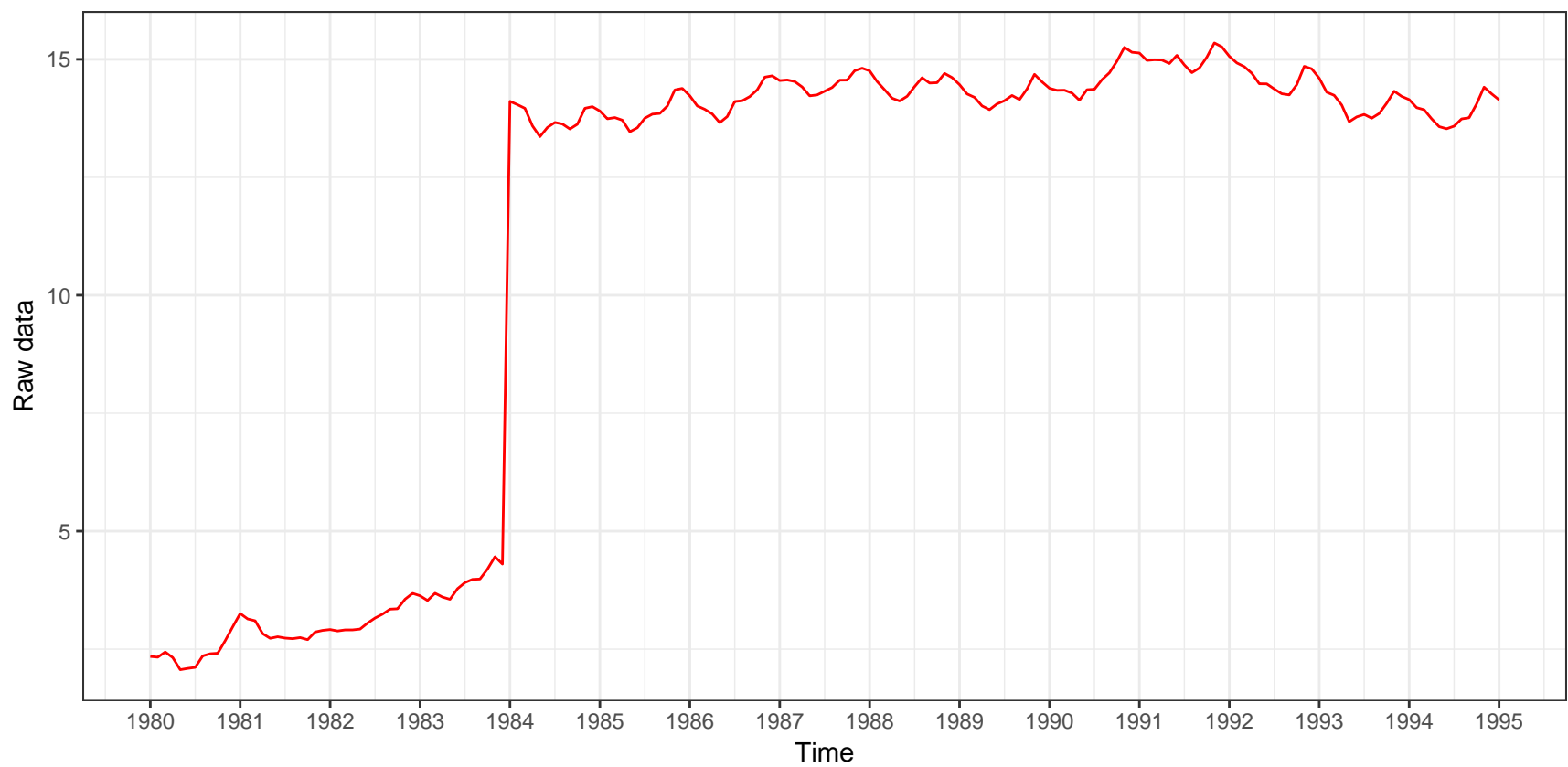


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

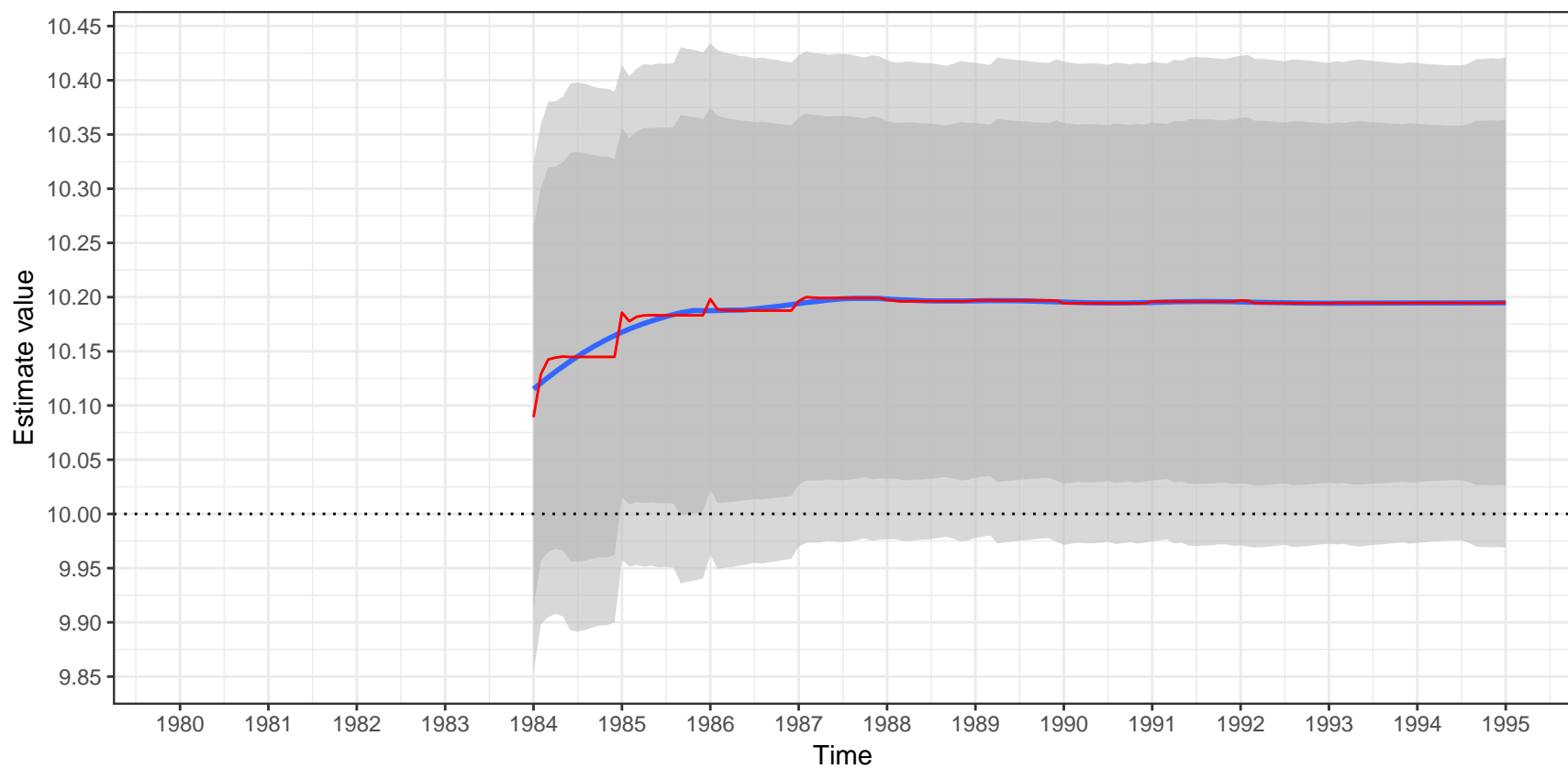


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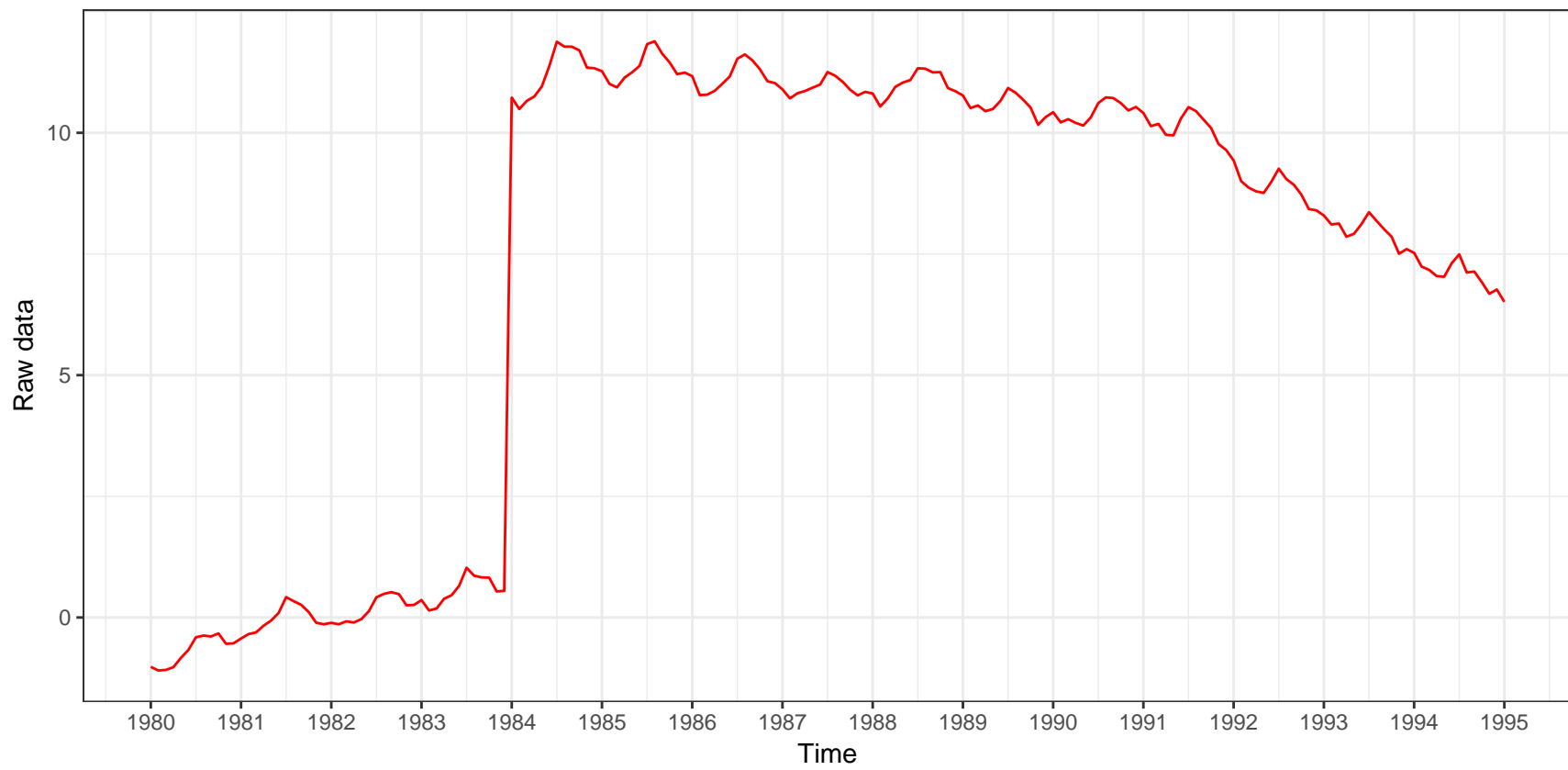


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t = (1+0.3B)(1-0.6B_{12})a_t$

Estimation of the outlier

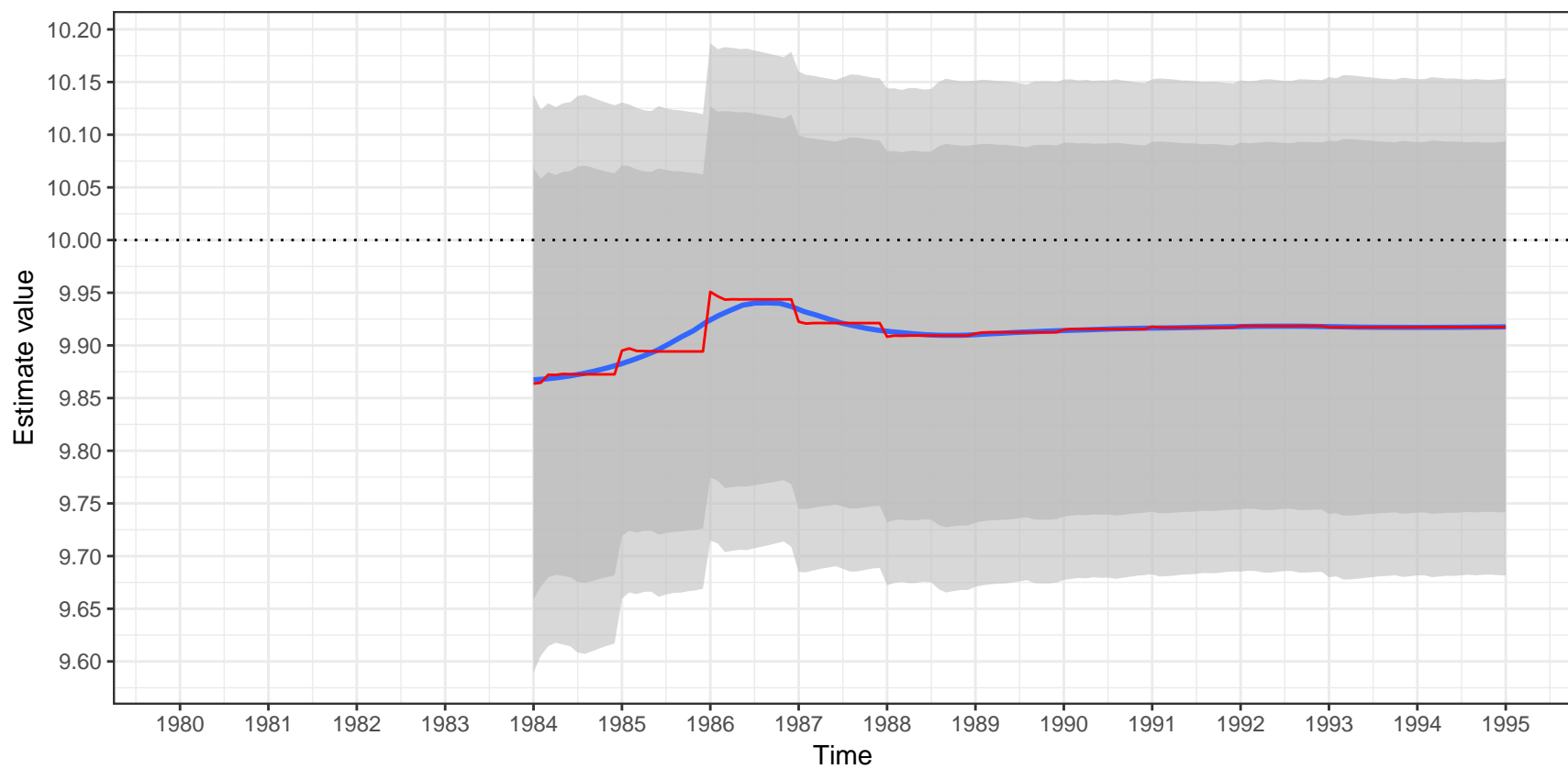


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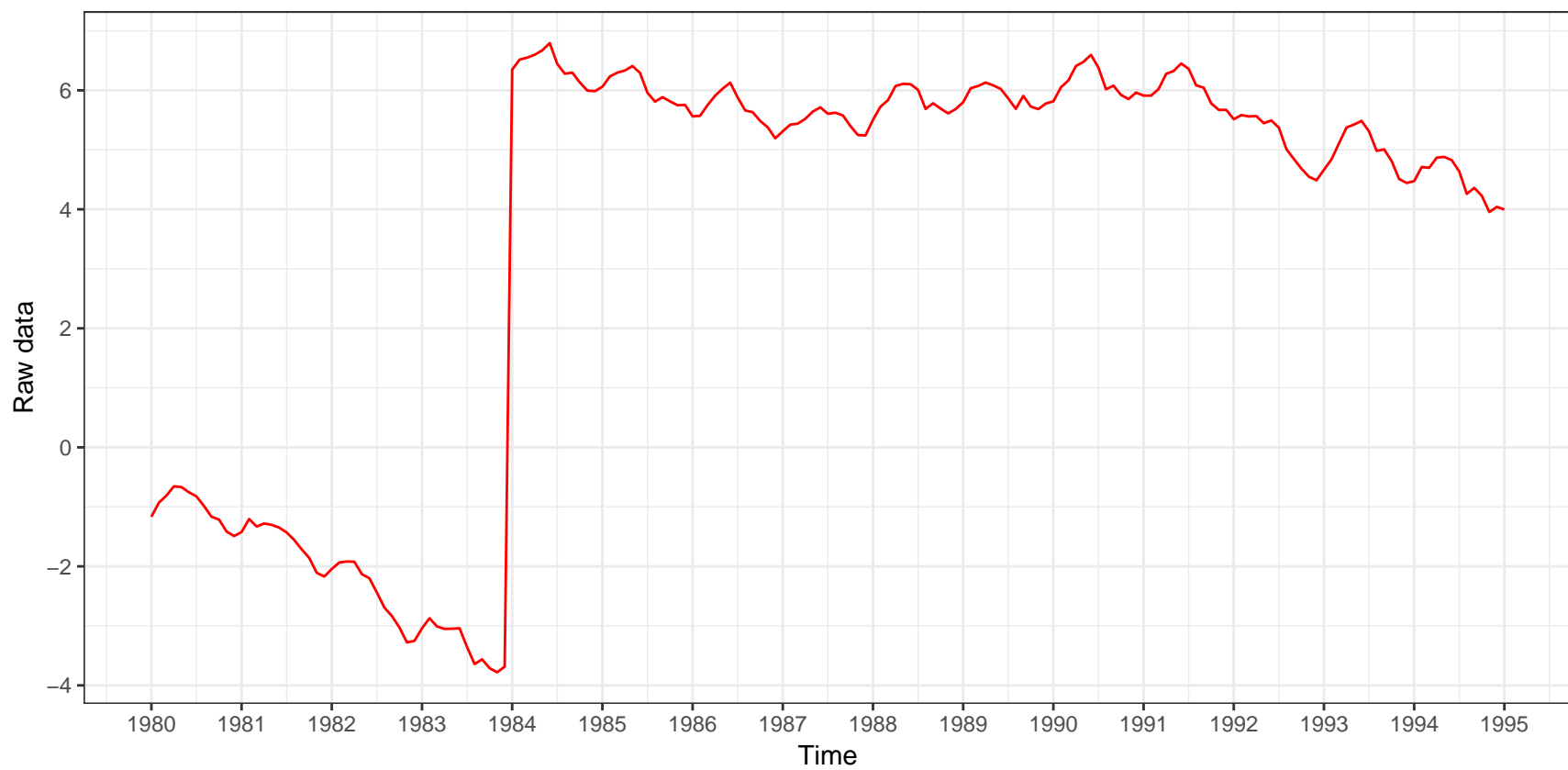


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

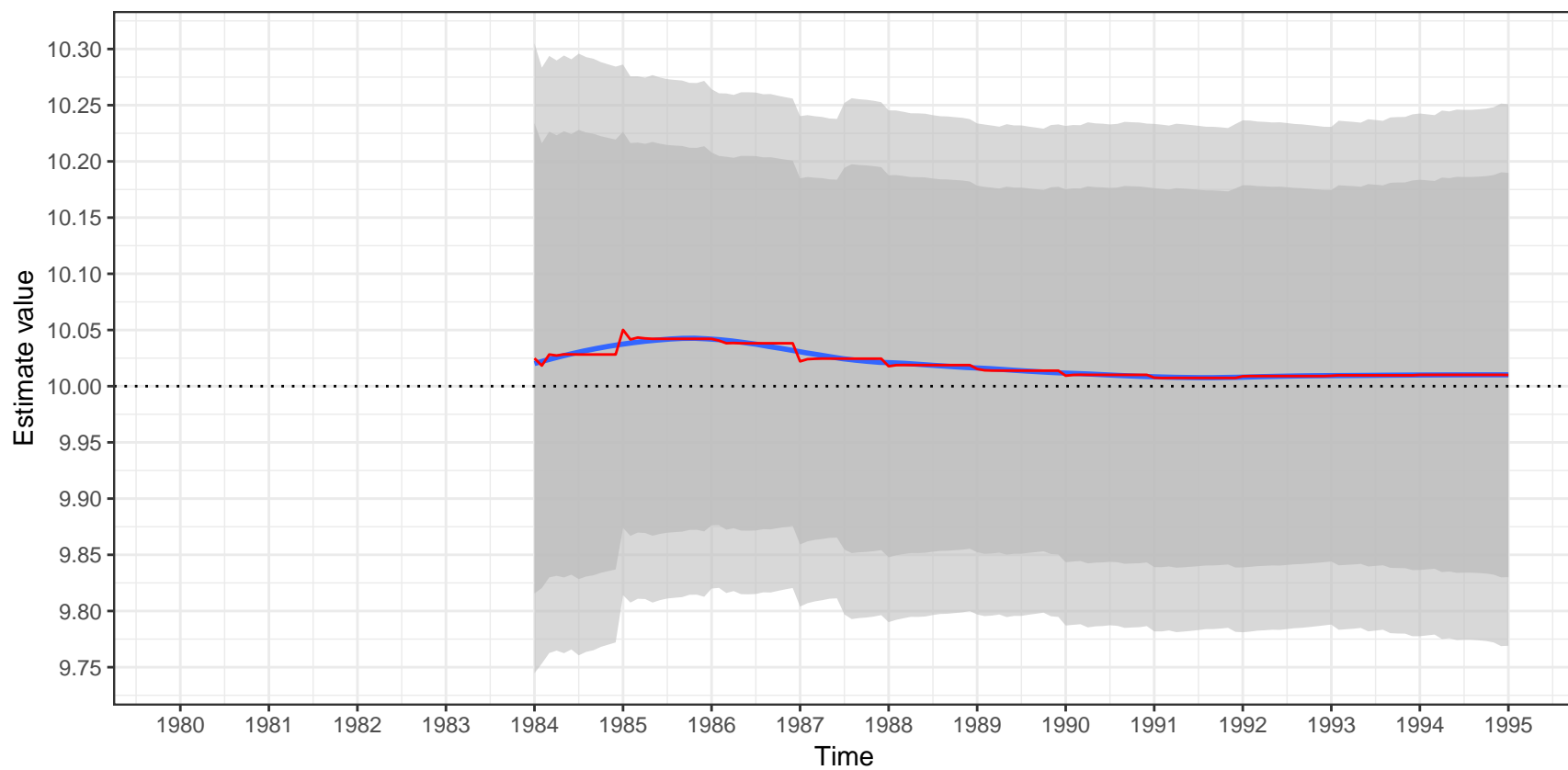


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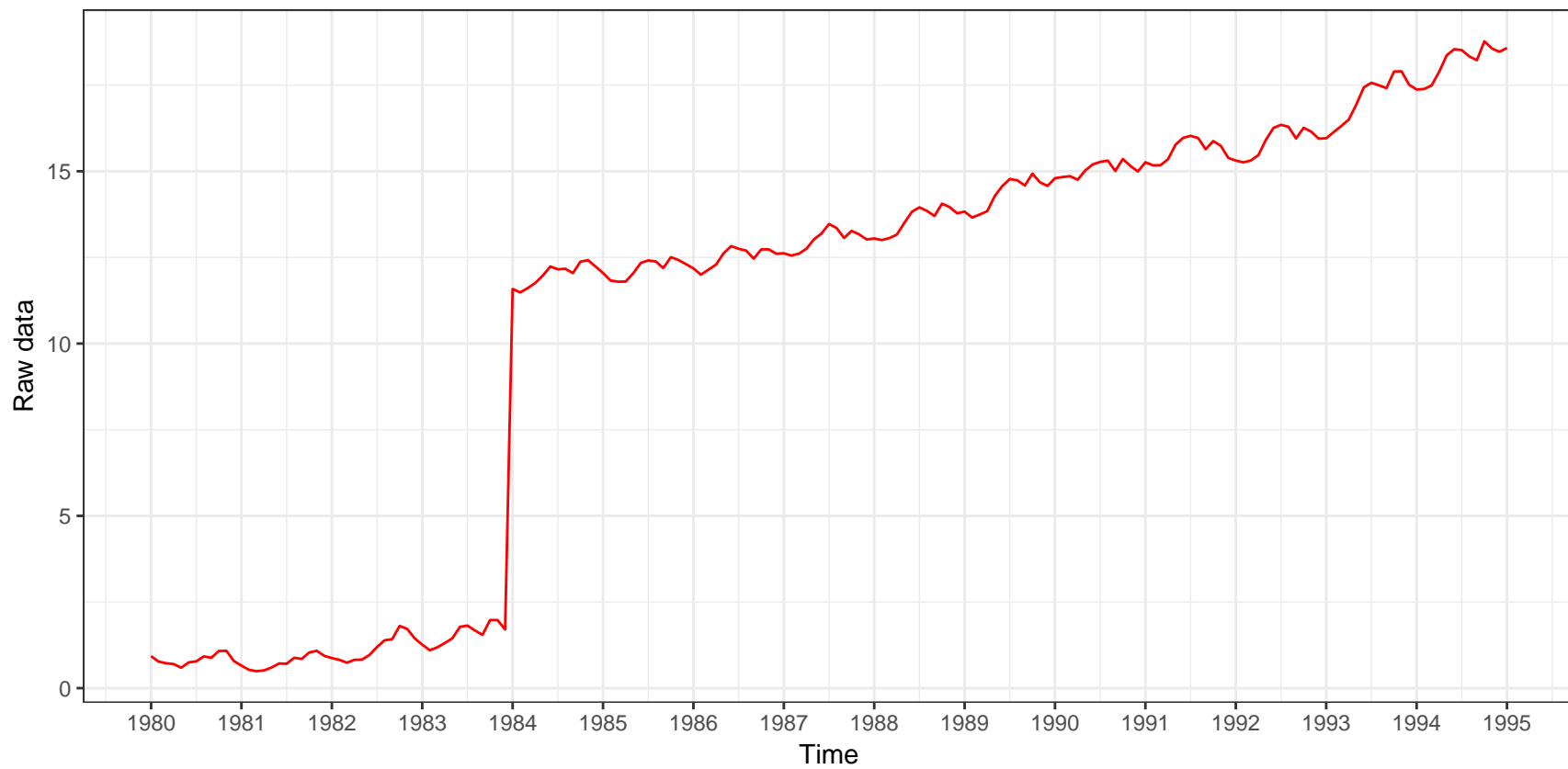


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.3B)(1-0.6B^{12})a_t$

Estimation of the outlier

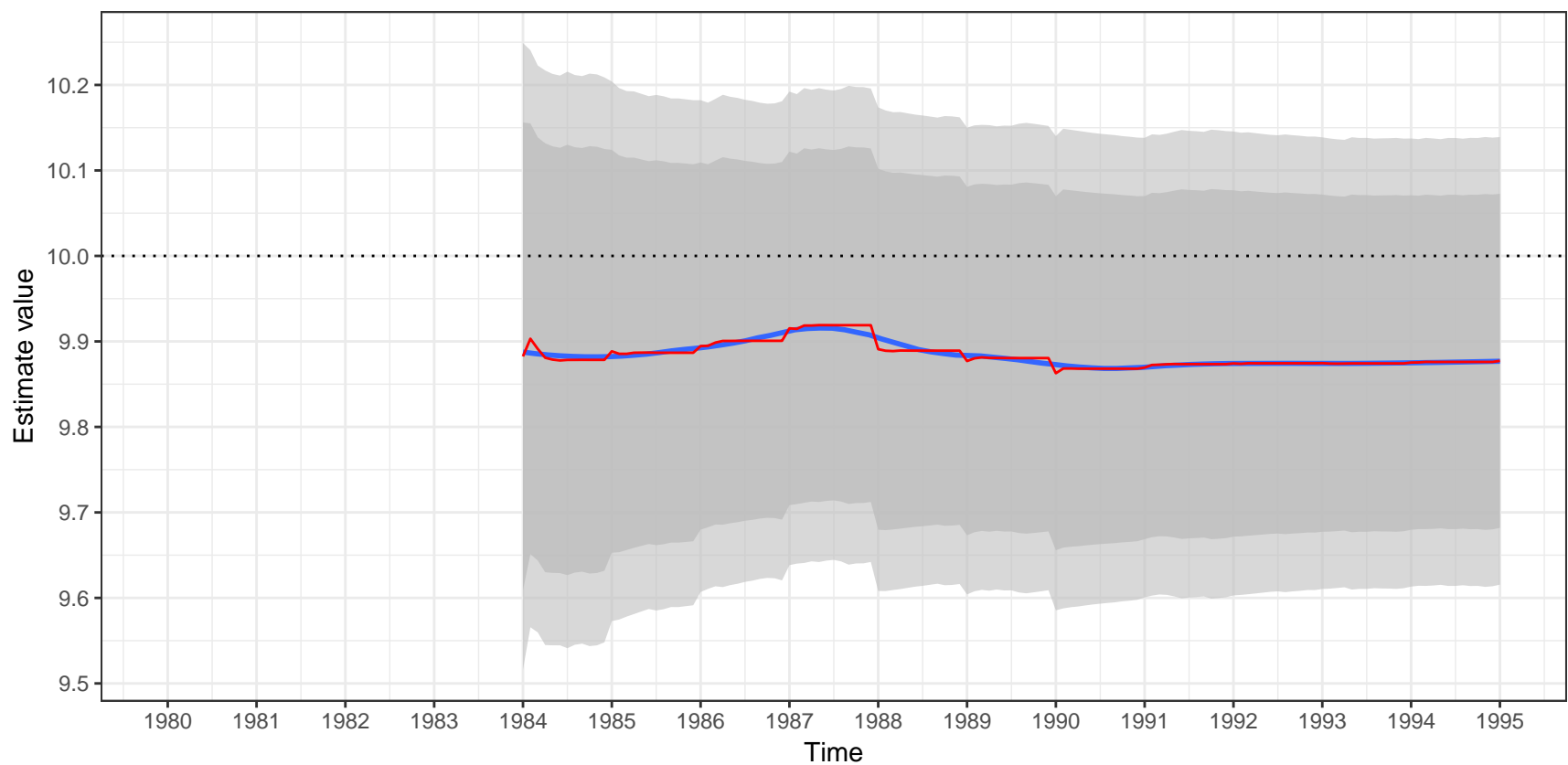


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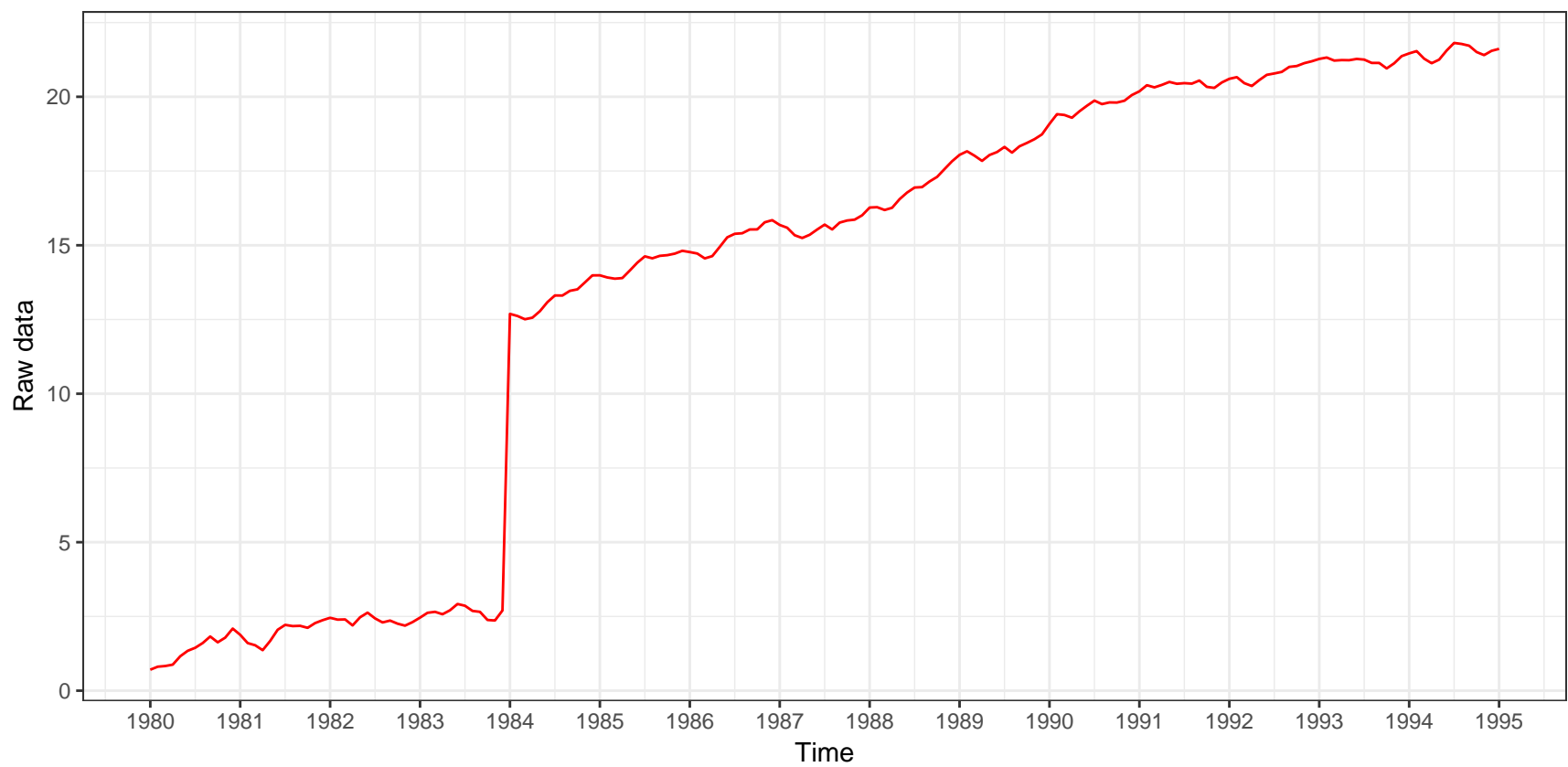


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

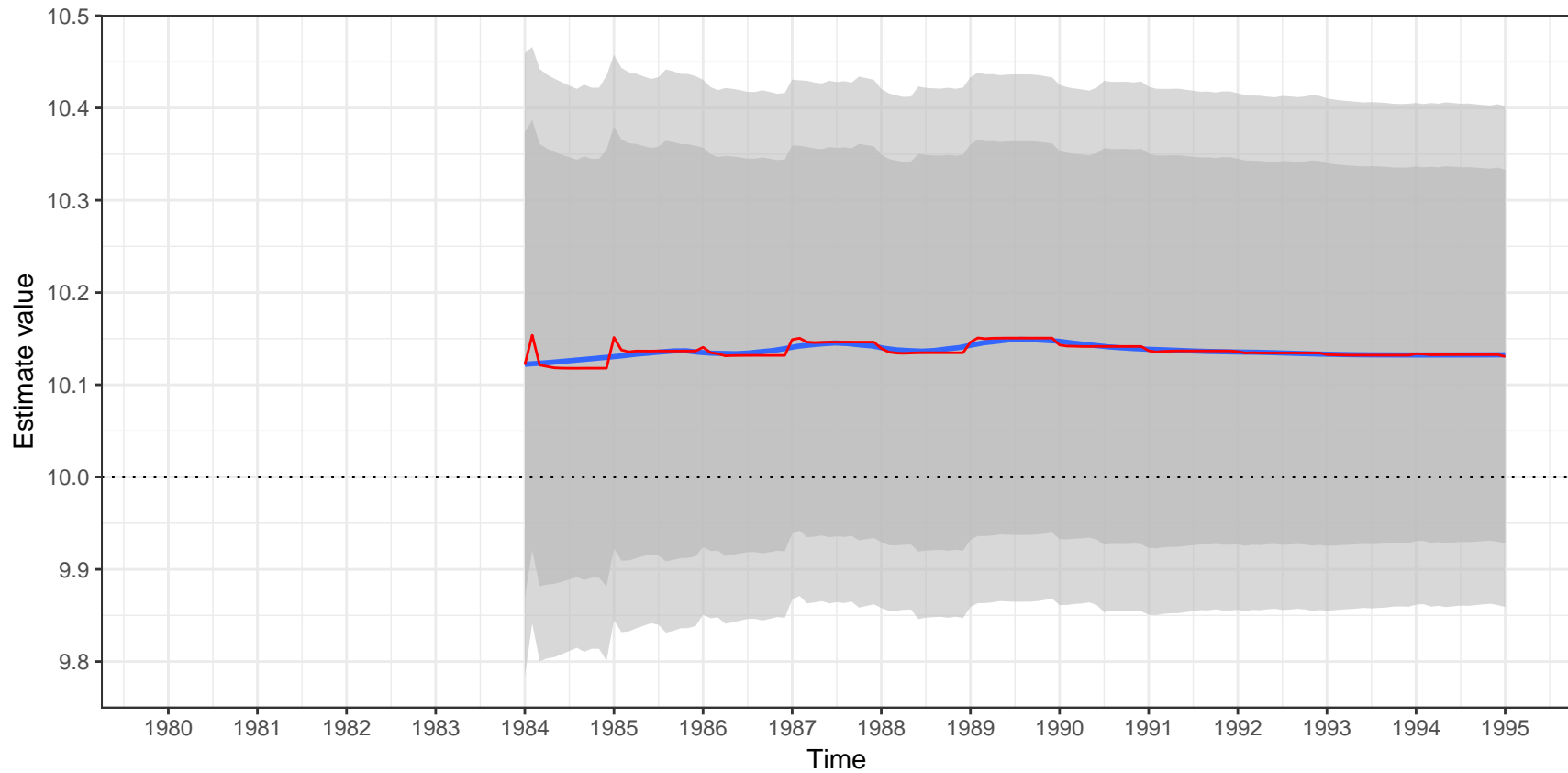


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Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

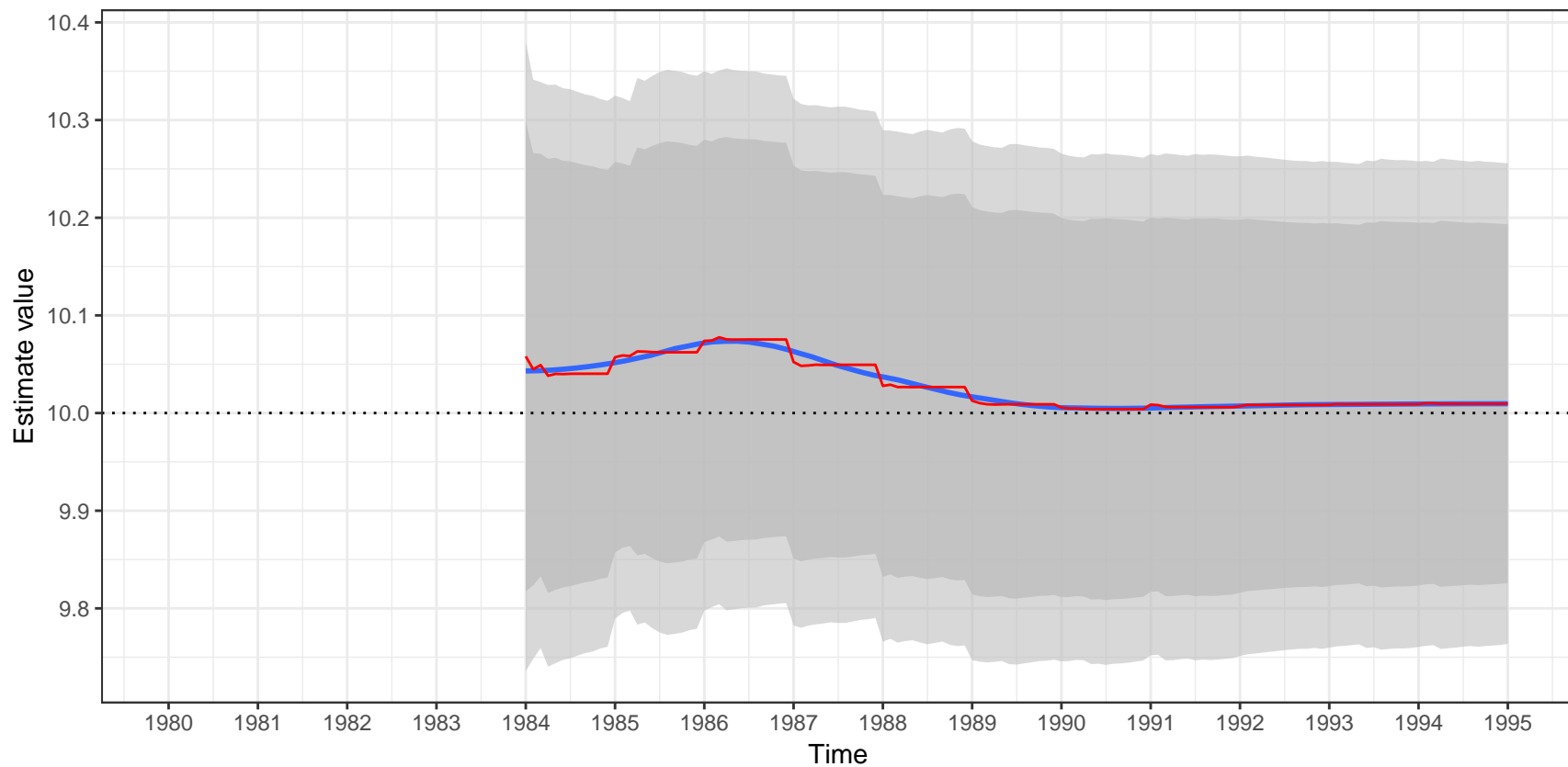


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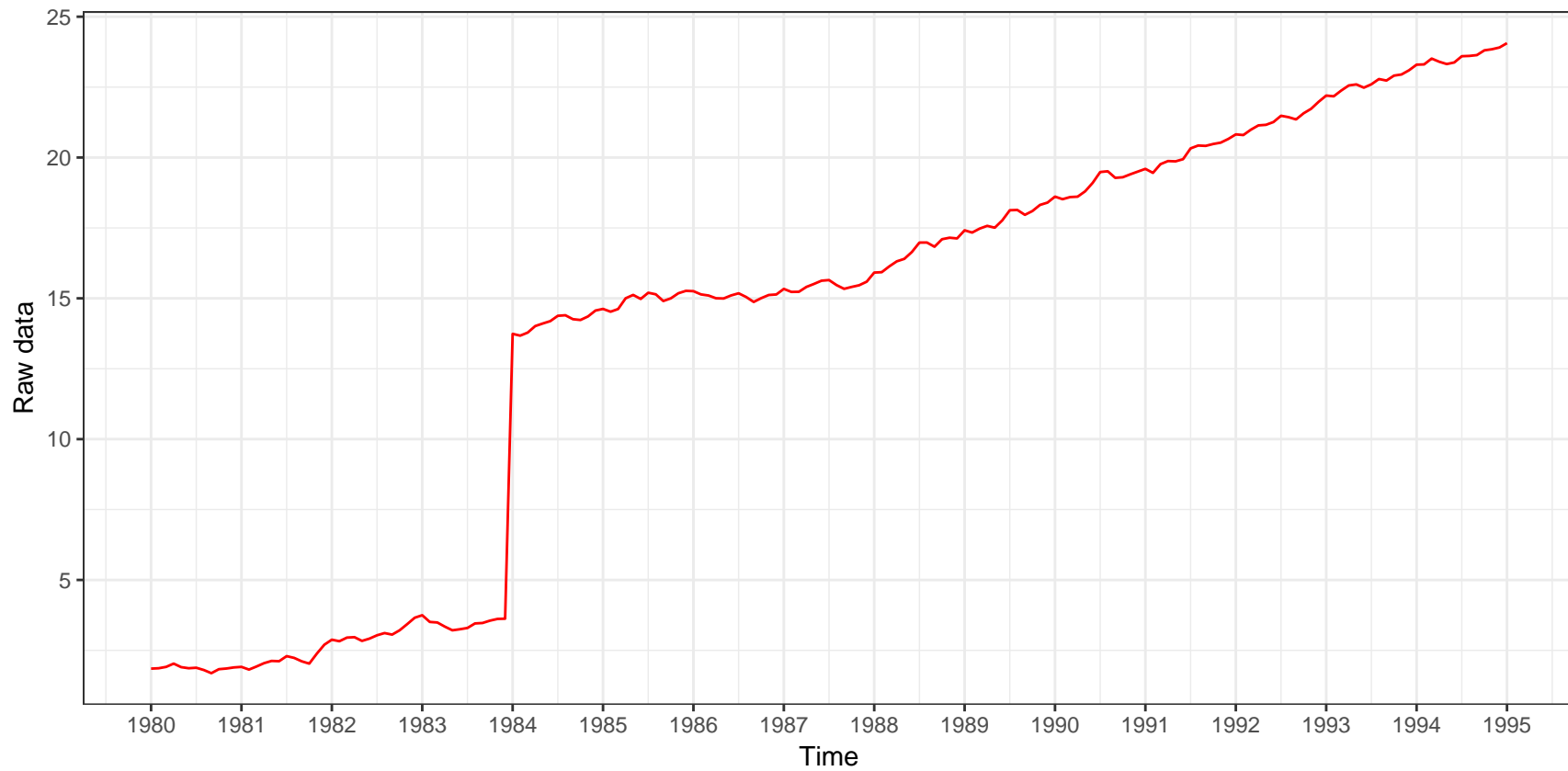


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

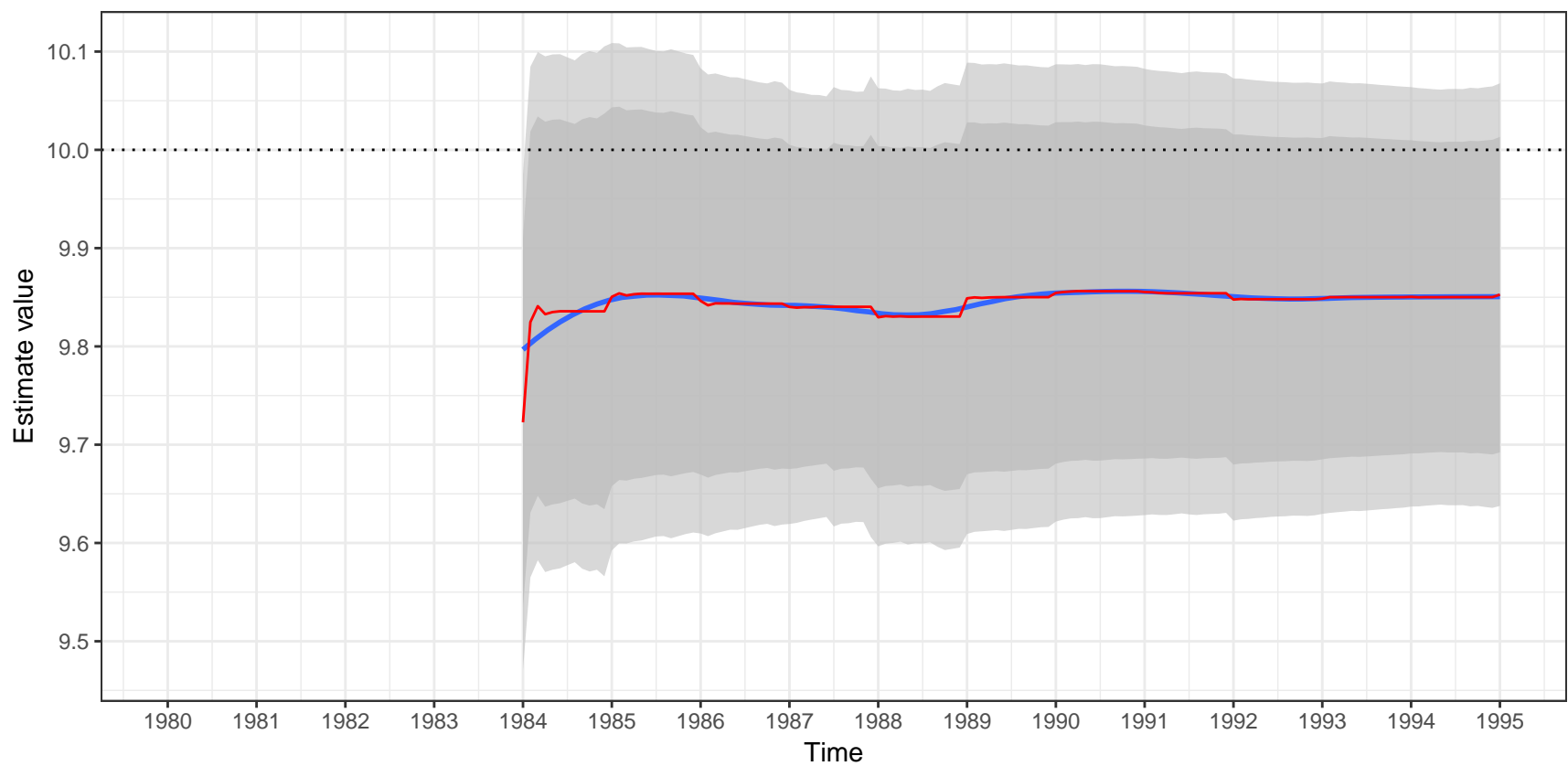


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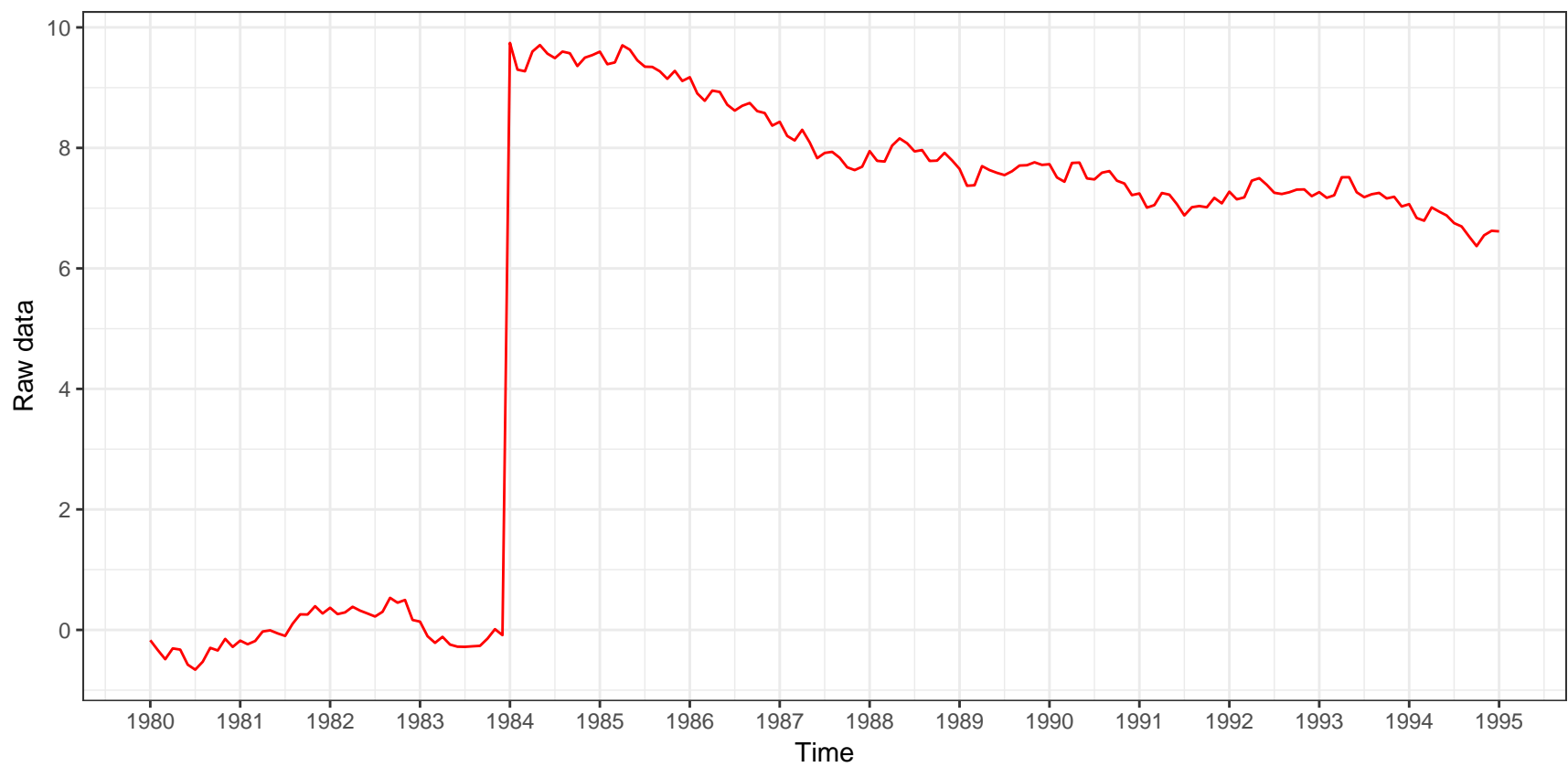


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

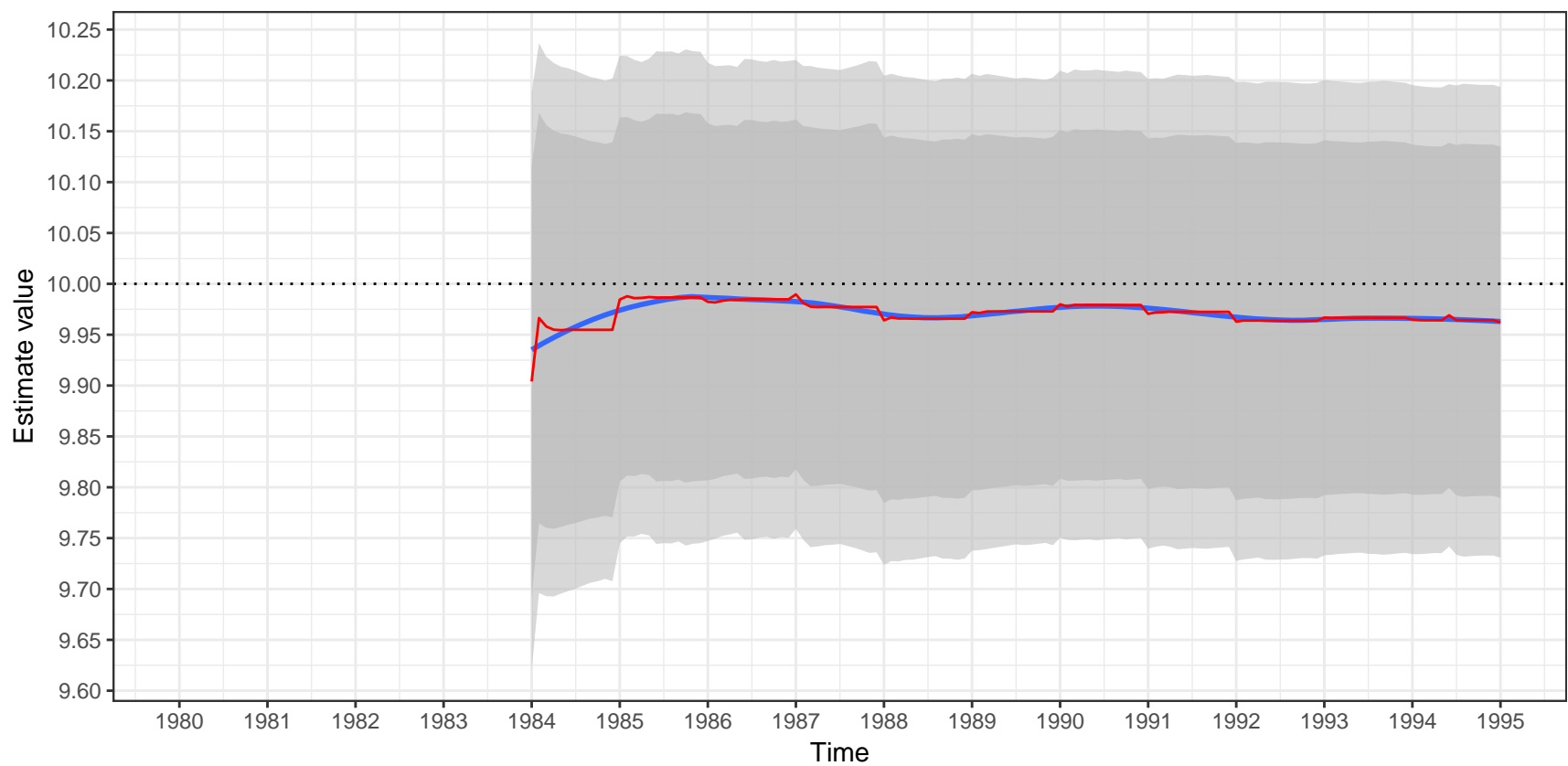


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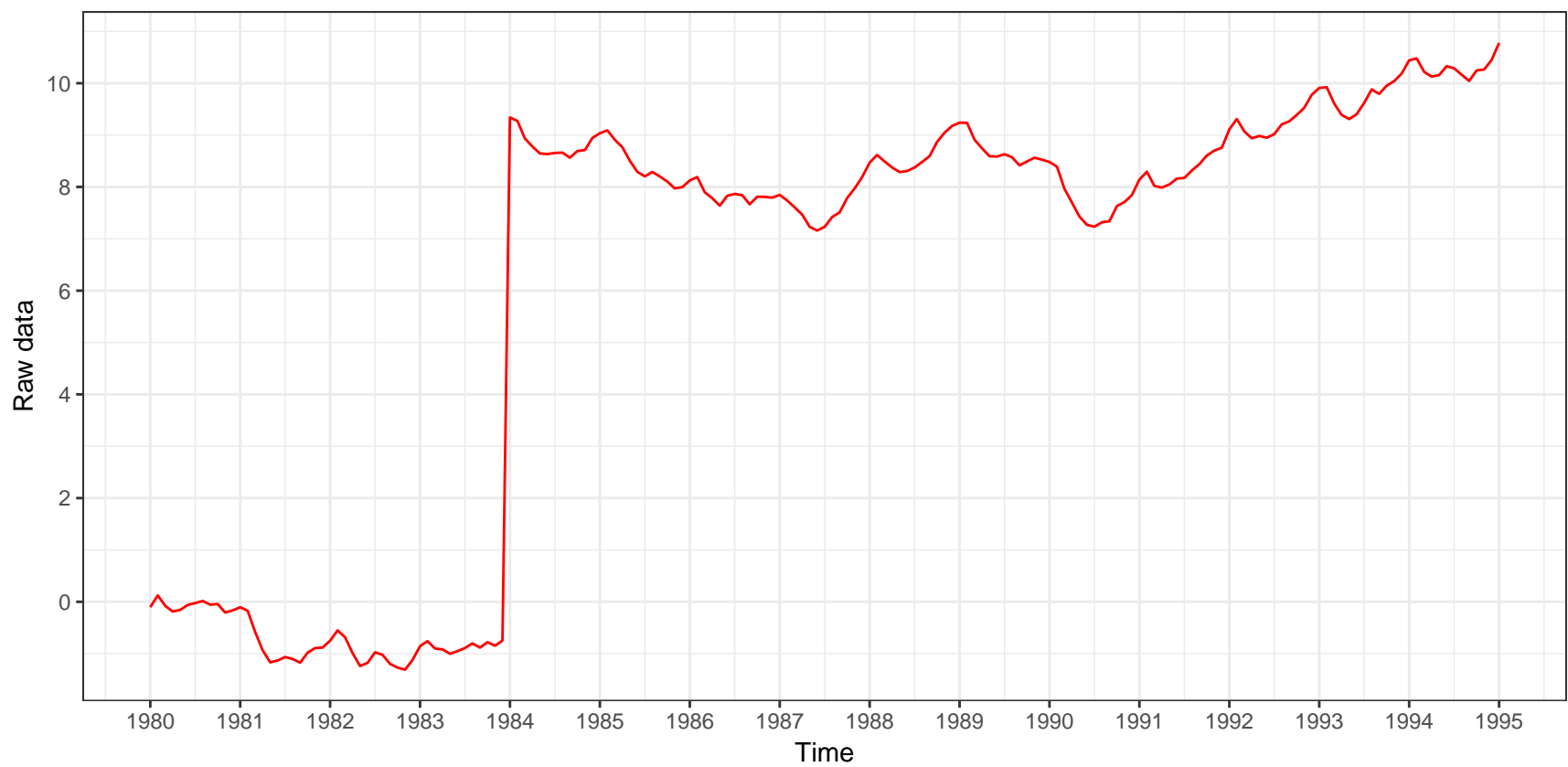


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

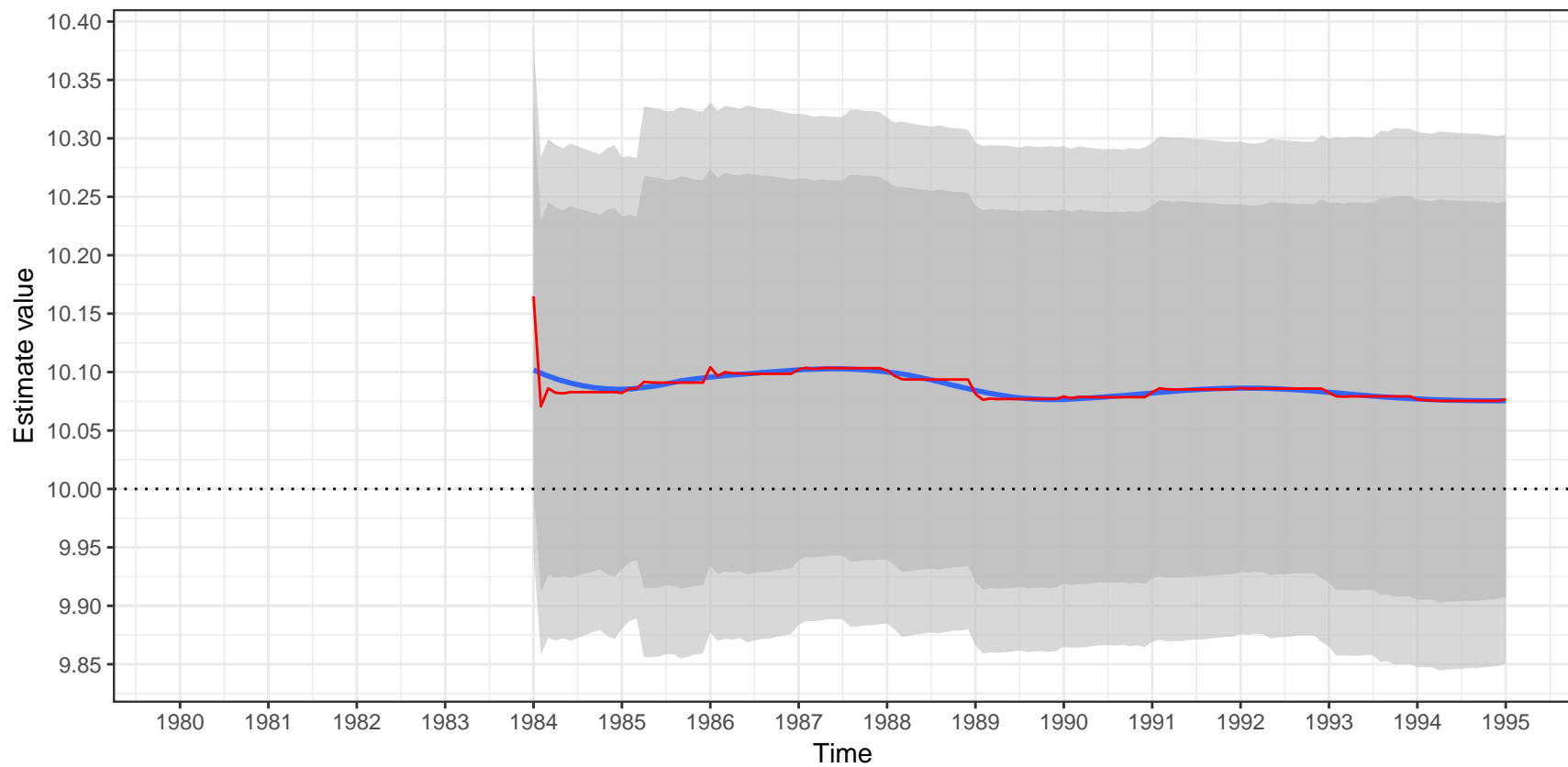


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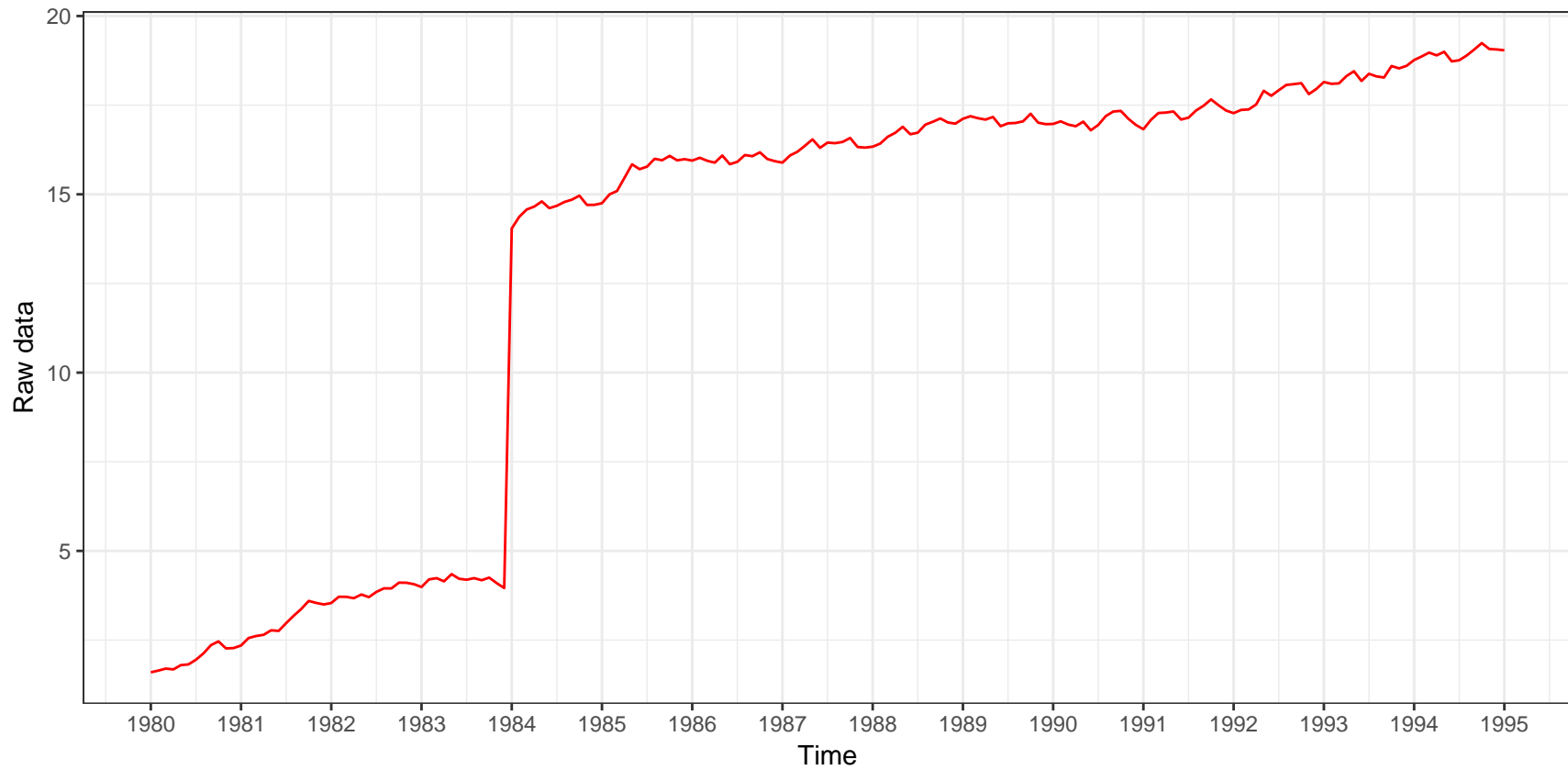


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

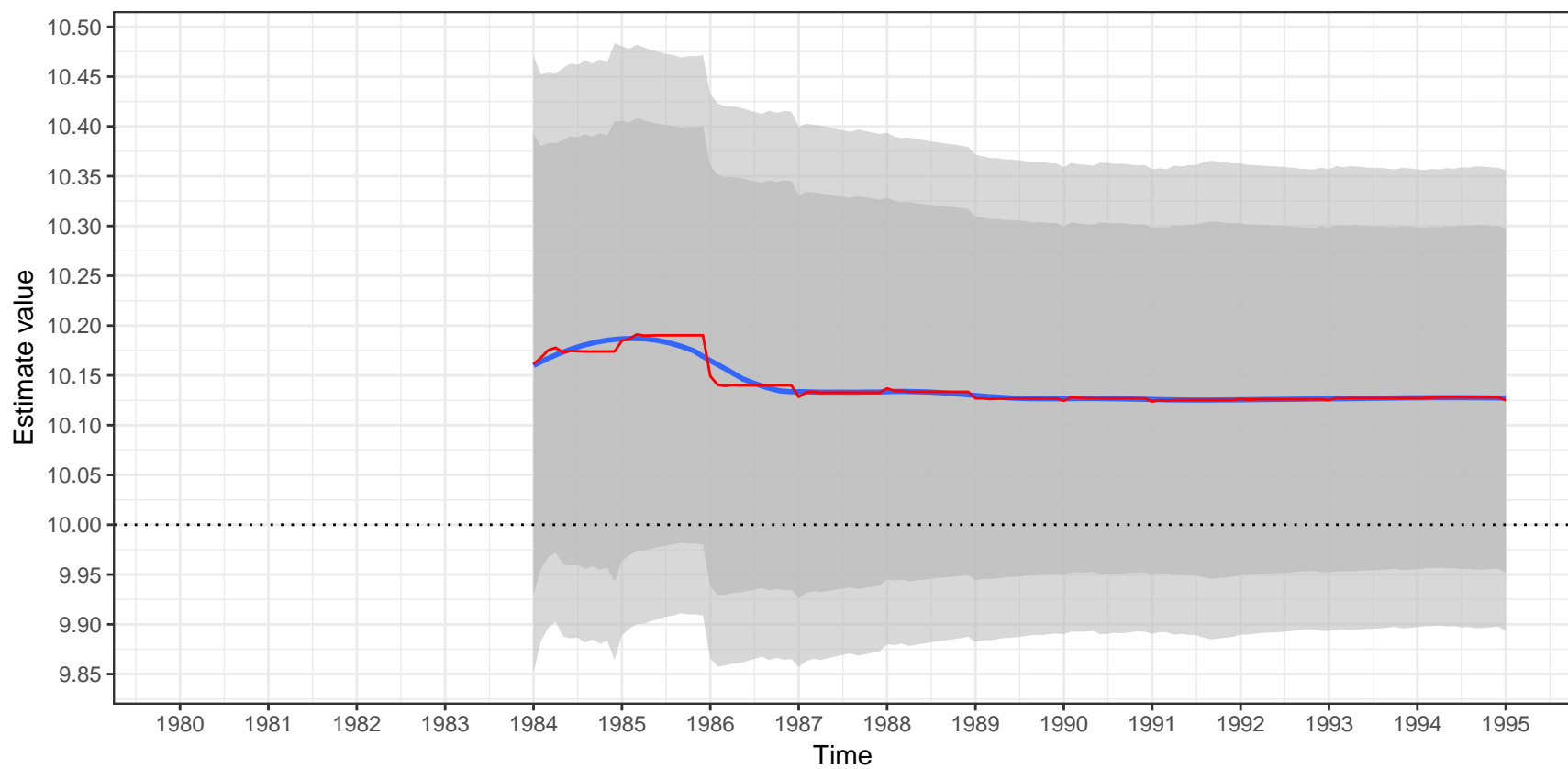


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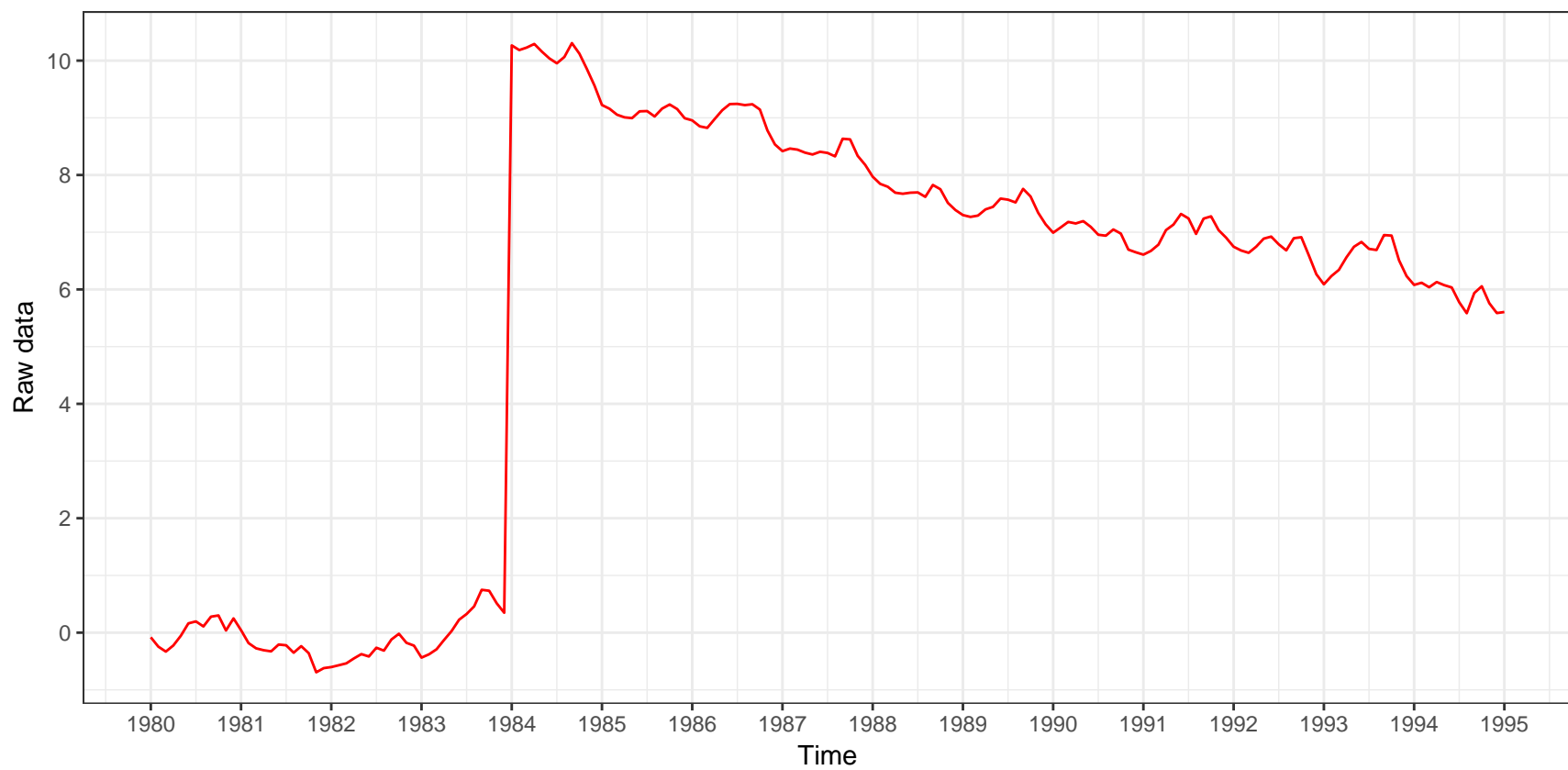


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

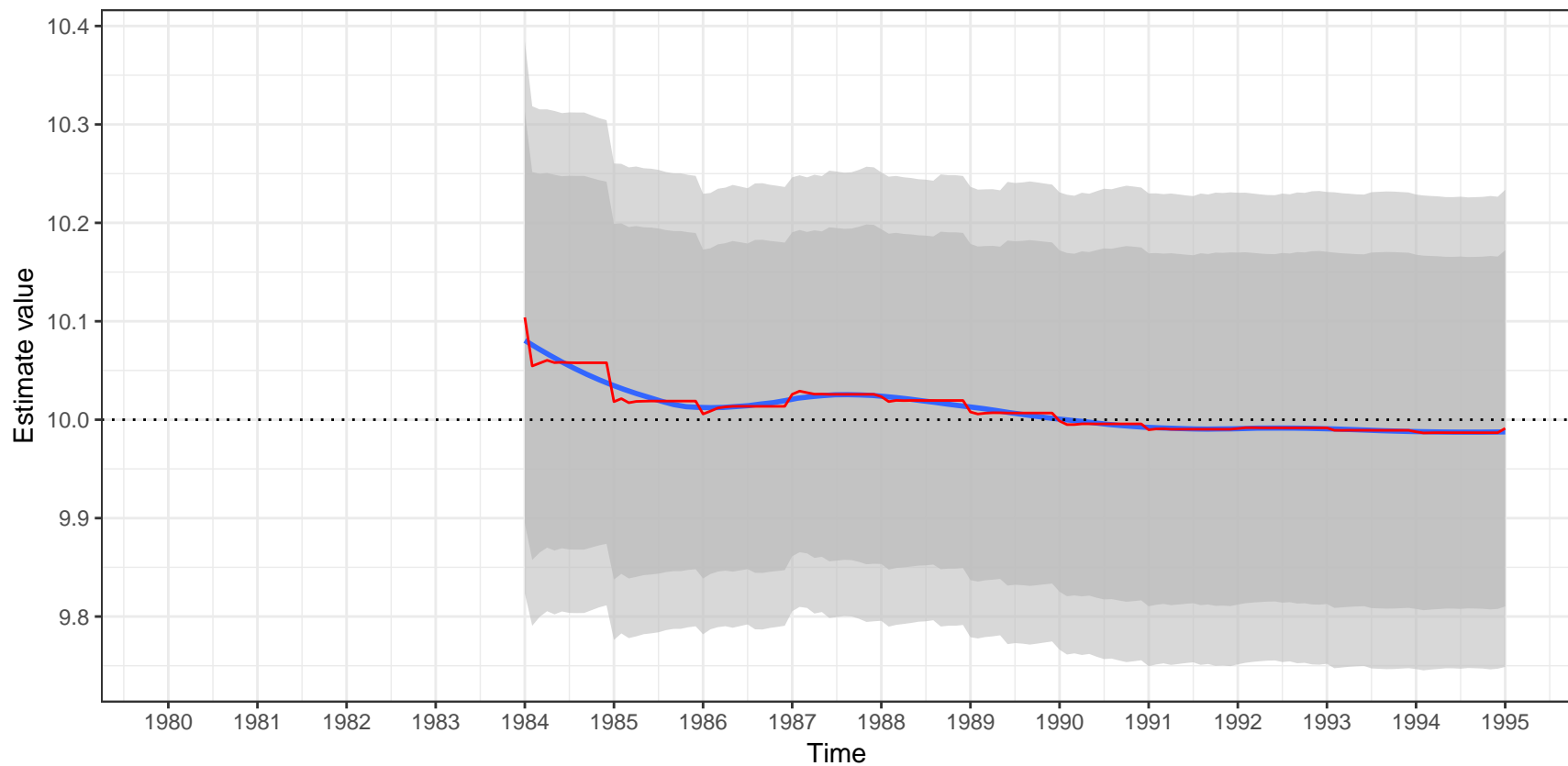


Raw data

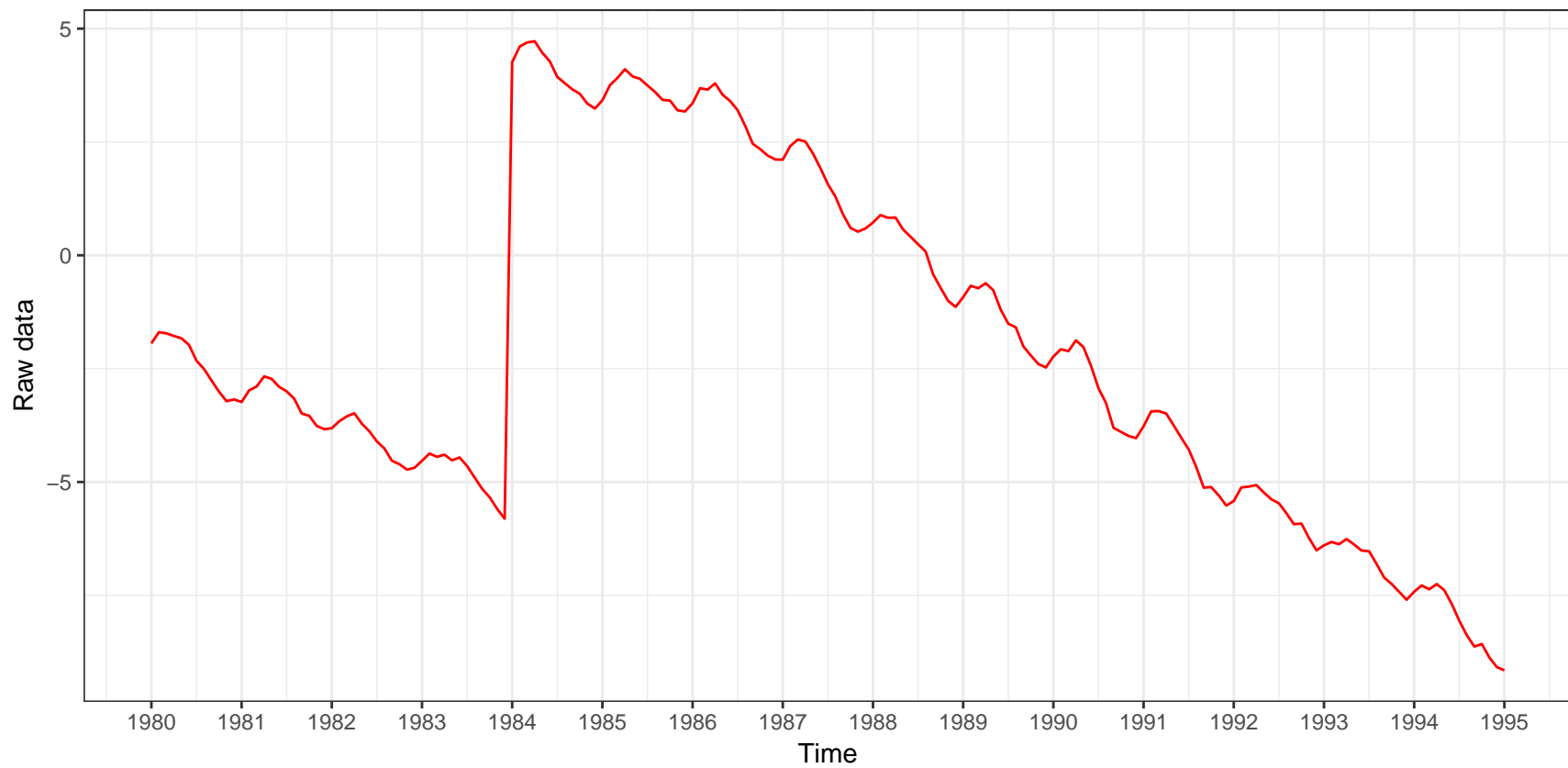


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

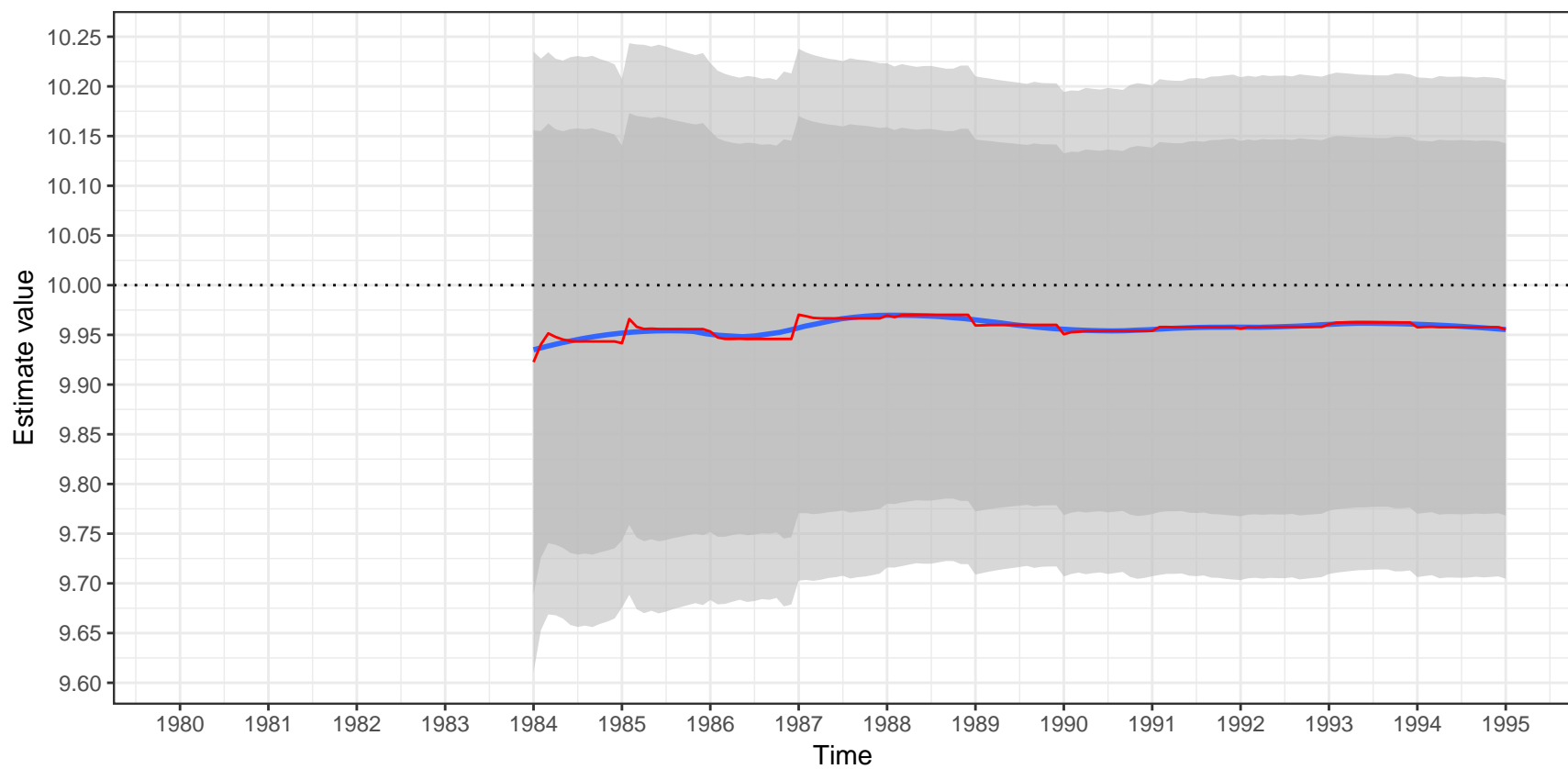


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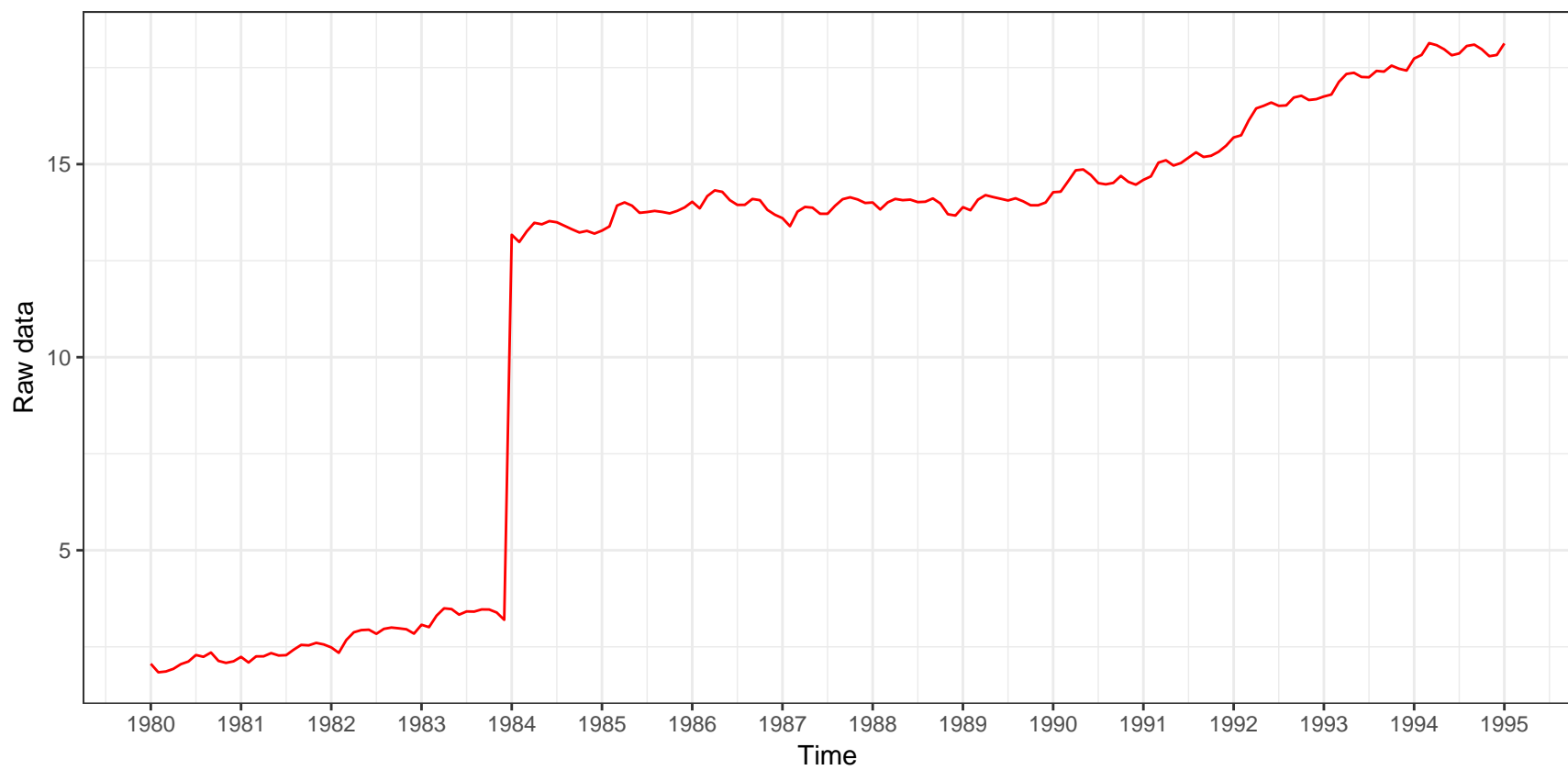


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

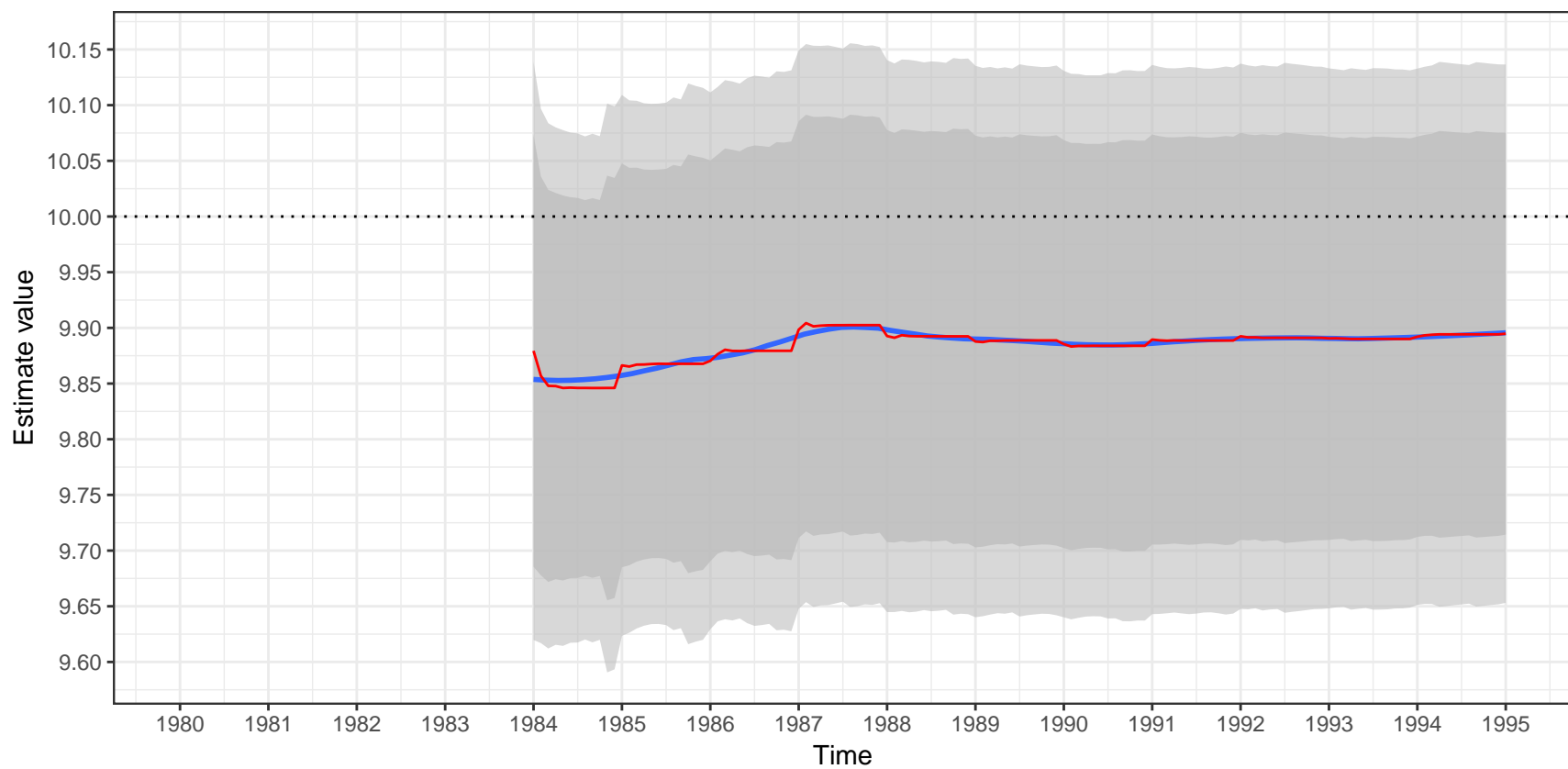


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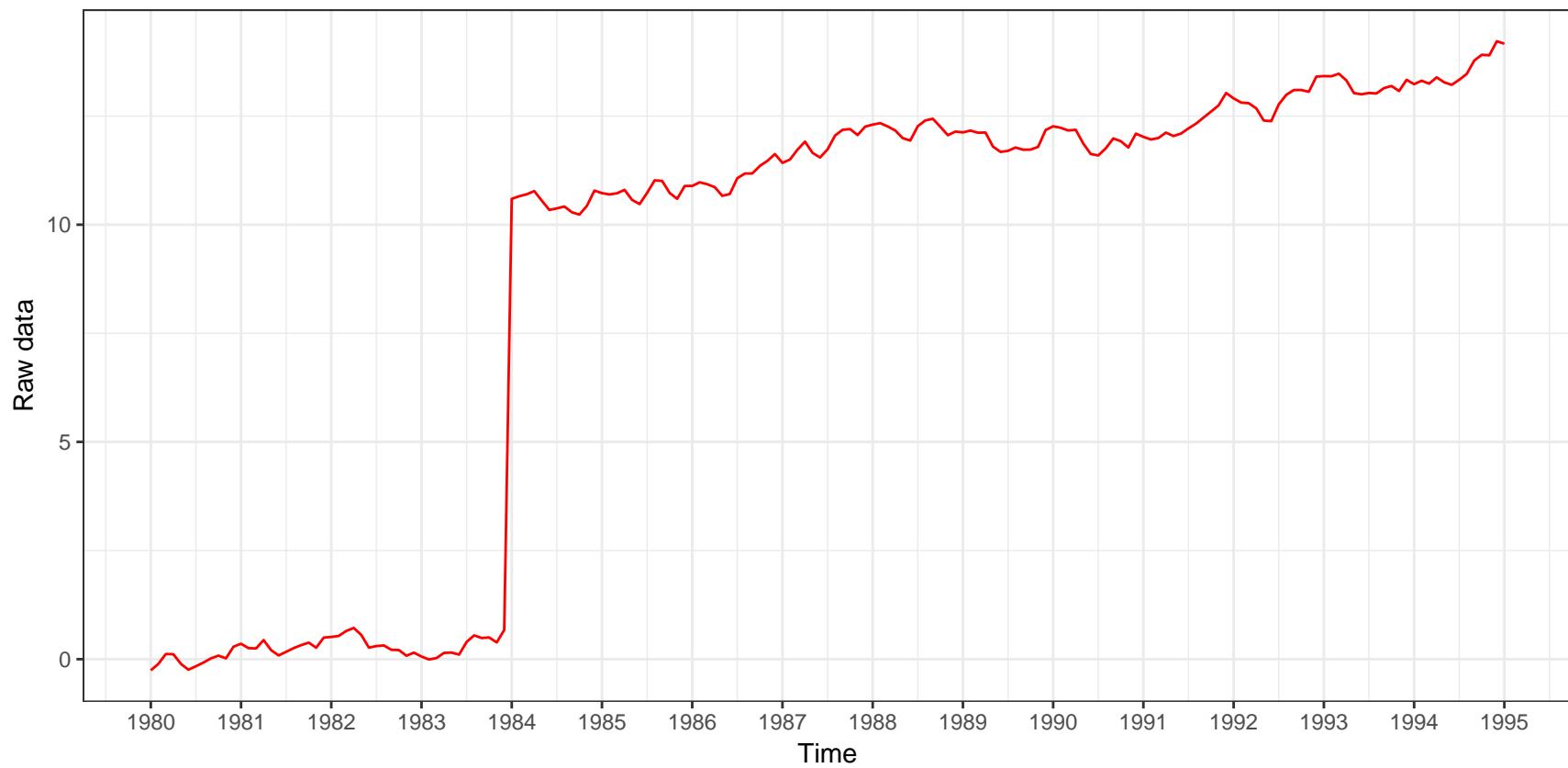


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.4B)(1-0.8B^{12})a_t$

Estimation of the outlier

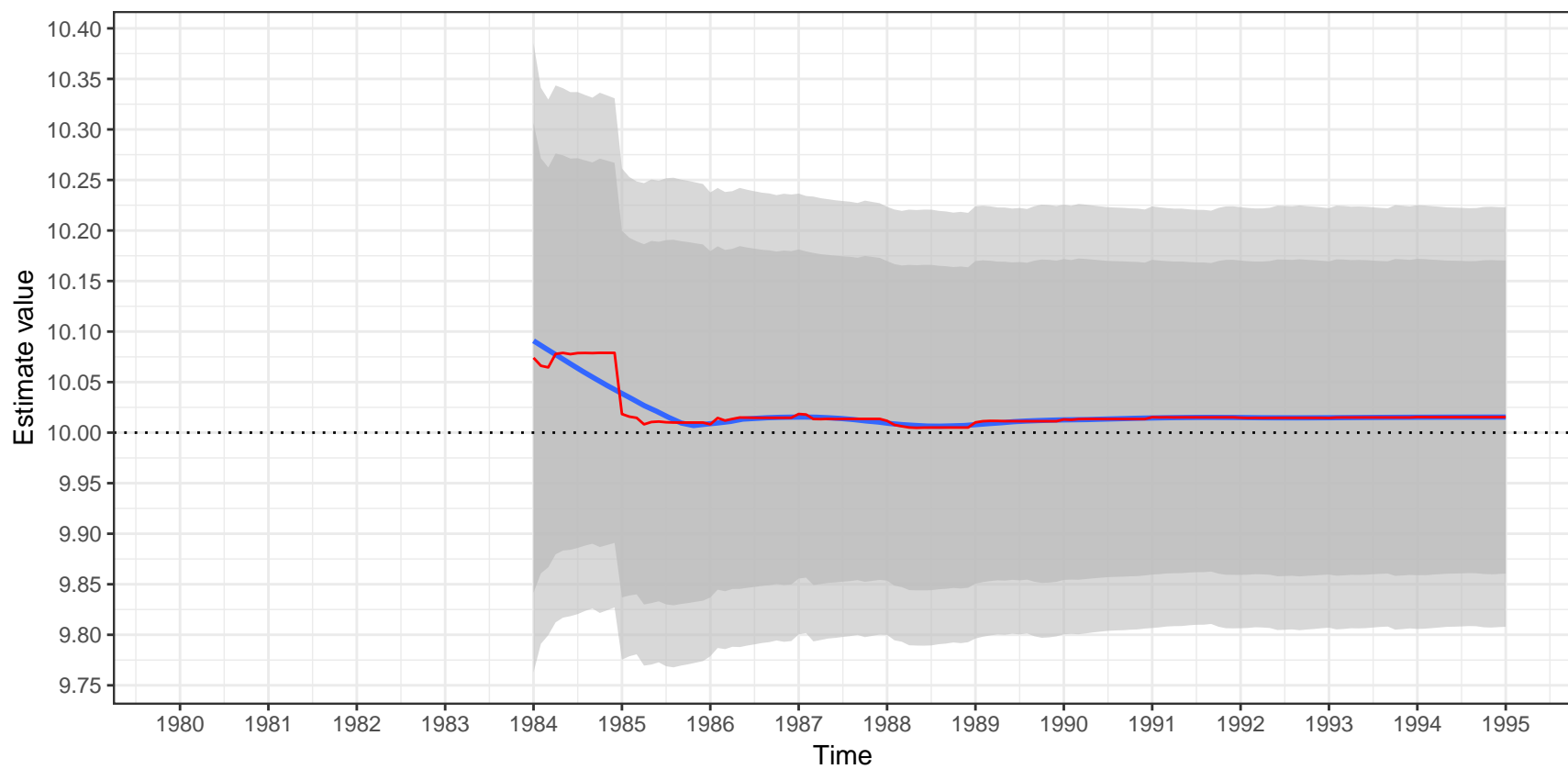


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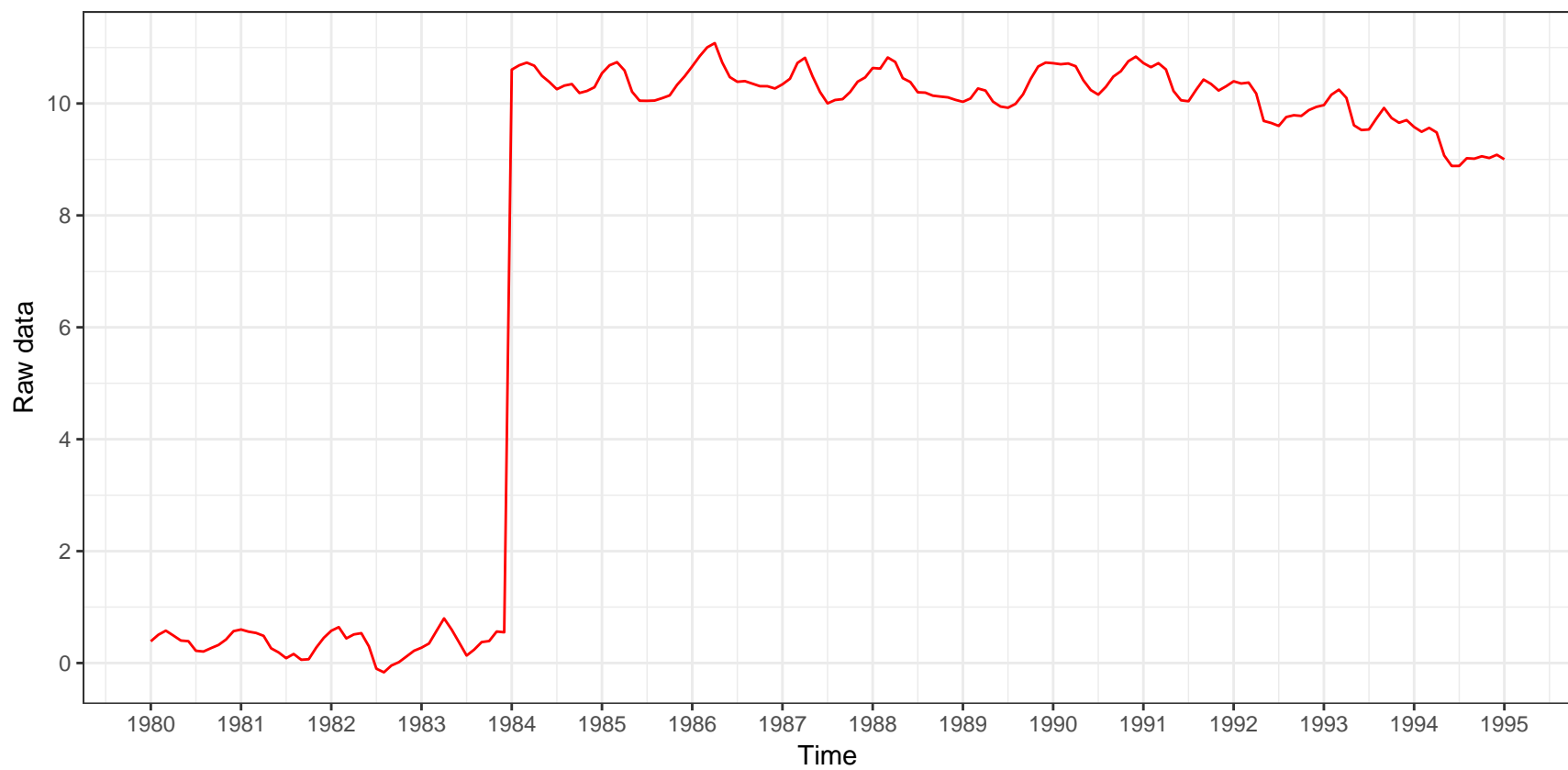


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.5B)(1-0.6B^{12})a_t$

Estimation of the outlier

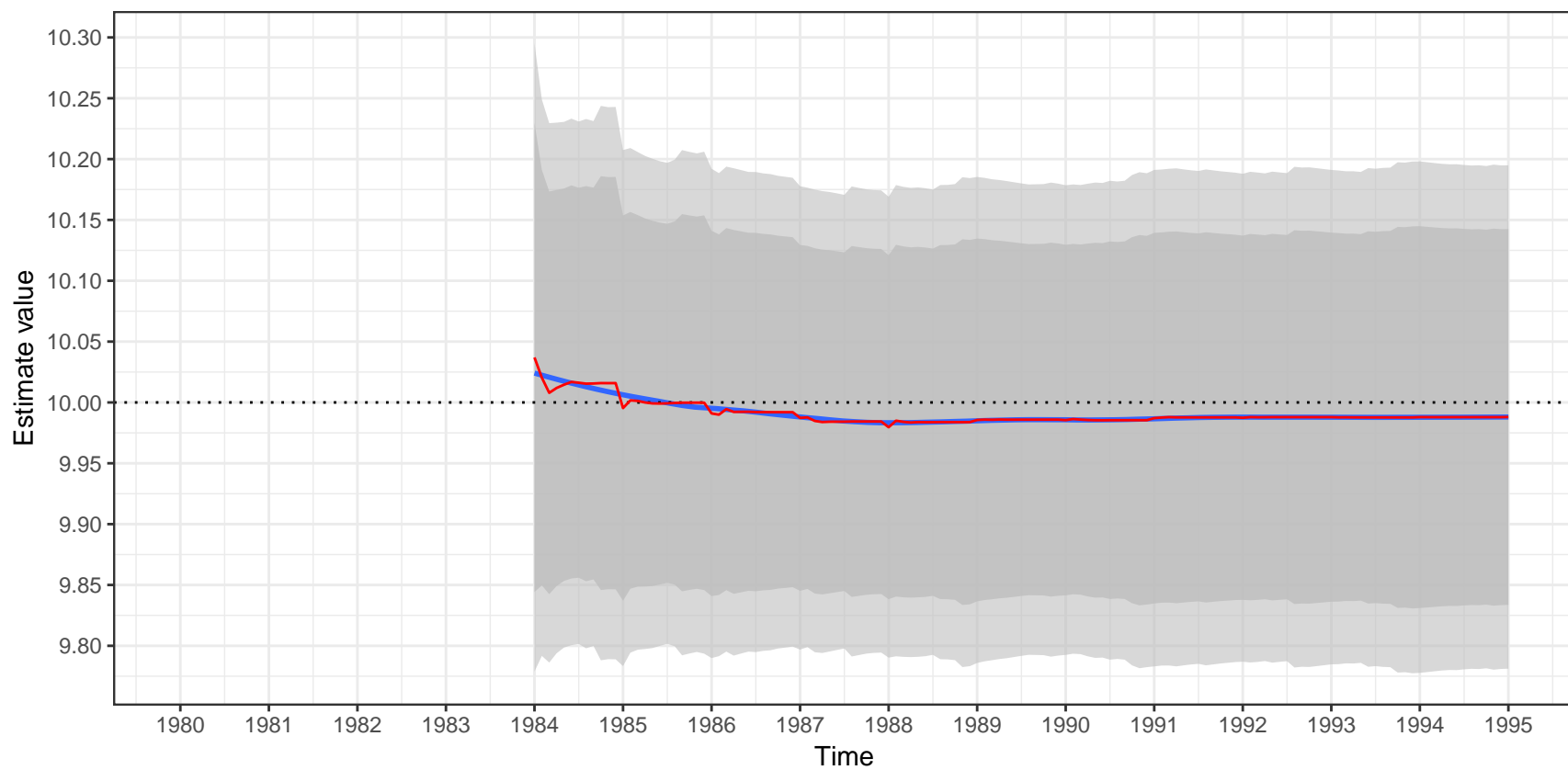


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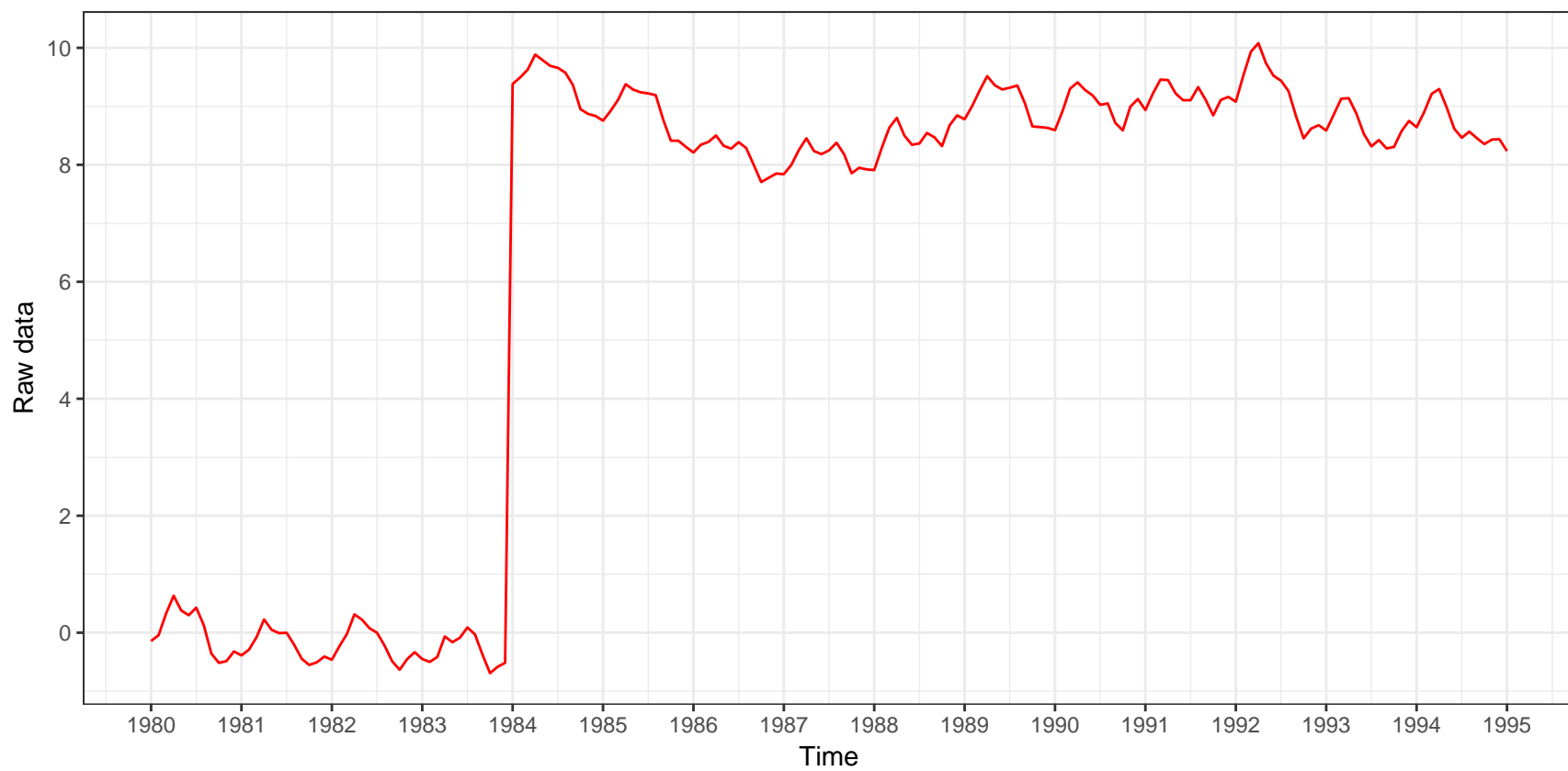


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.5B)(1-0.6B^{12})a_t$

Estimation of the outlier

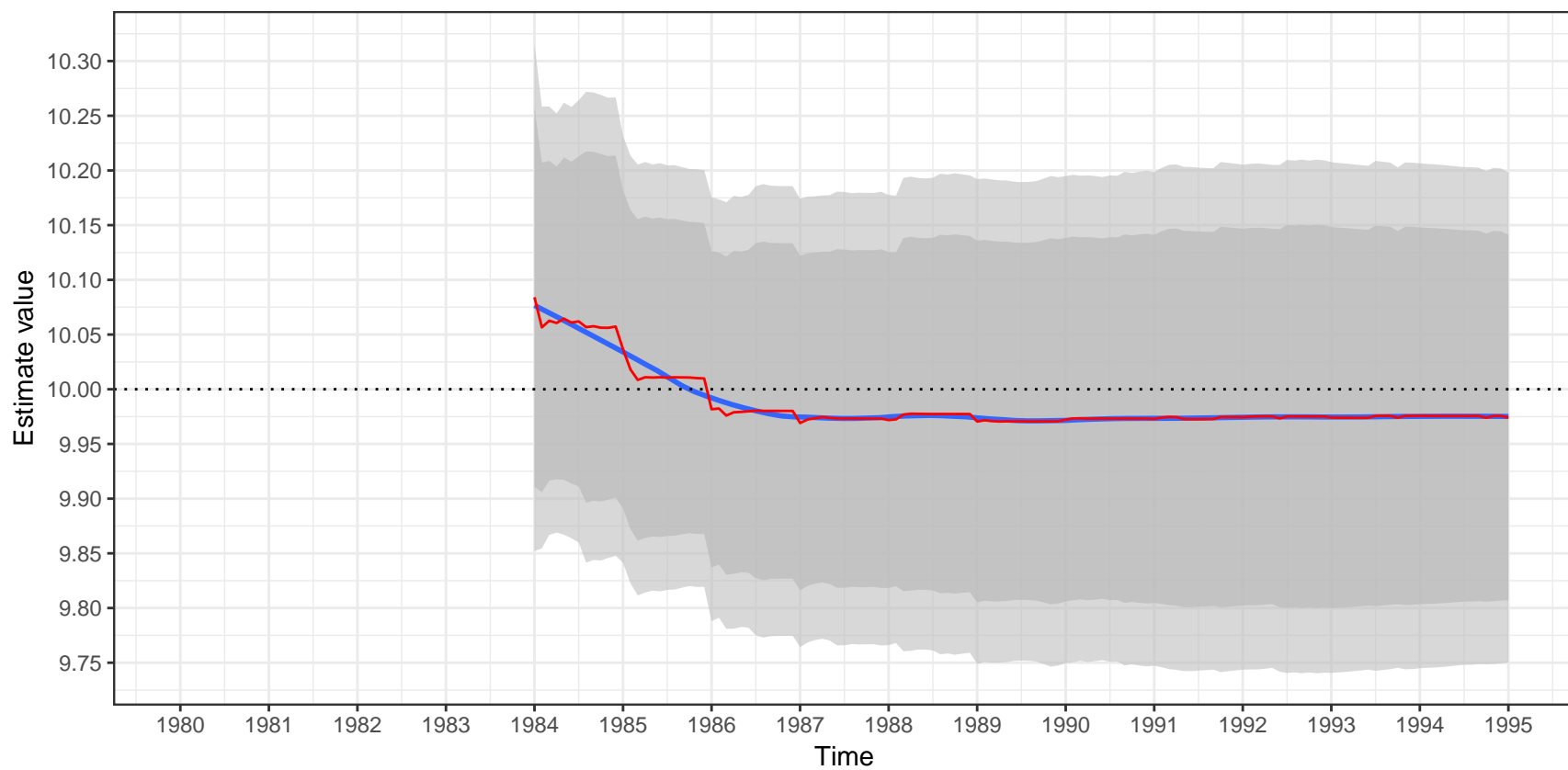


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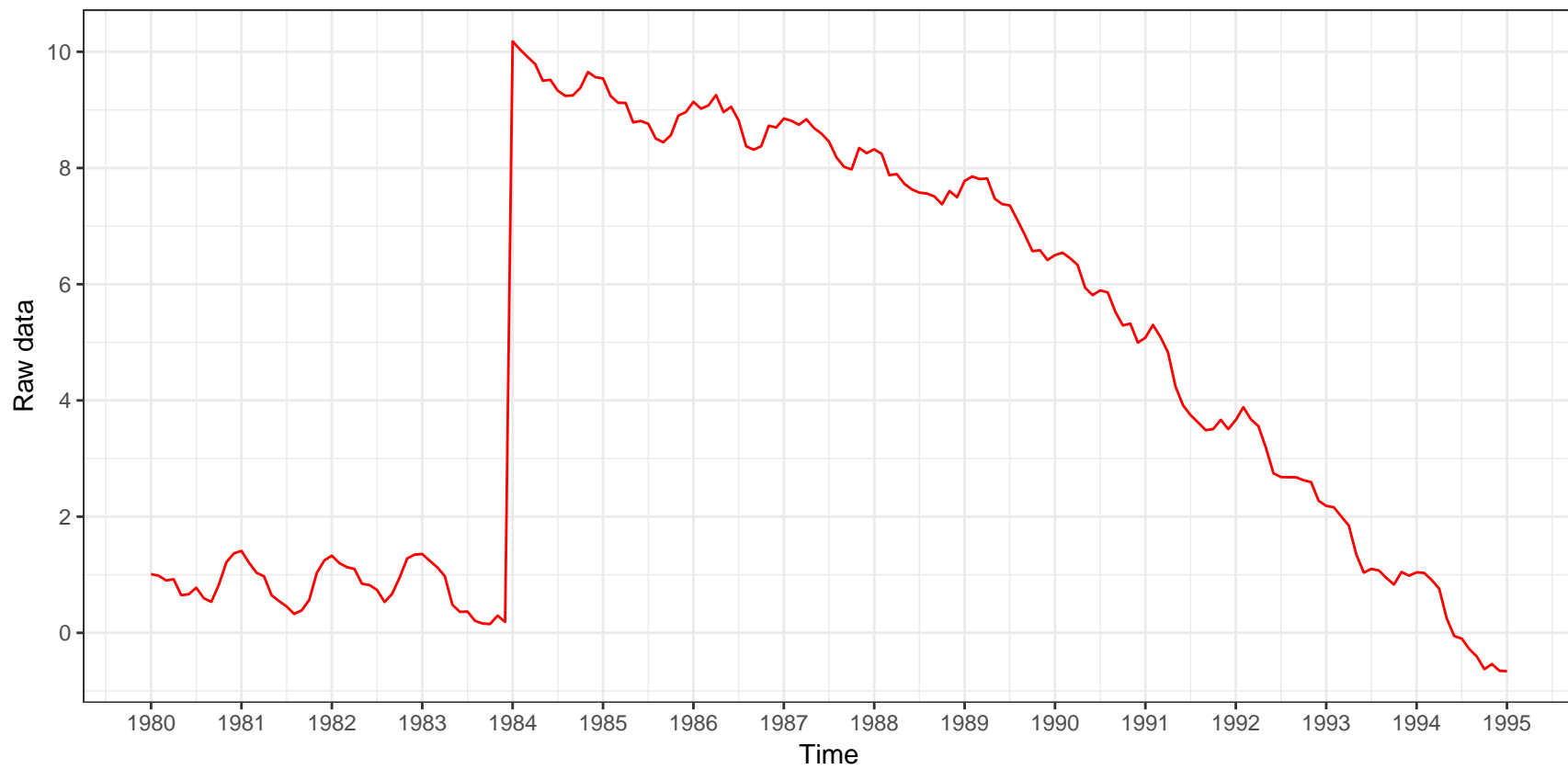


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1+0.5B)(1-0.6B^{12})a_t$

Estimation of the outlier

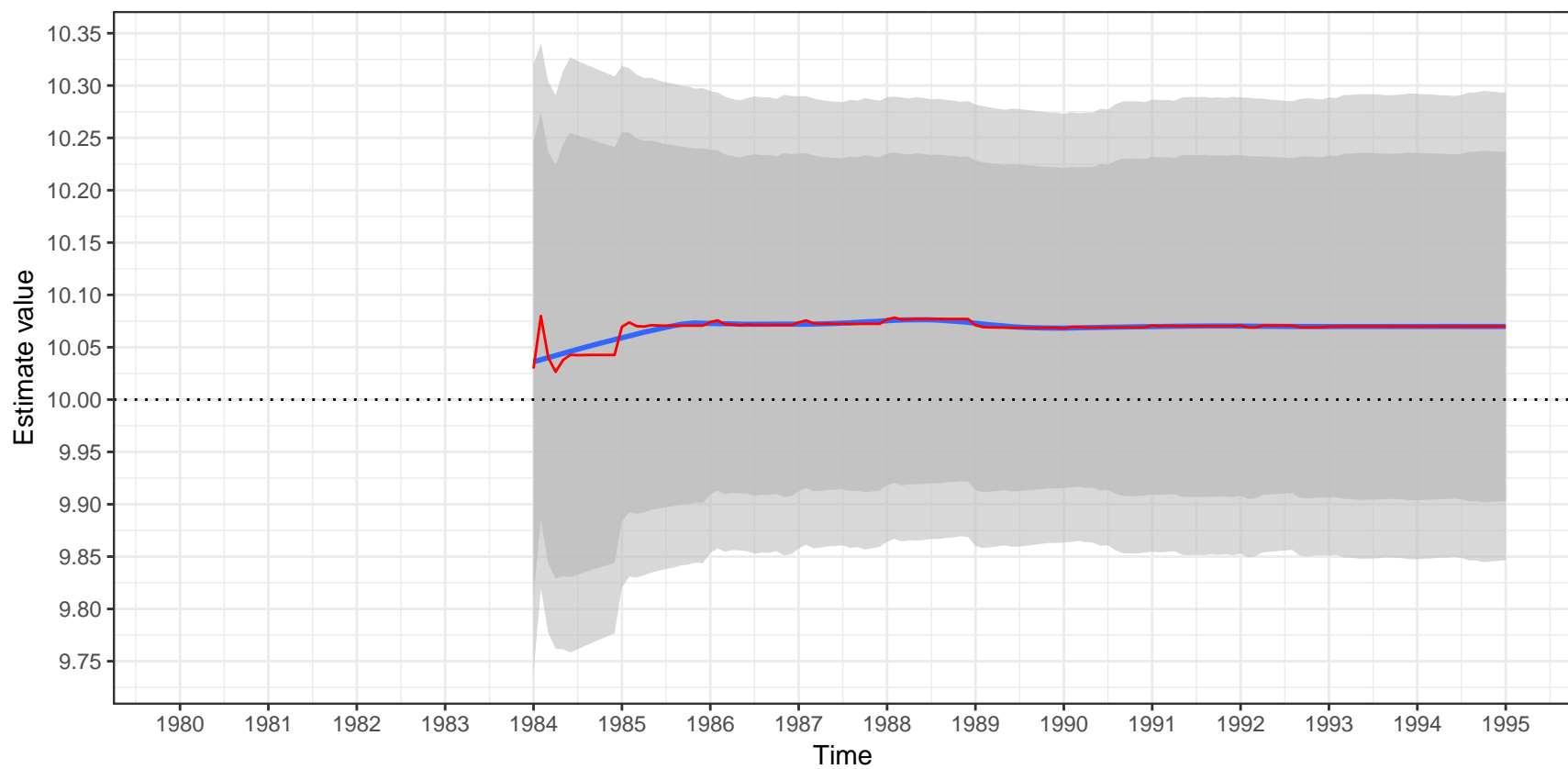


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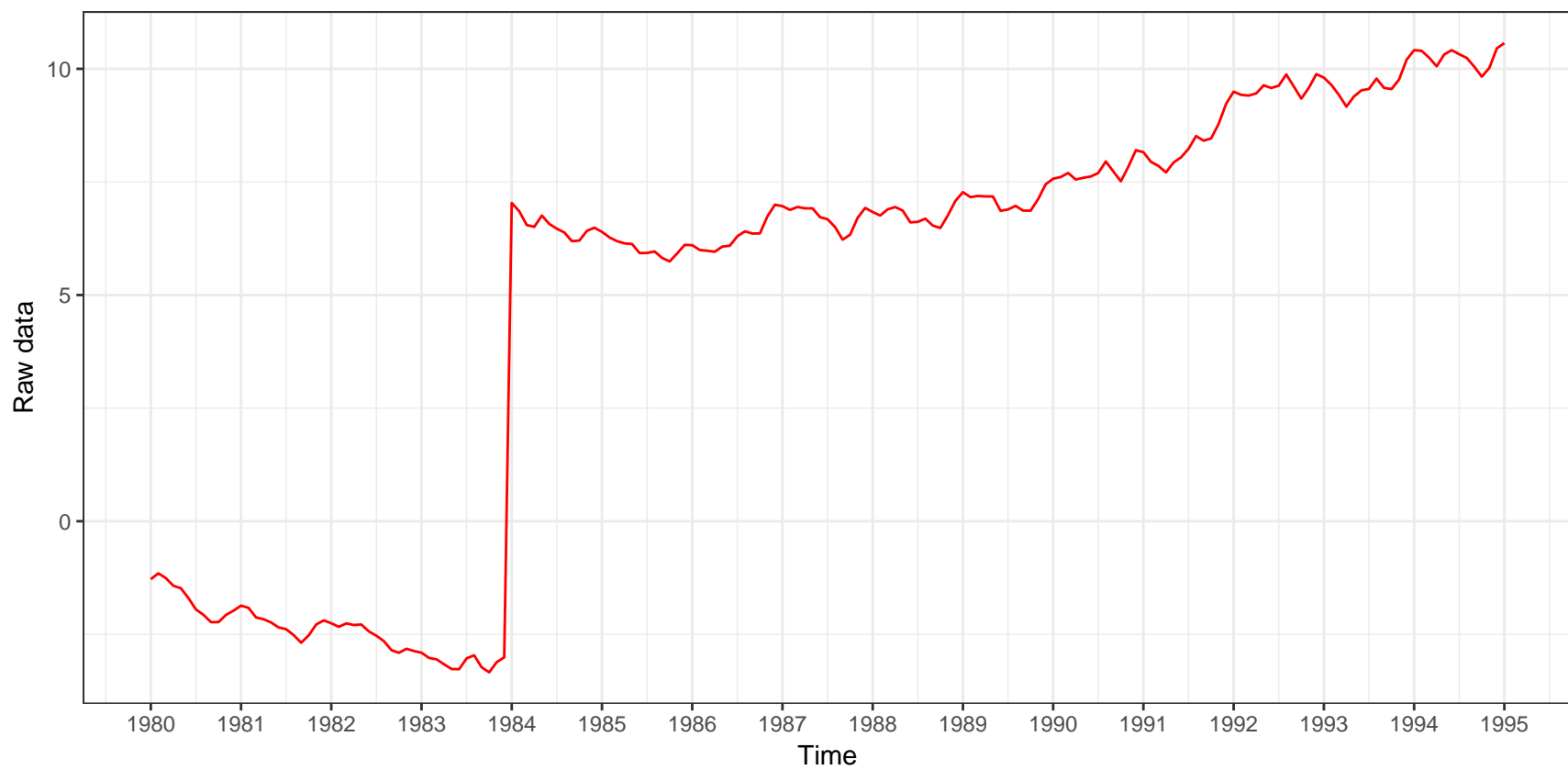


Estimate value of a LS(1984-01)
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Estimation of the outlier

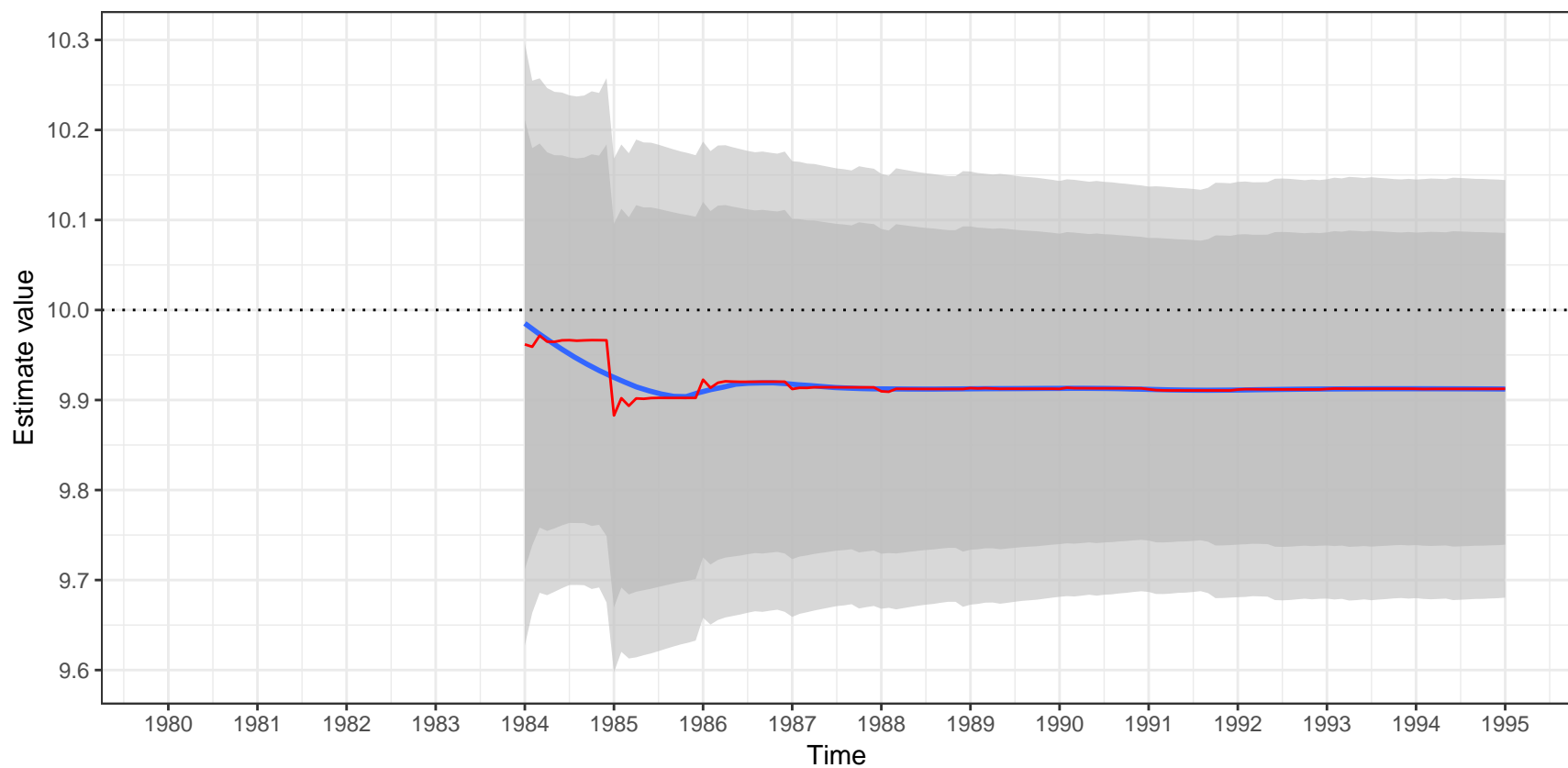


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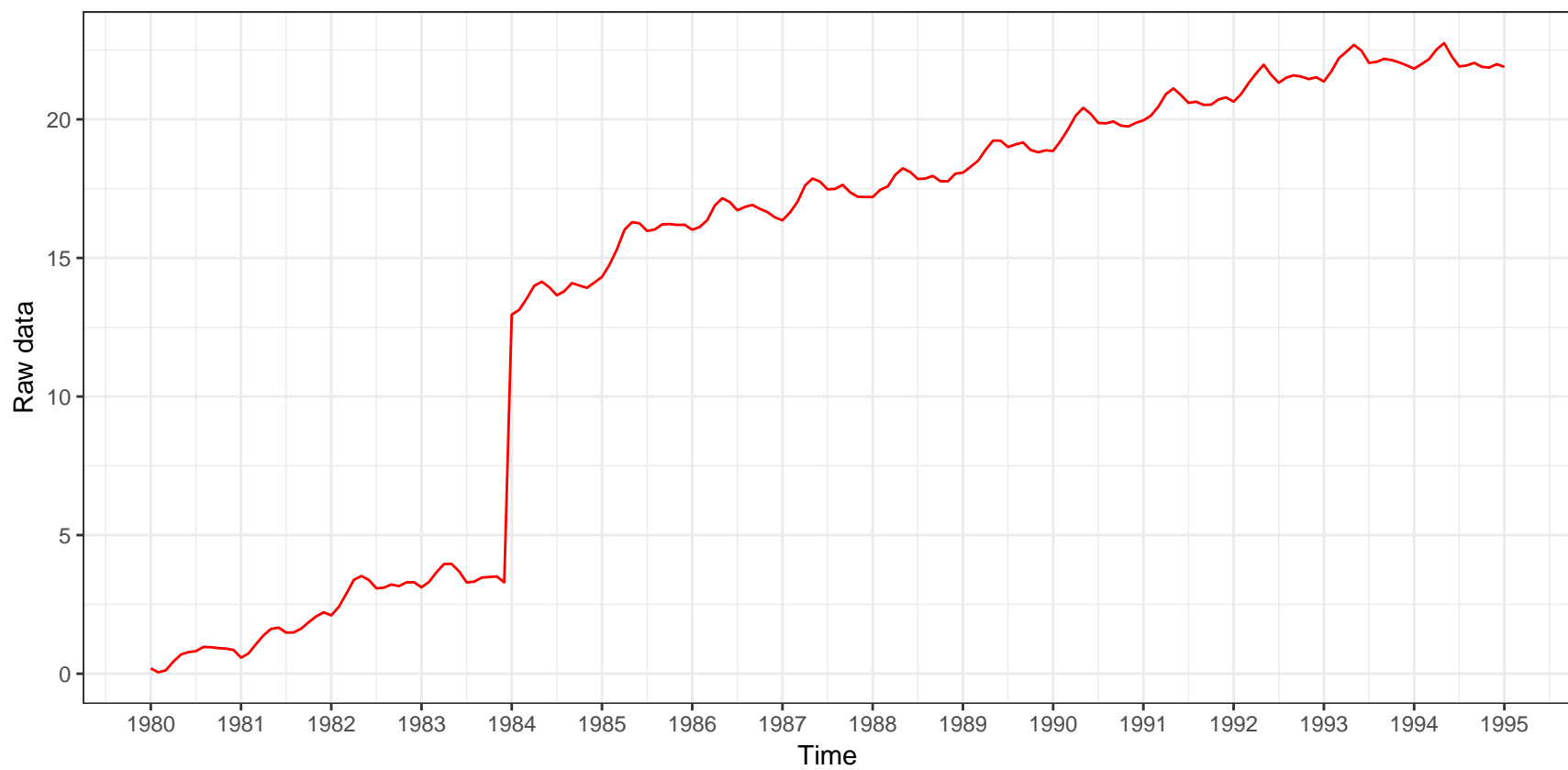


Estimate value of a LS(1984-01)
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Estimation of the outlier

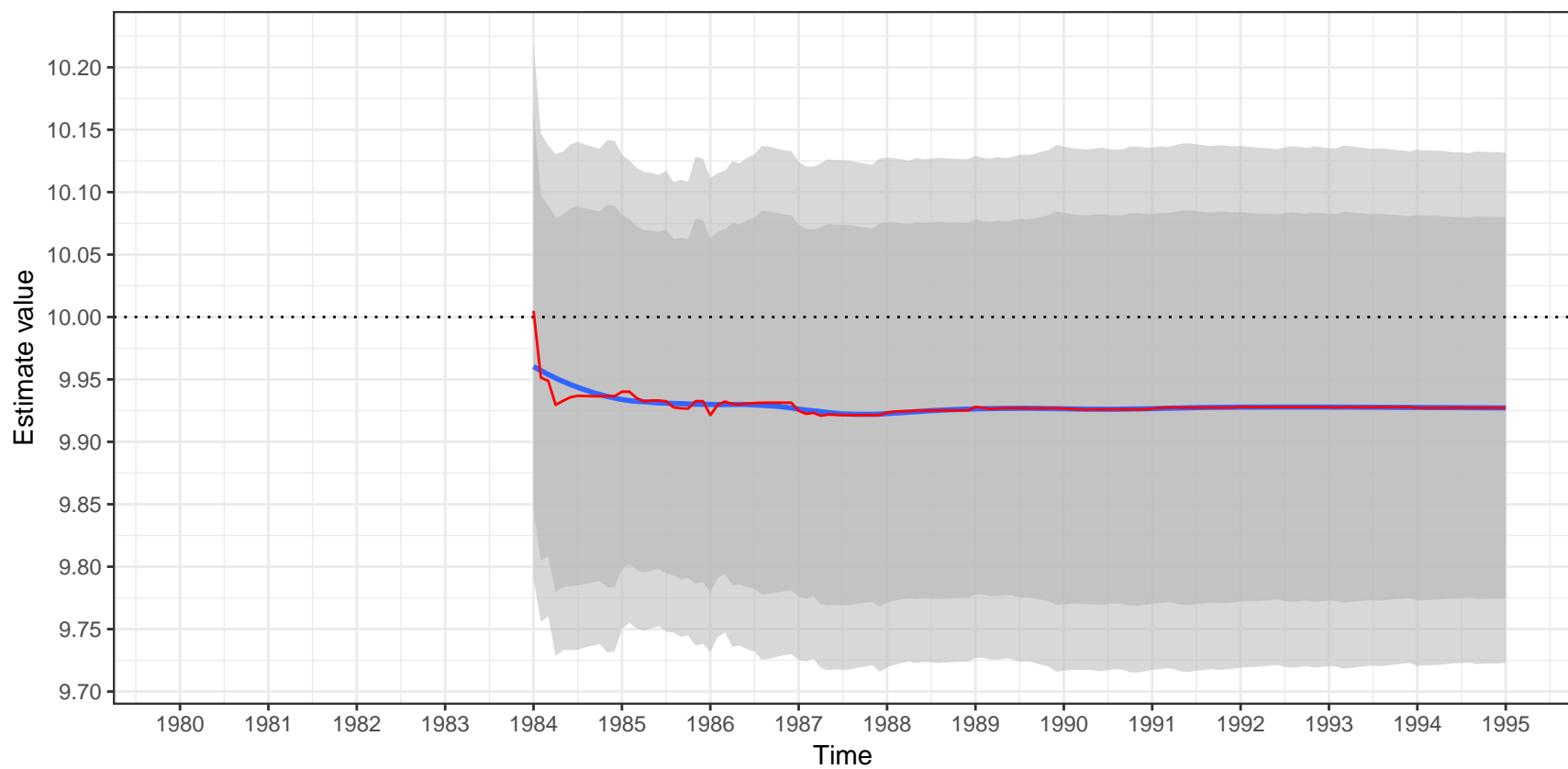


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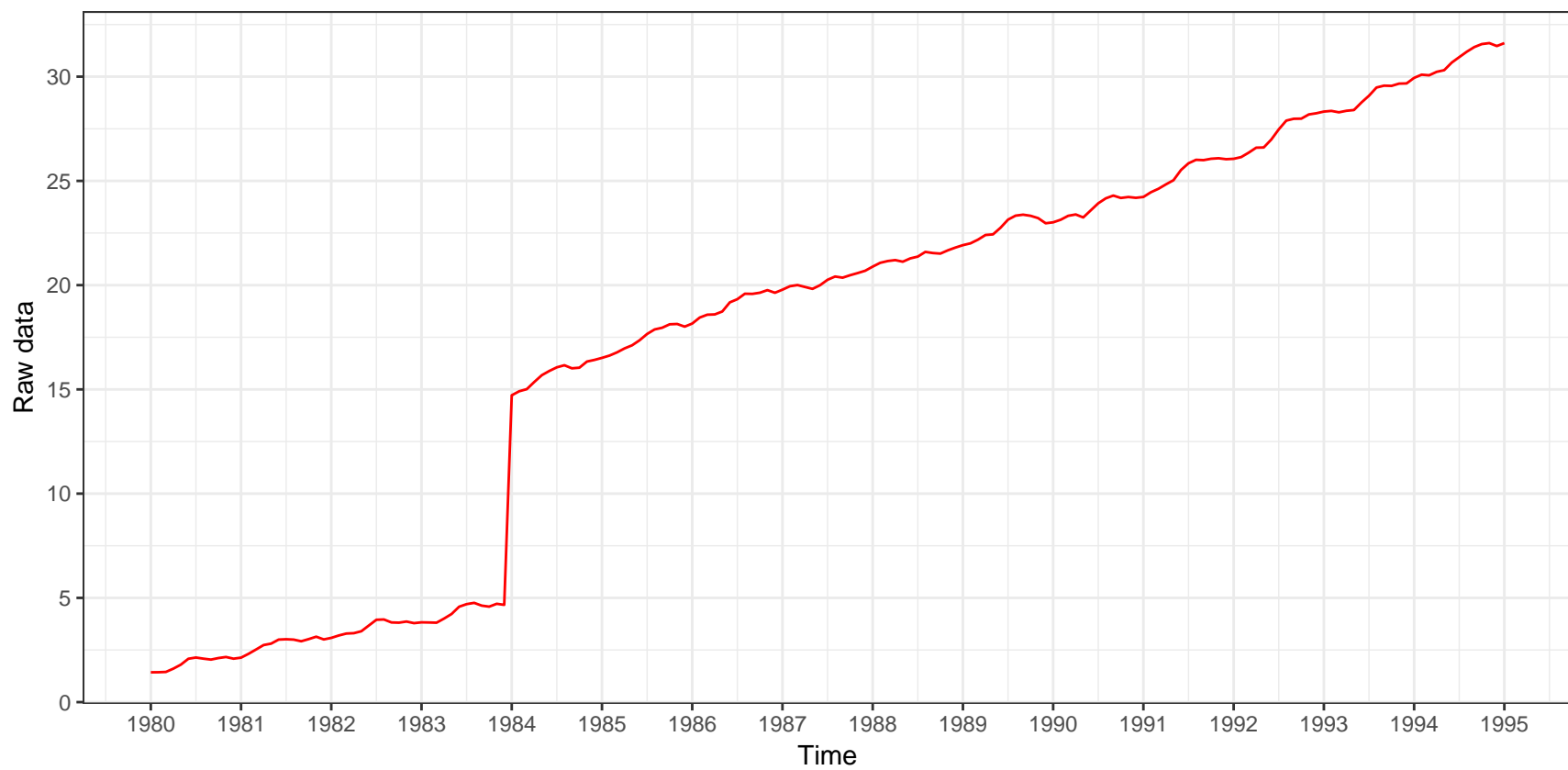


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1+0.5B)(1-0.6B_{12})a_t$

Estimation of the outlier

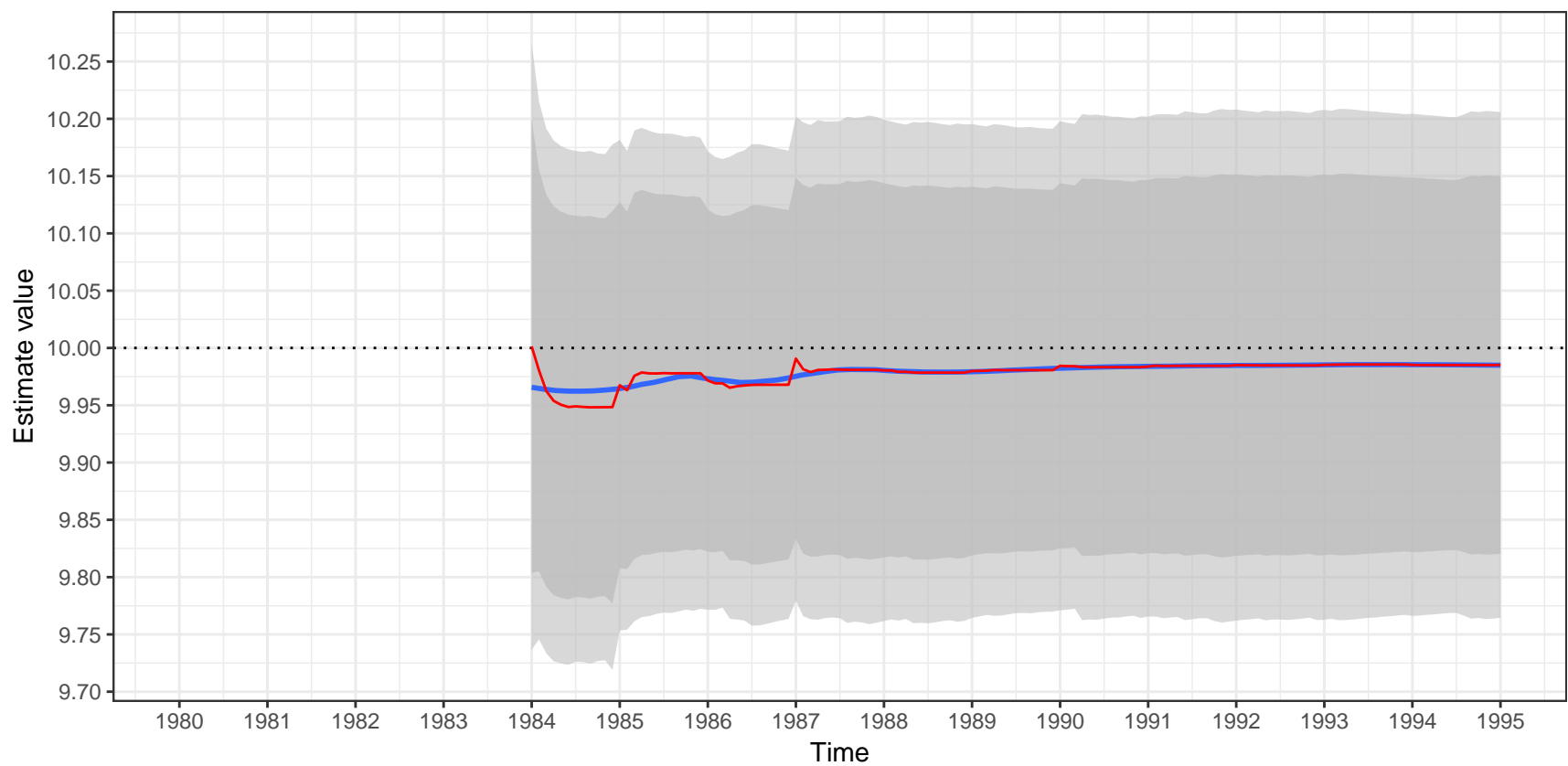


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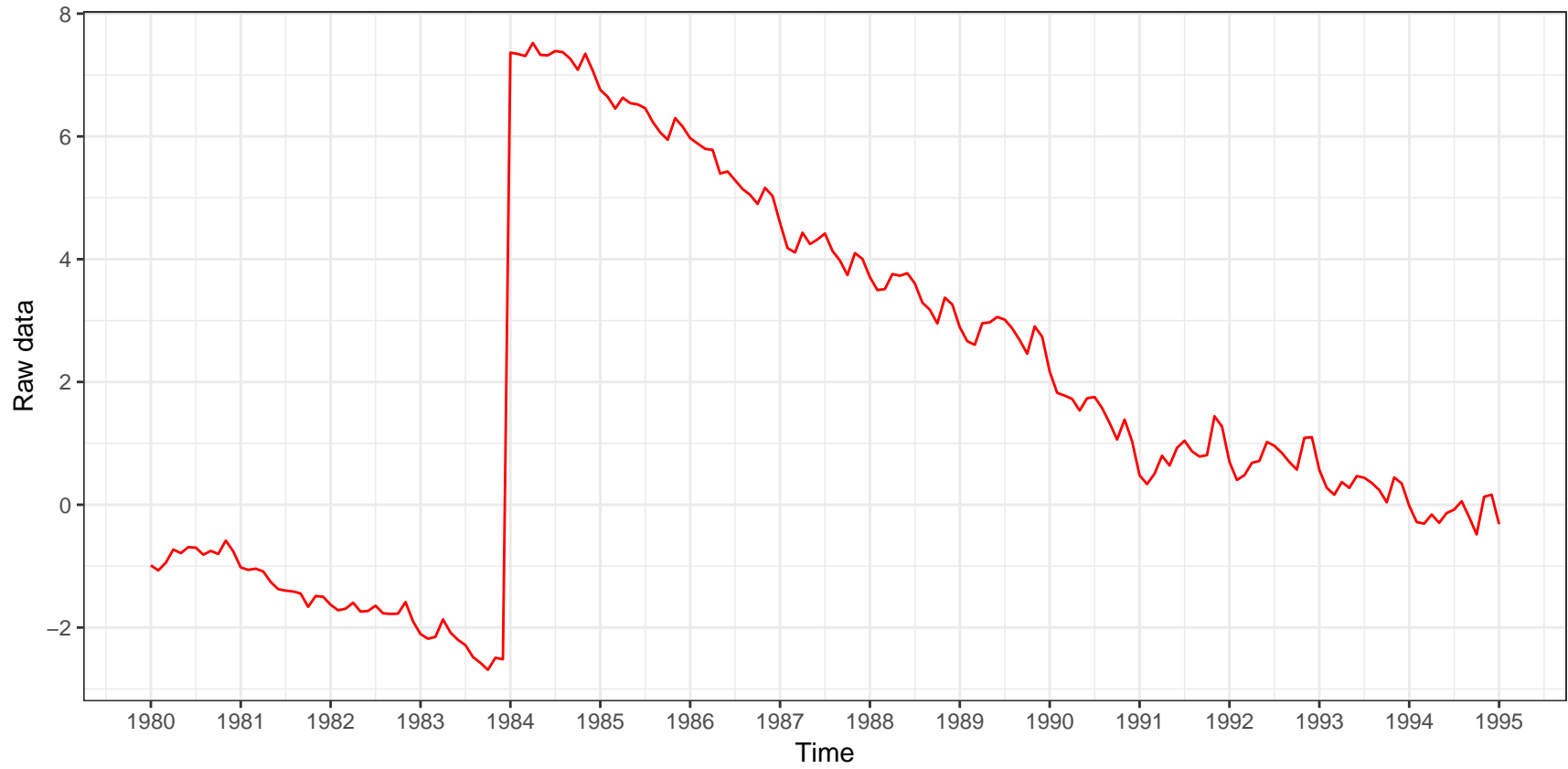


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

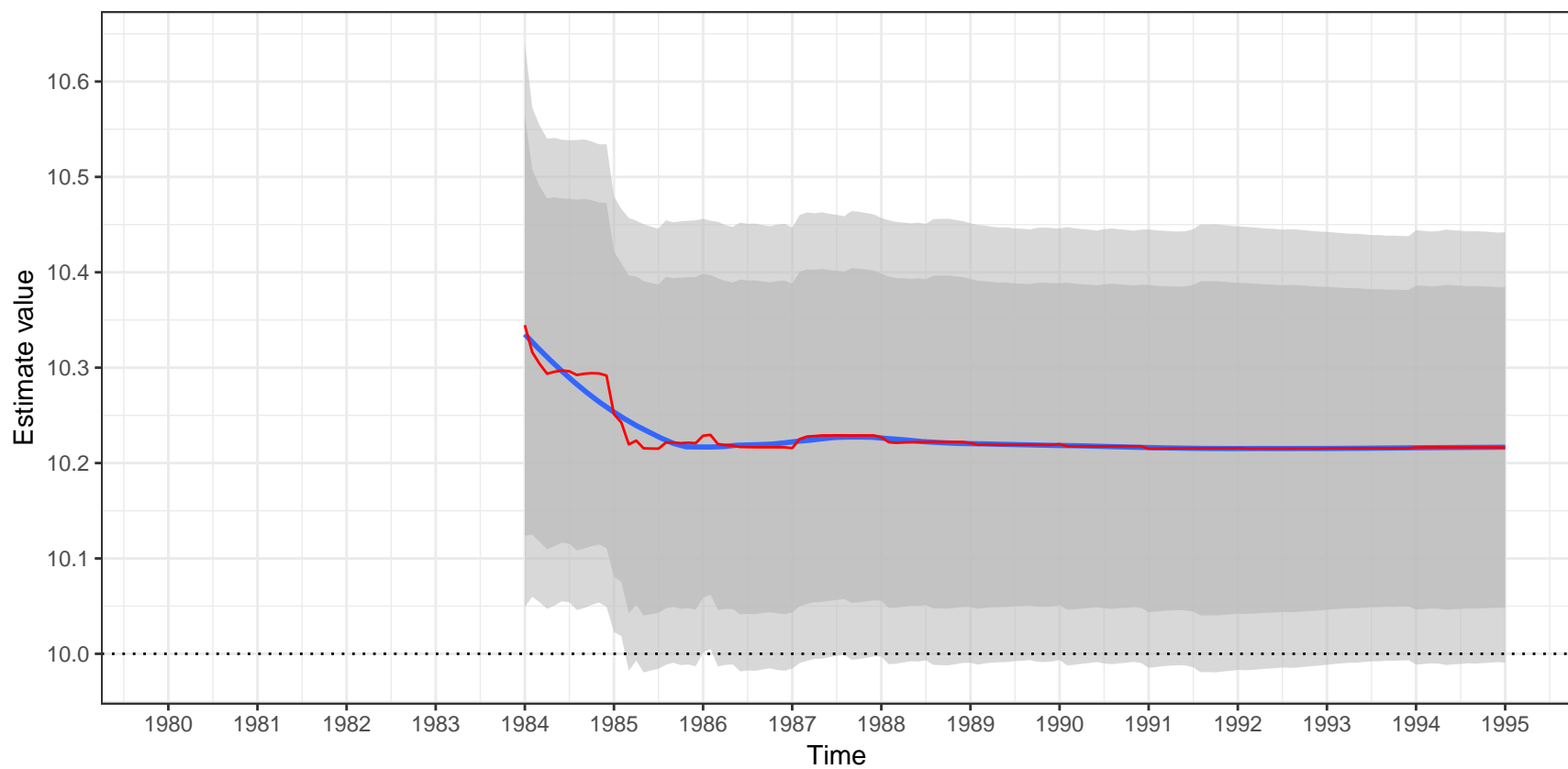


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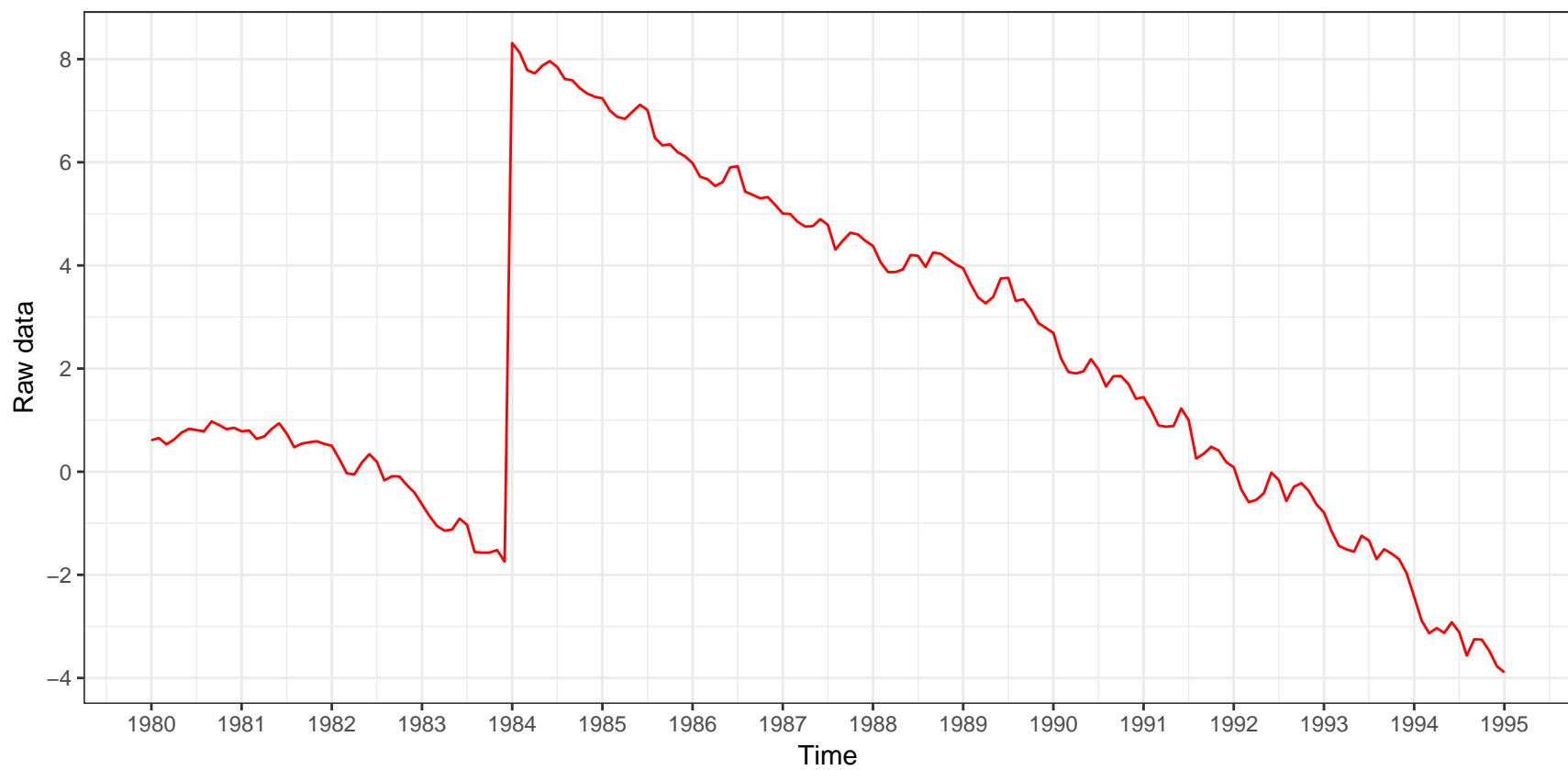


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

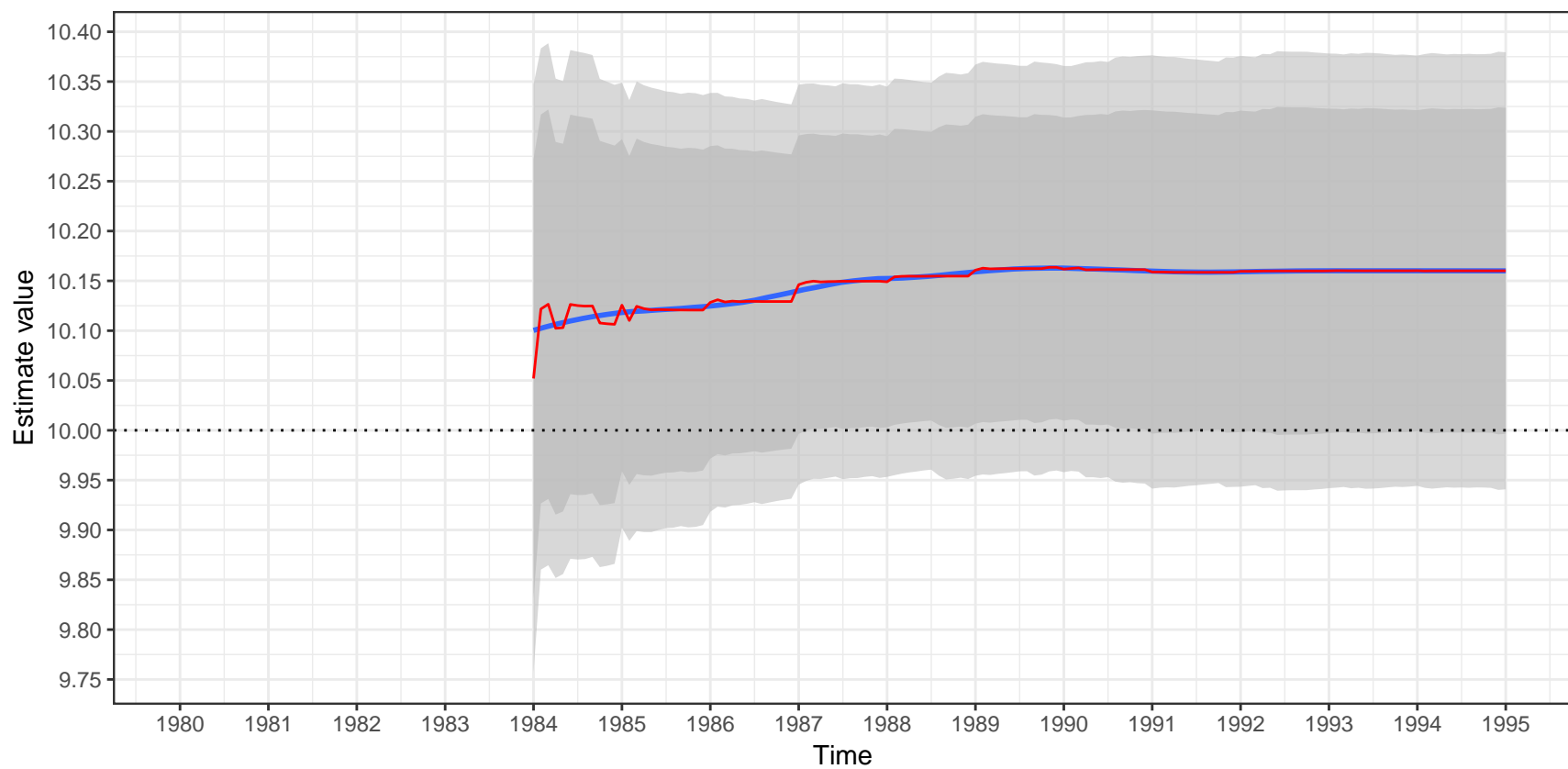


Raw data

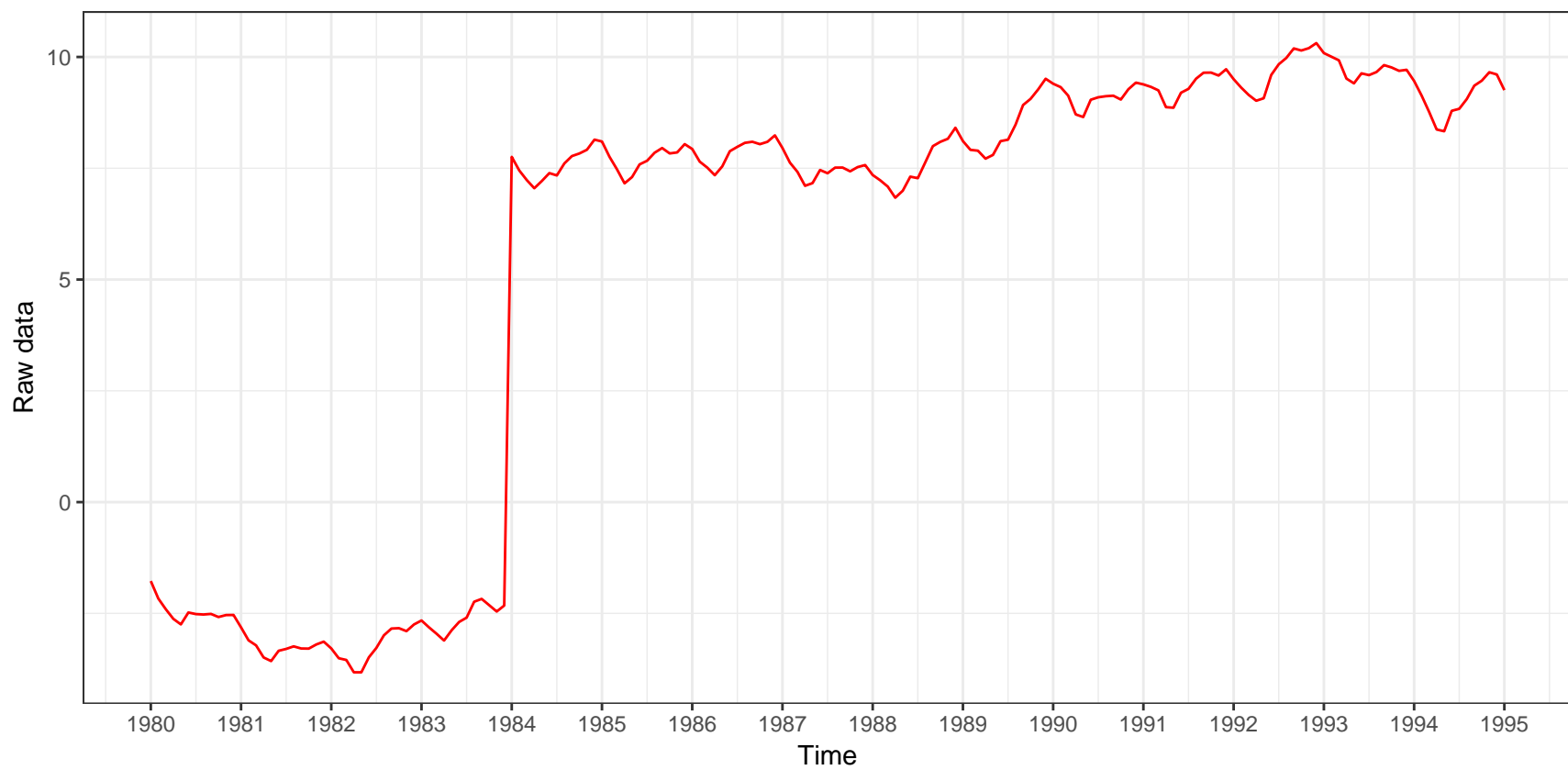


Estimate value of a LS(1984–01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1+0.5B)(1-0.6B^{12})a_t$

Estimation of the outlier

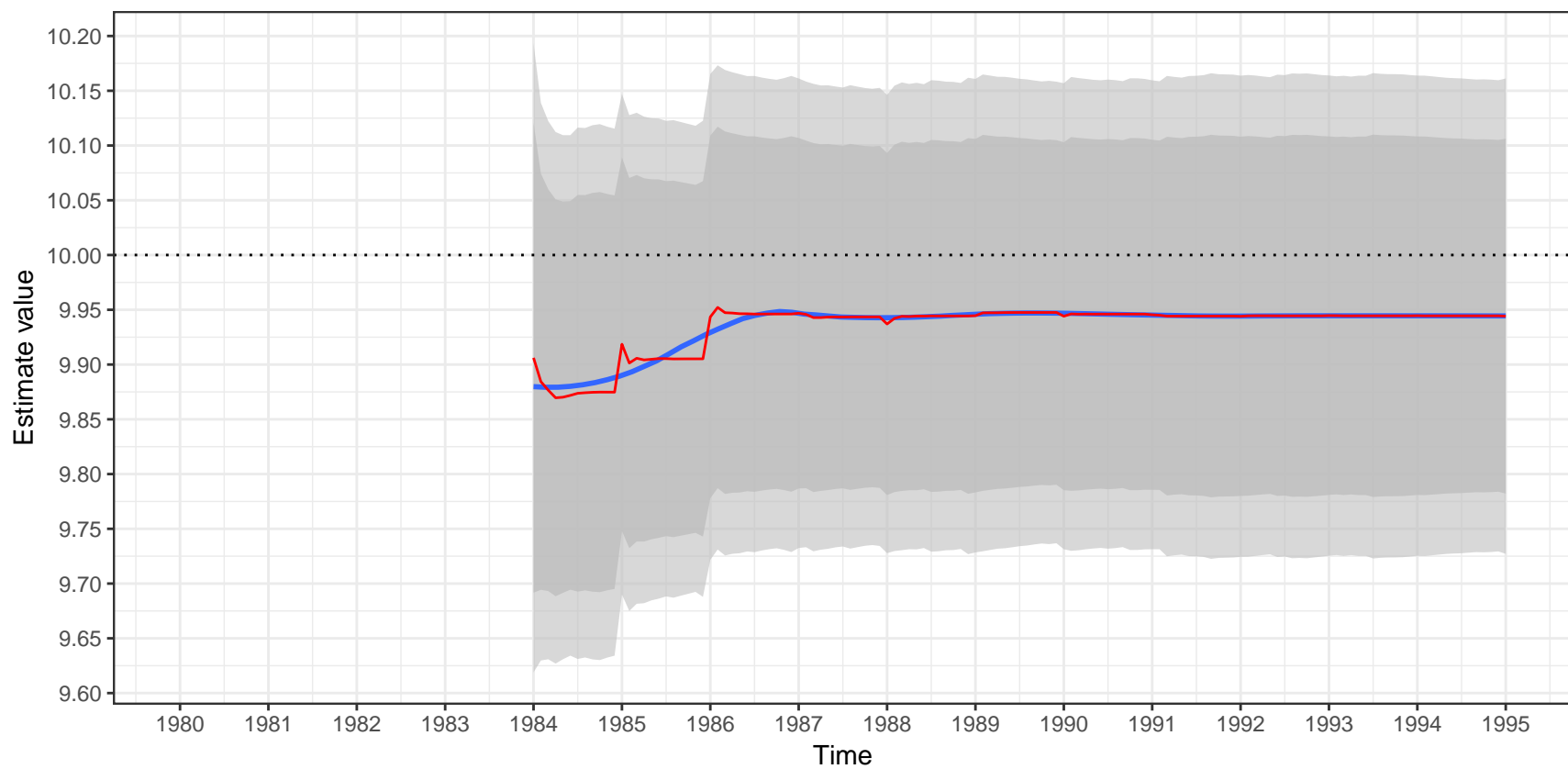


Raw data

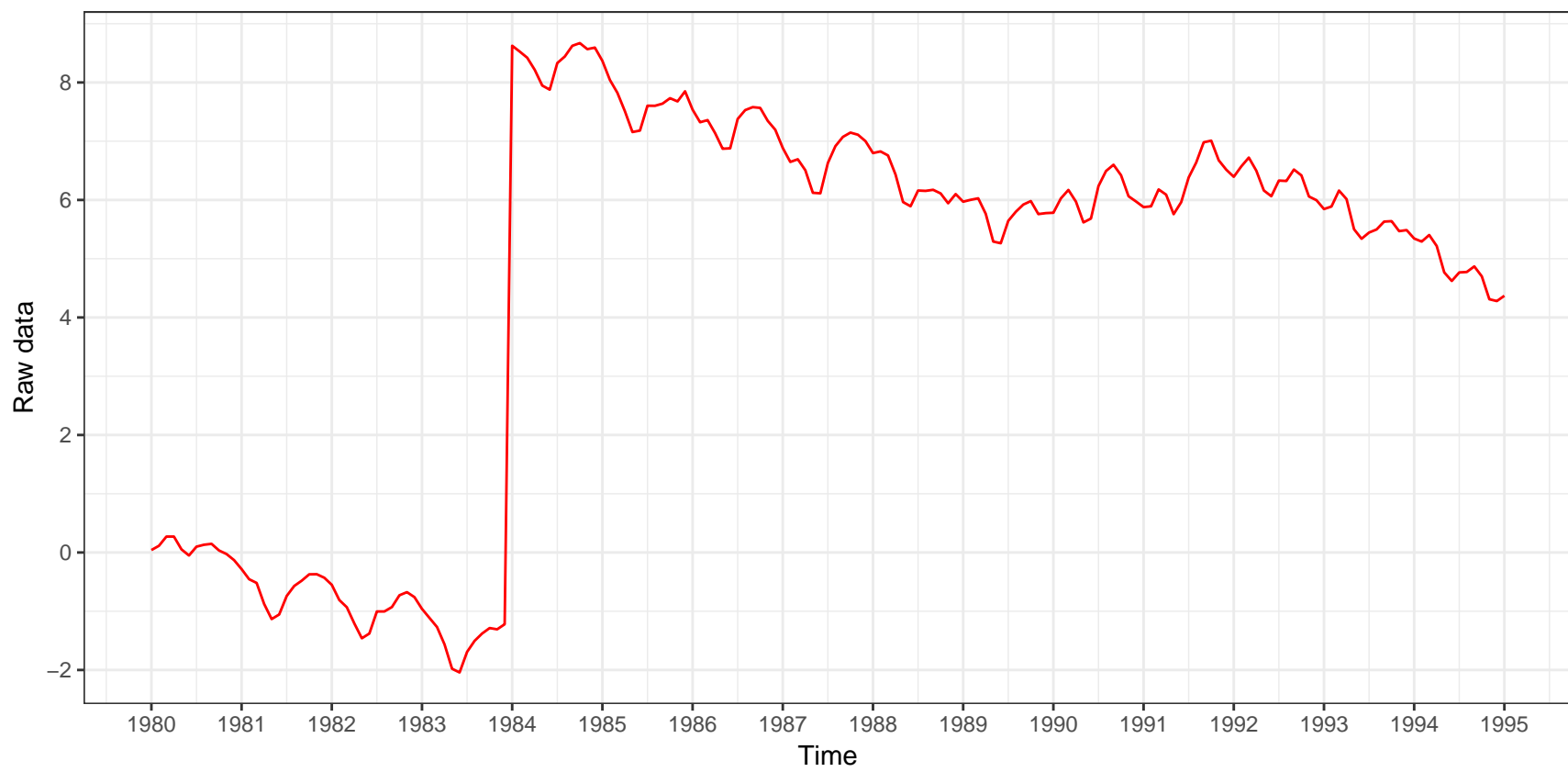


Estimate value of a LS(1984-01)
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Estimation of the outlier

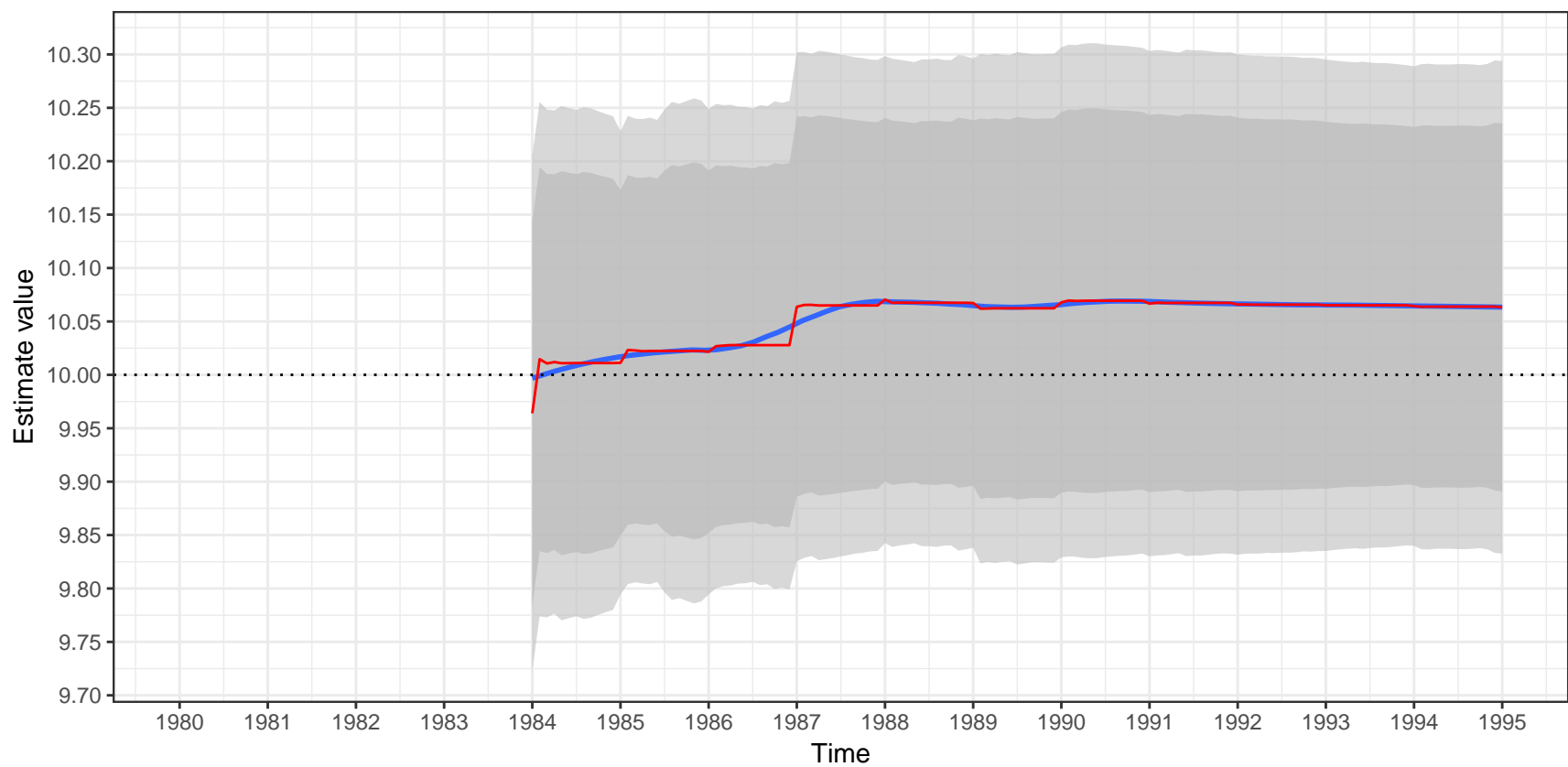


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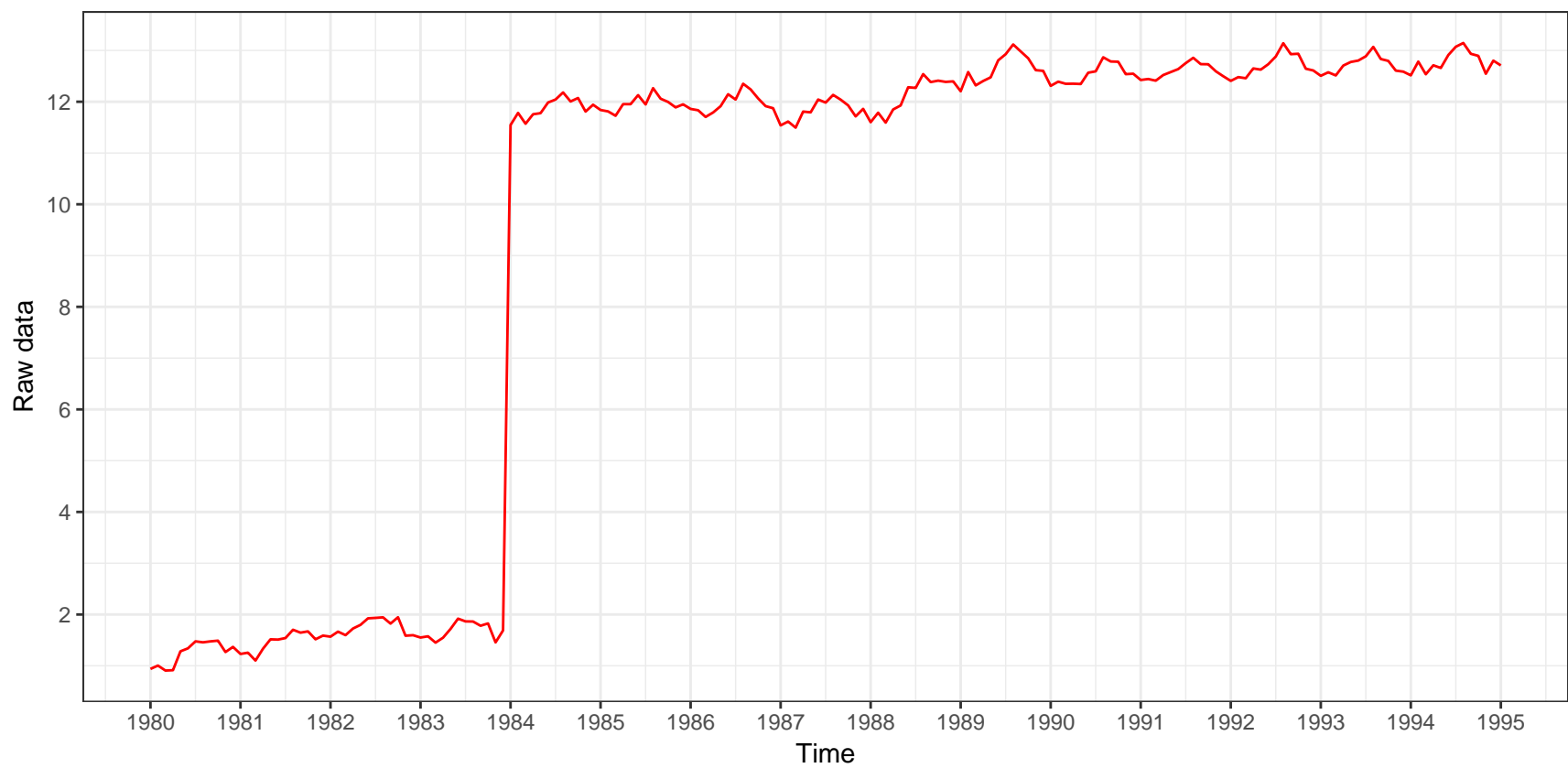


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.3B)(1-0.7B^{12})a_t$

Estimation of the outlier

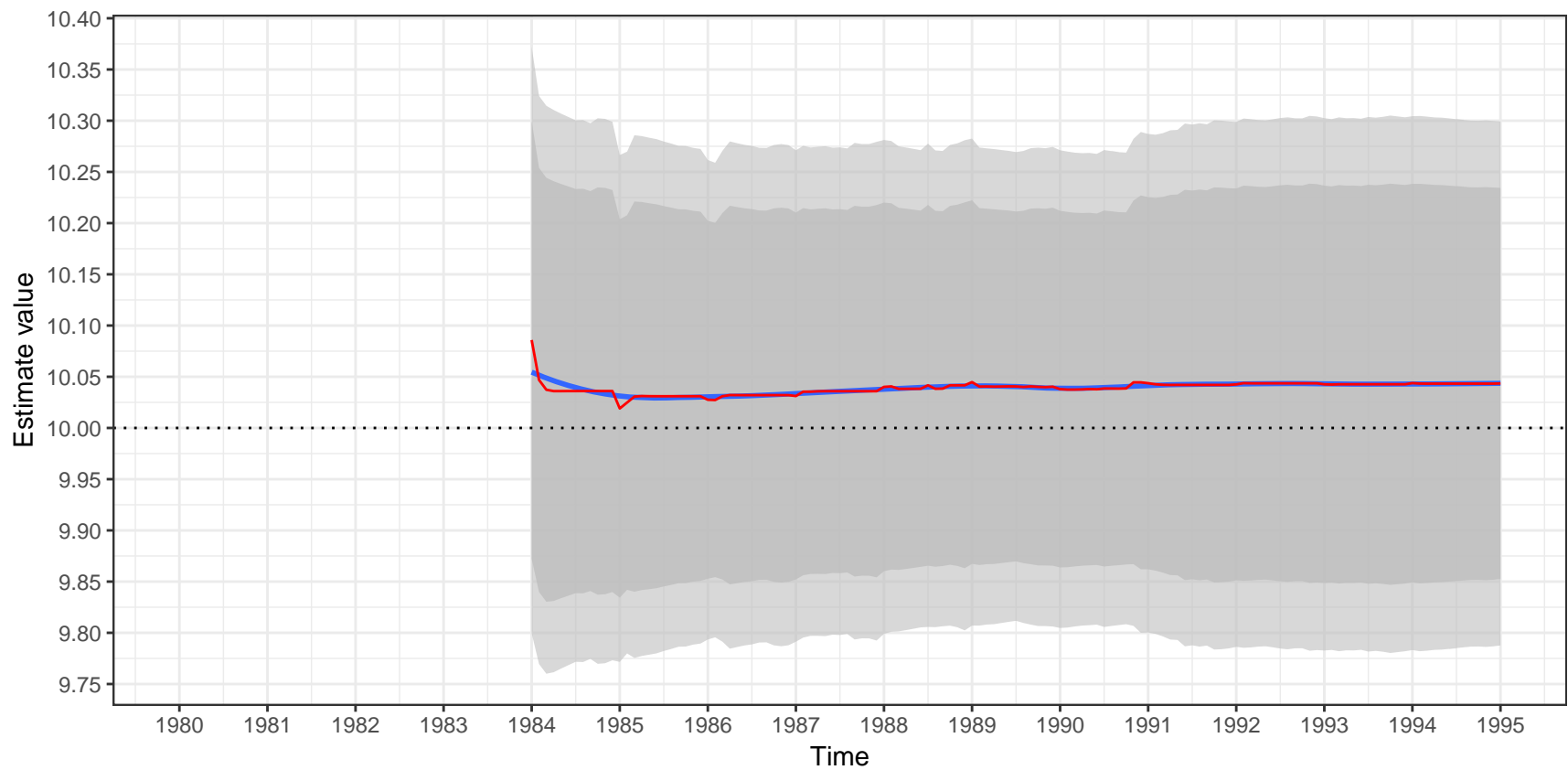


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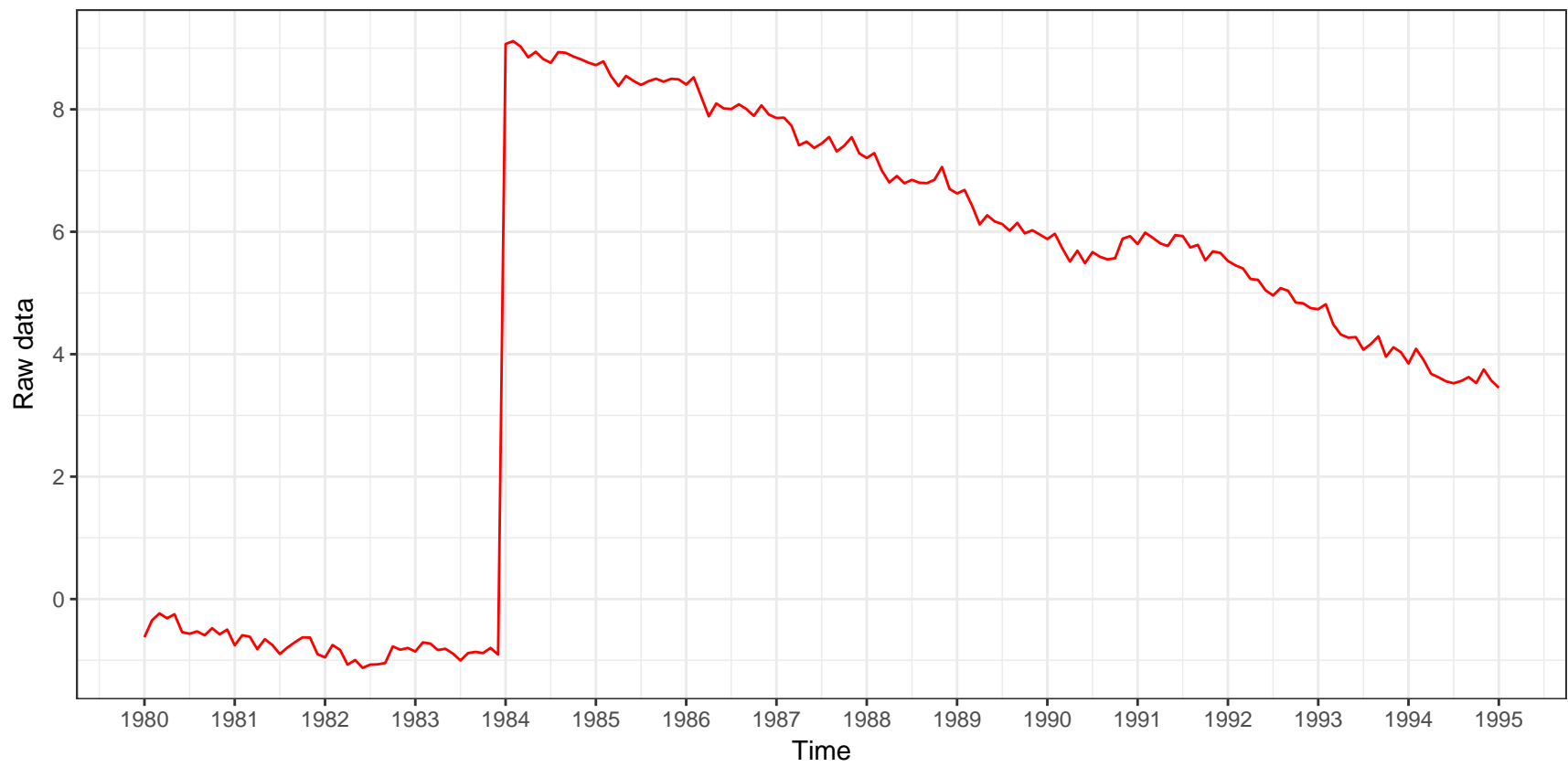


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.3B)(1-0.7B^{12})a_t$

Estimation of the outlier

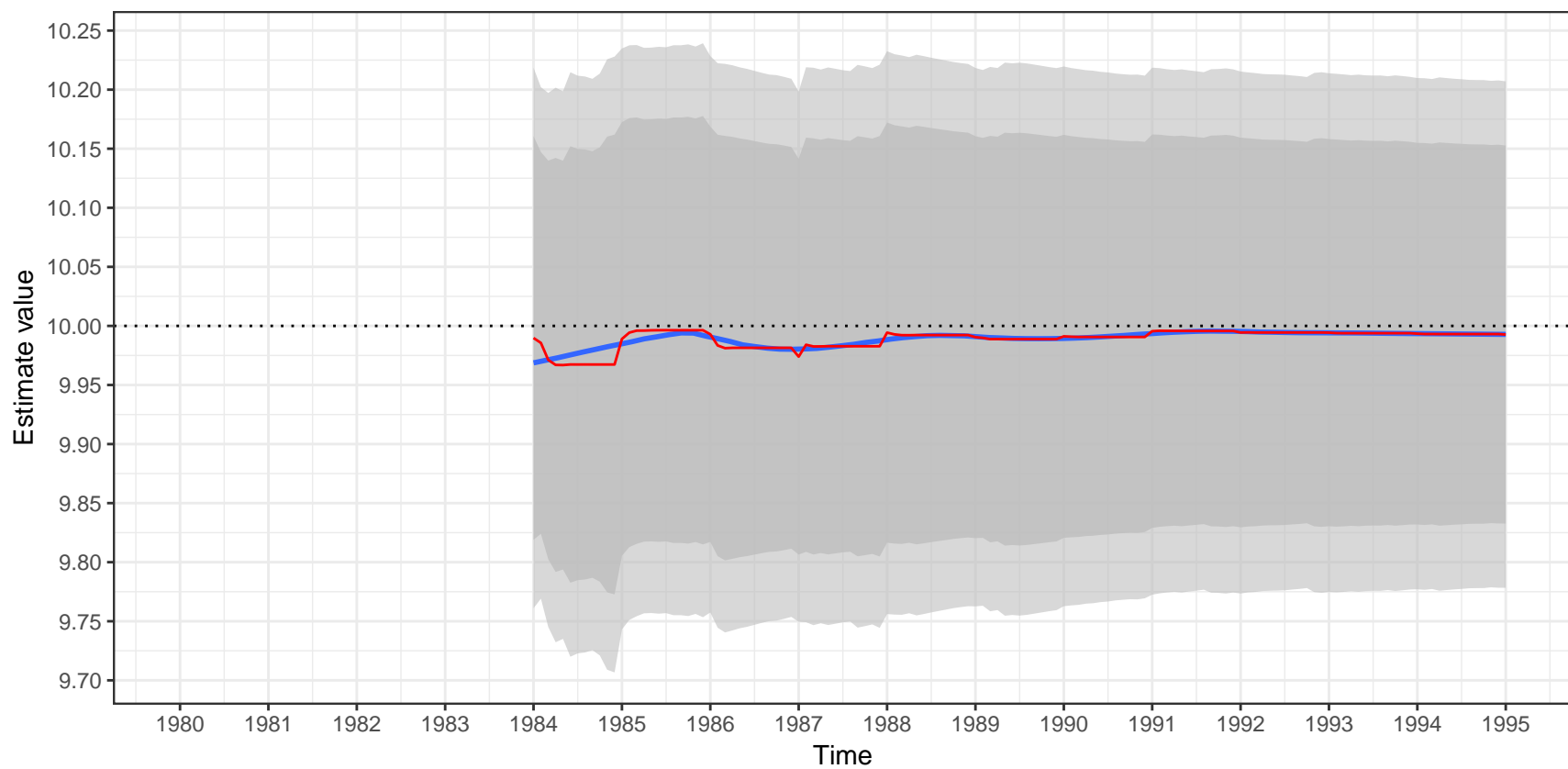


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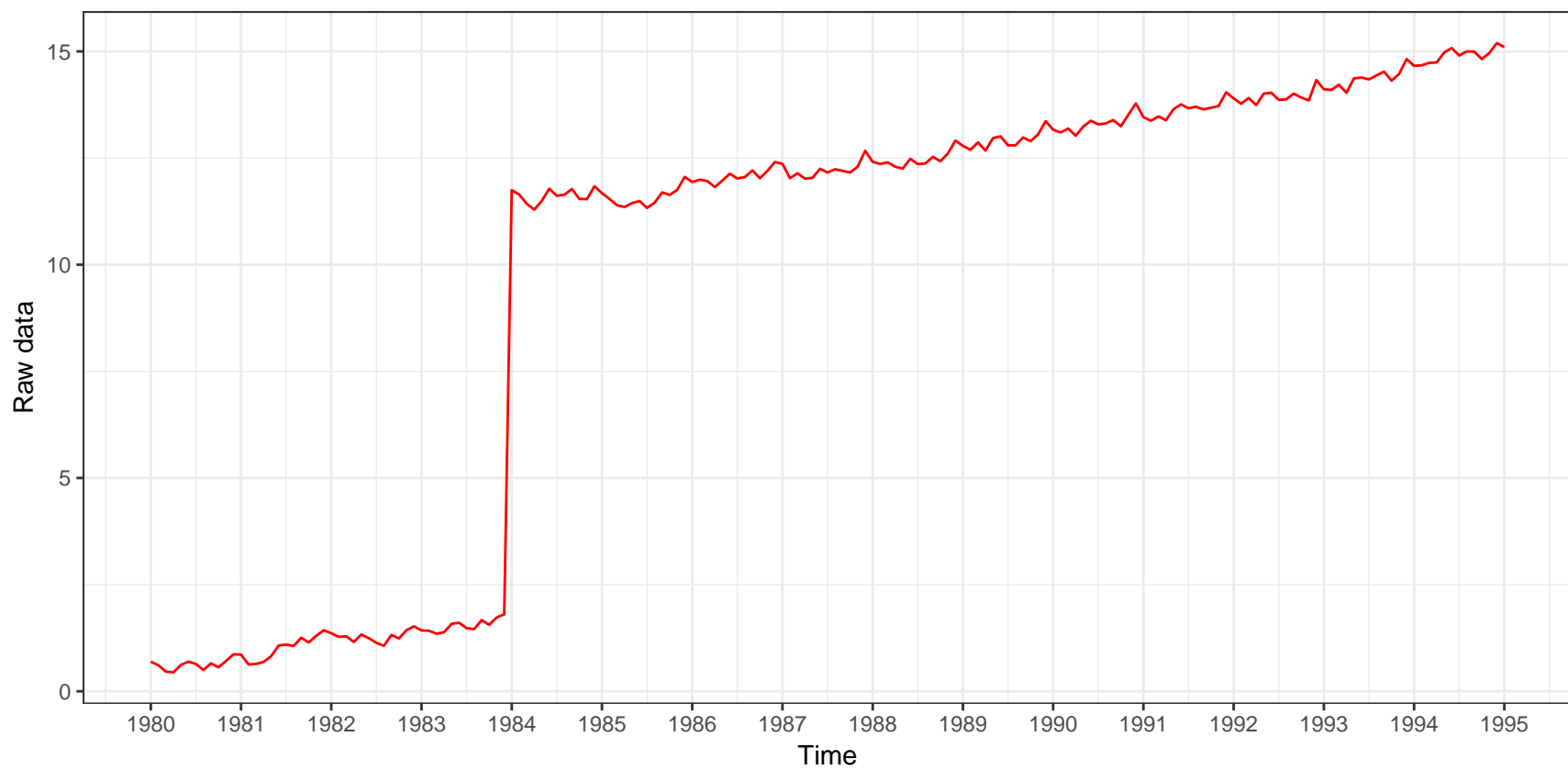


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.3B)(1-0.7B_{12})a_t$

Estimation of the outlier

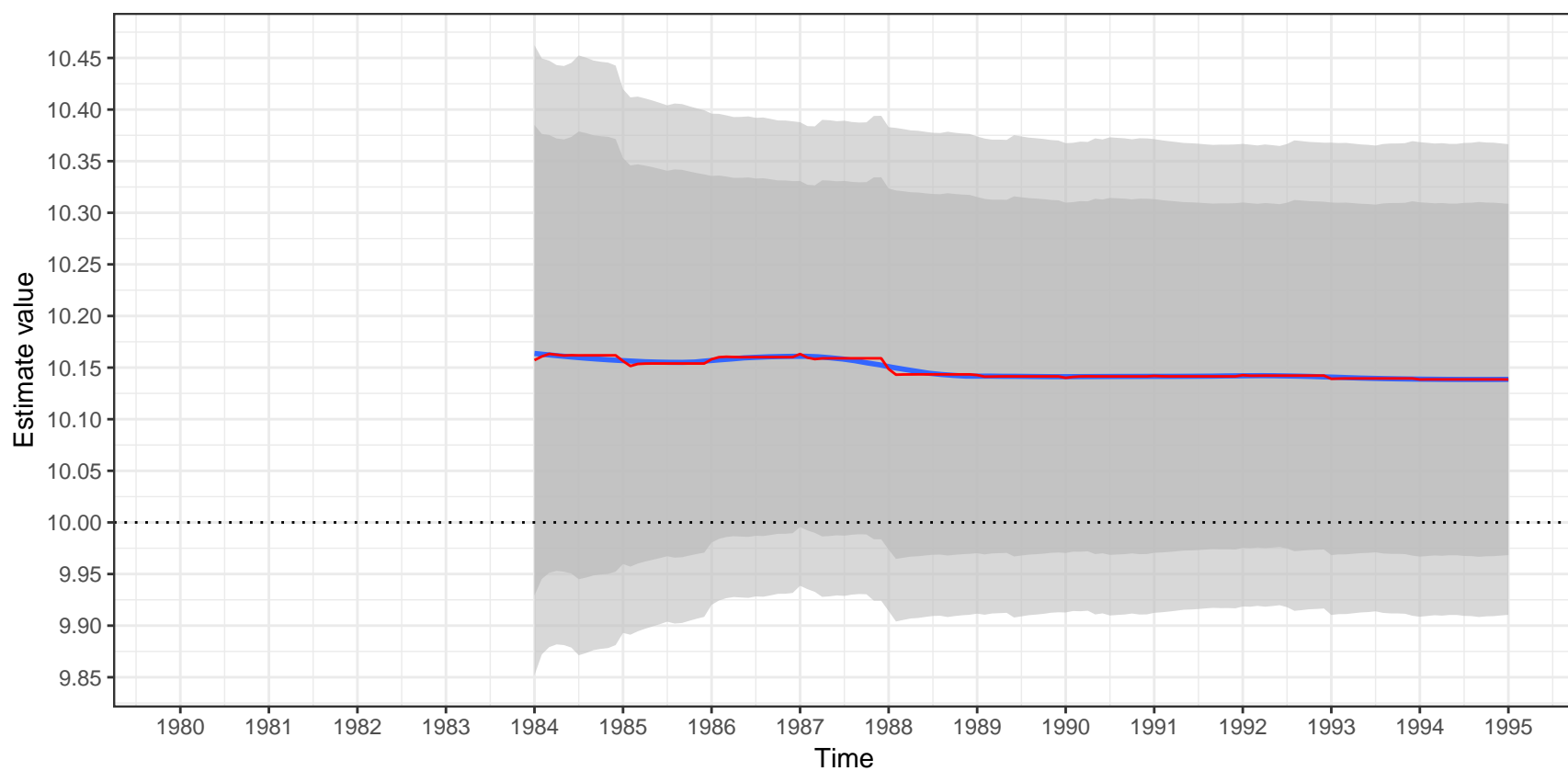


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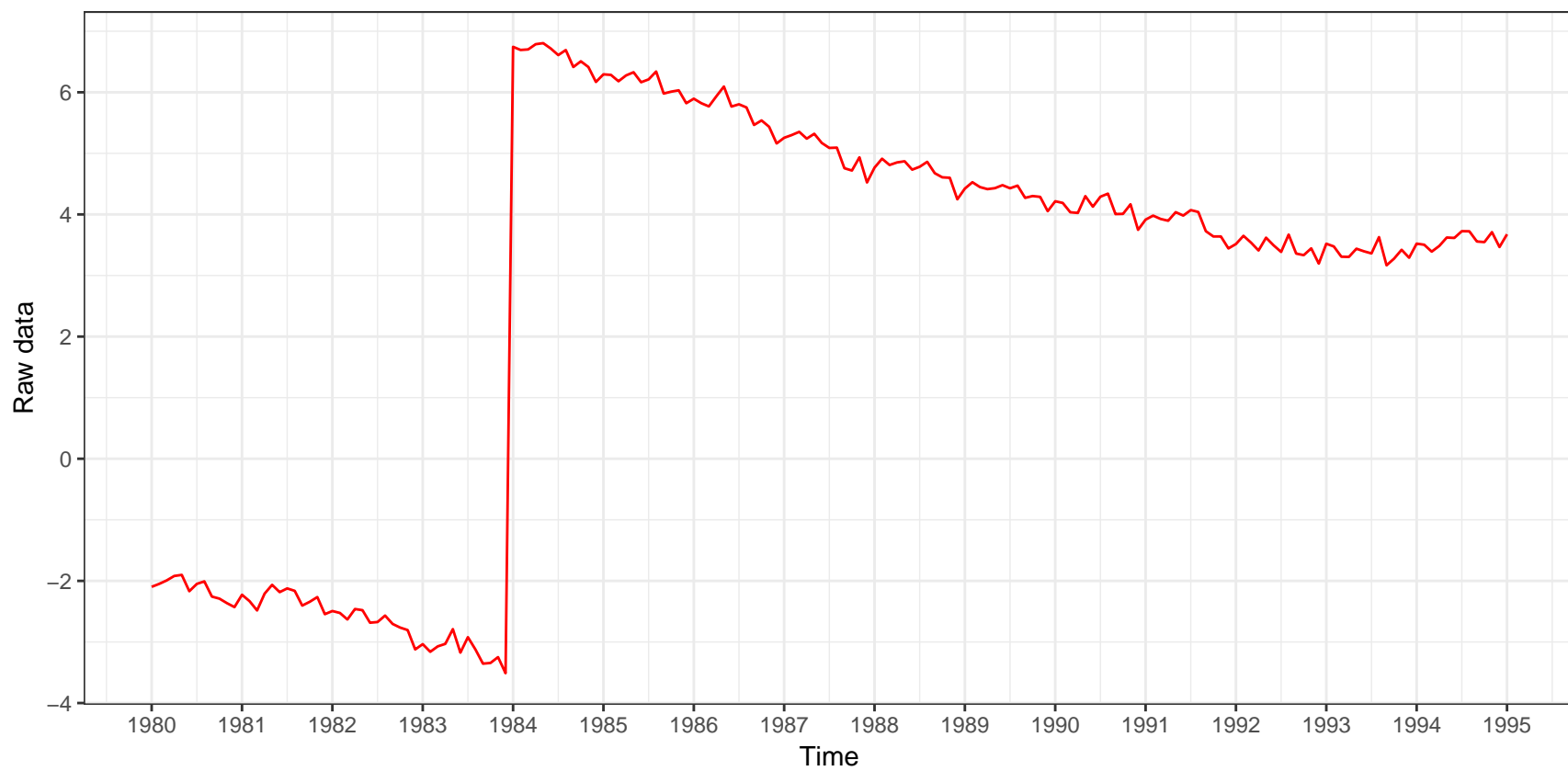


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.3B)(1-0.7B^{12})a_t$

Estimation of the outlier

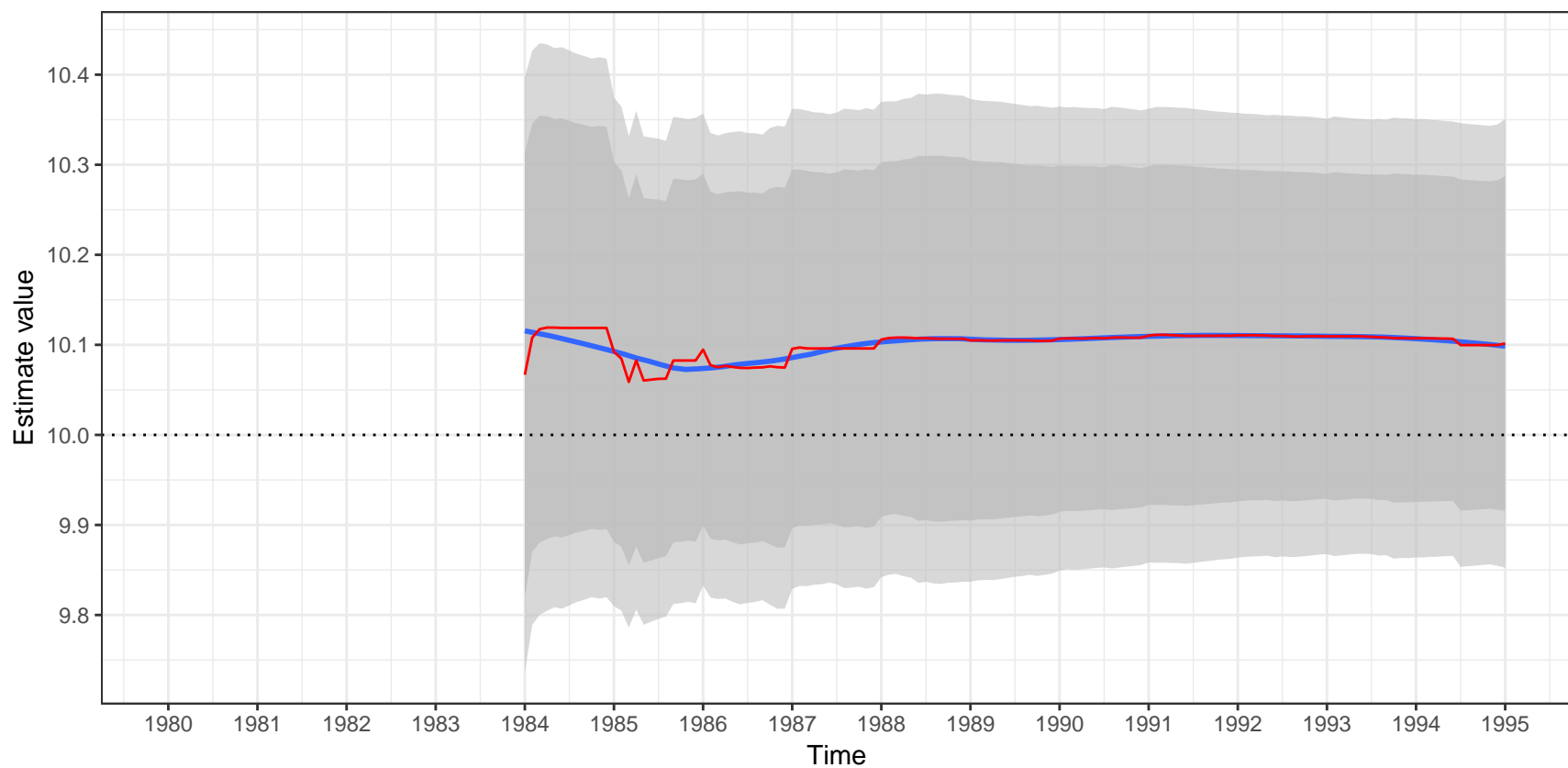


Raw data

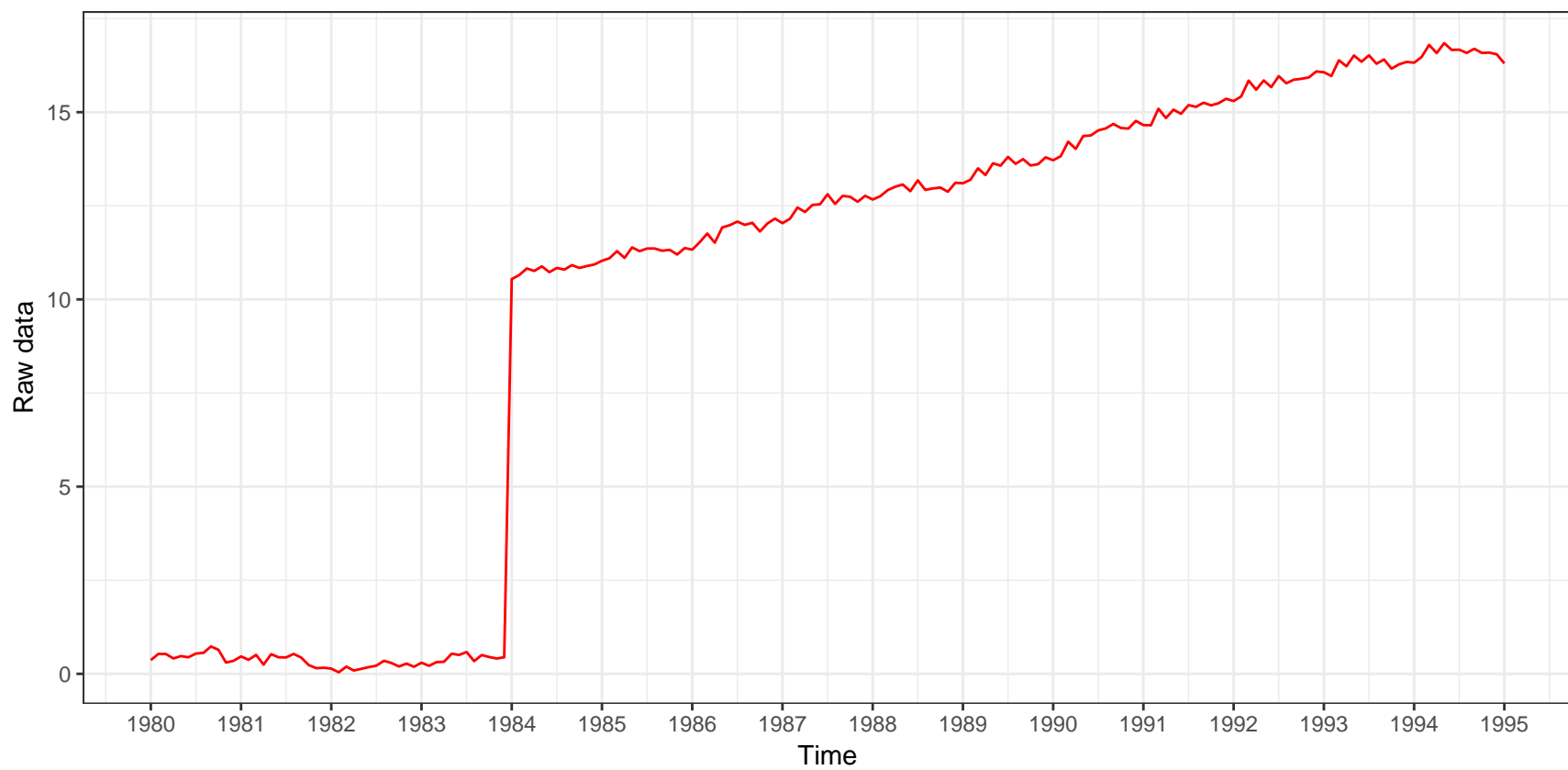


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.3B)(1-0.7B^{12})a_t$

Estimation of the outlier

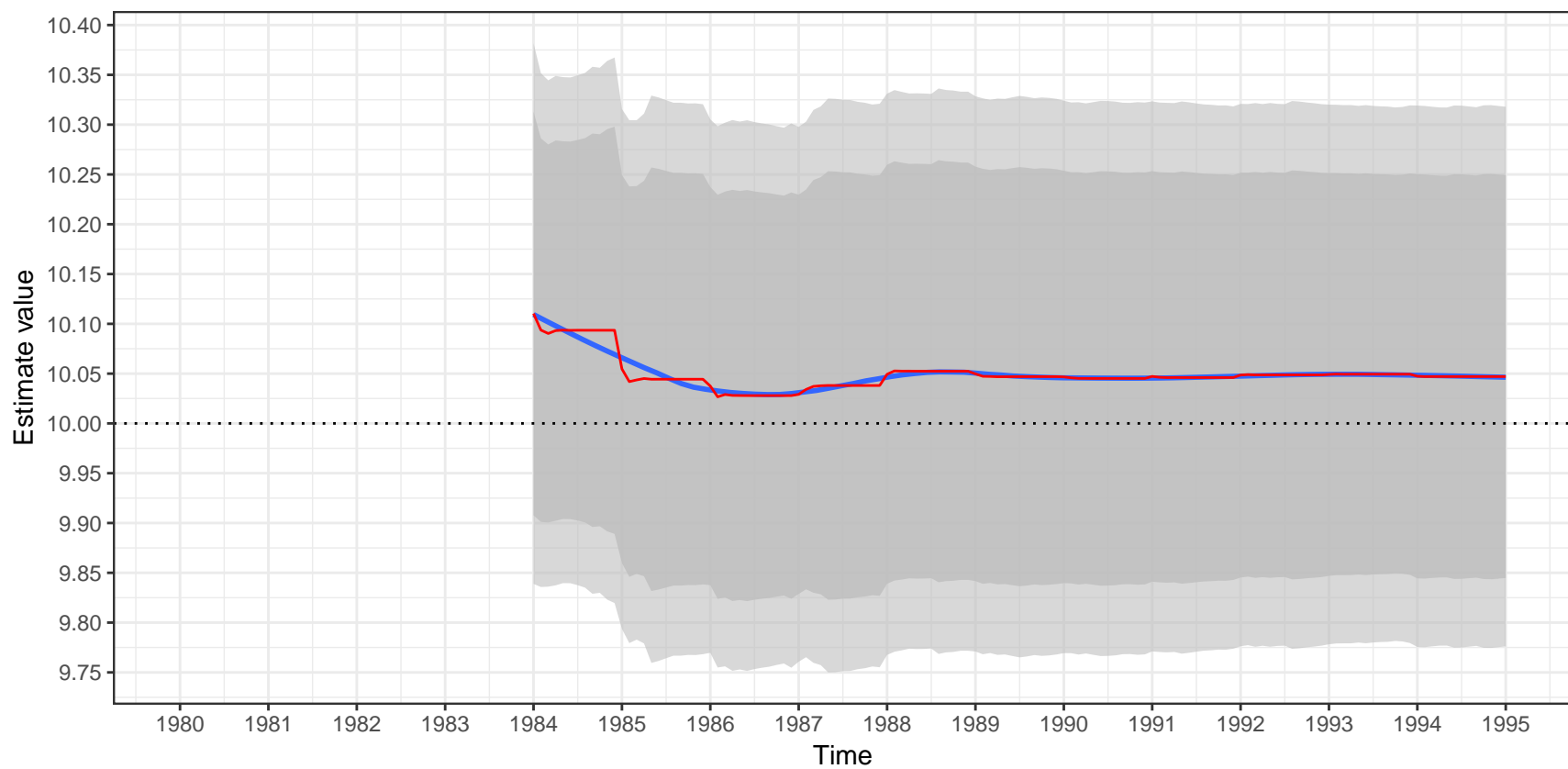


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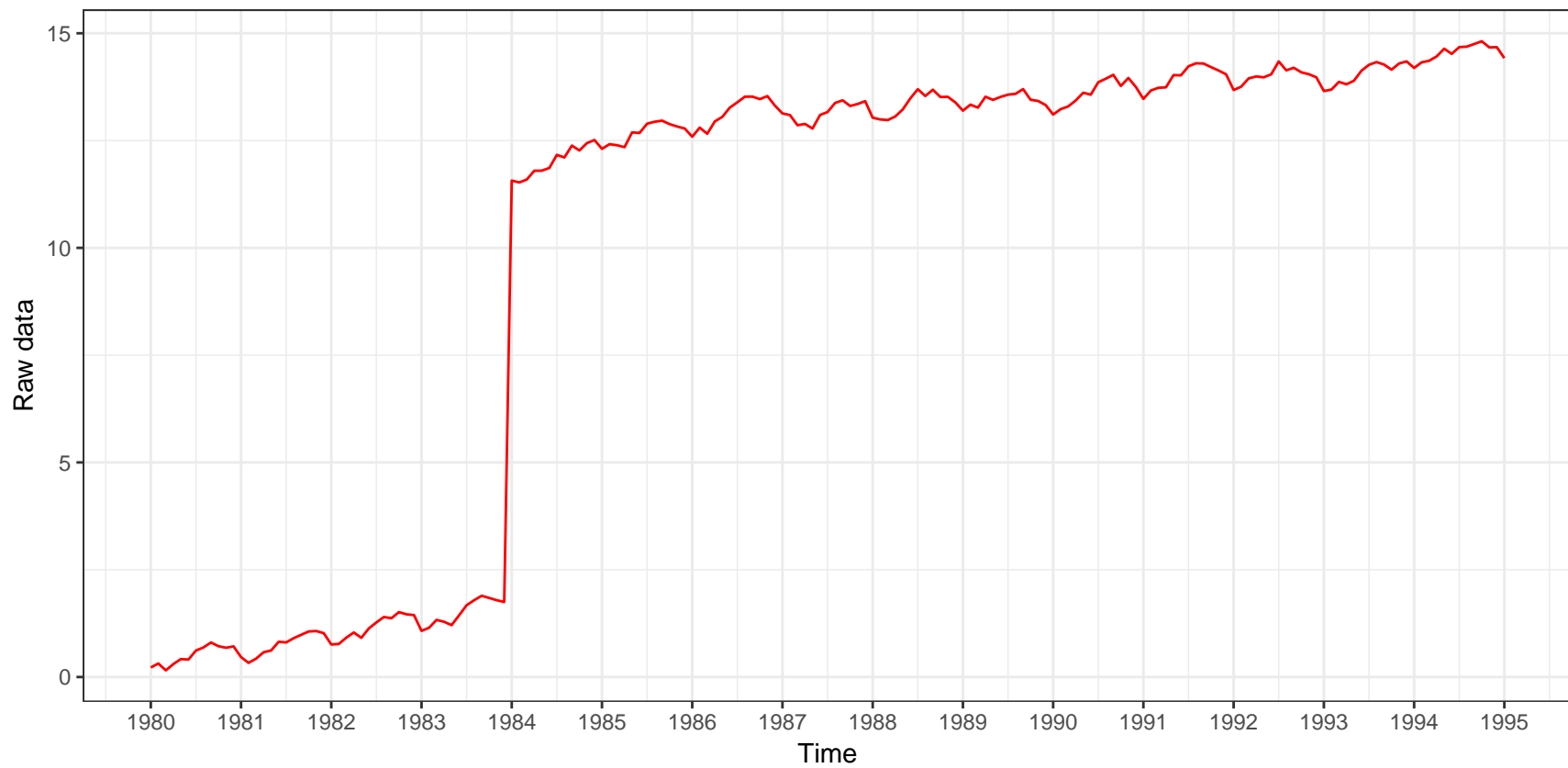


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.3B)(1-0.7B^{12})a_t$

Estimation of the outlier

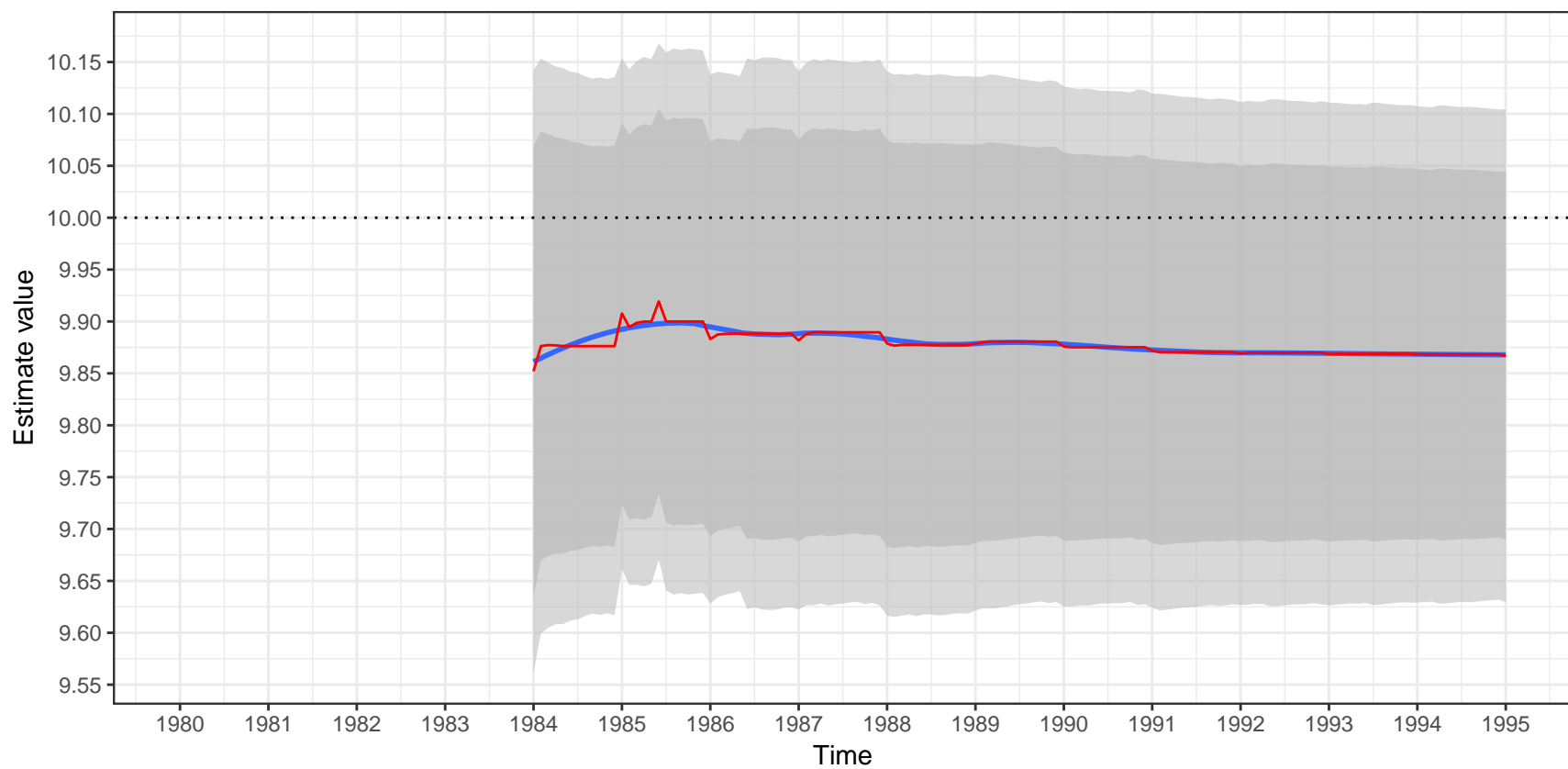


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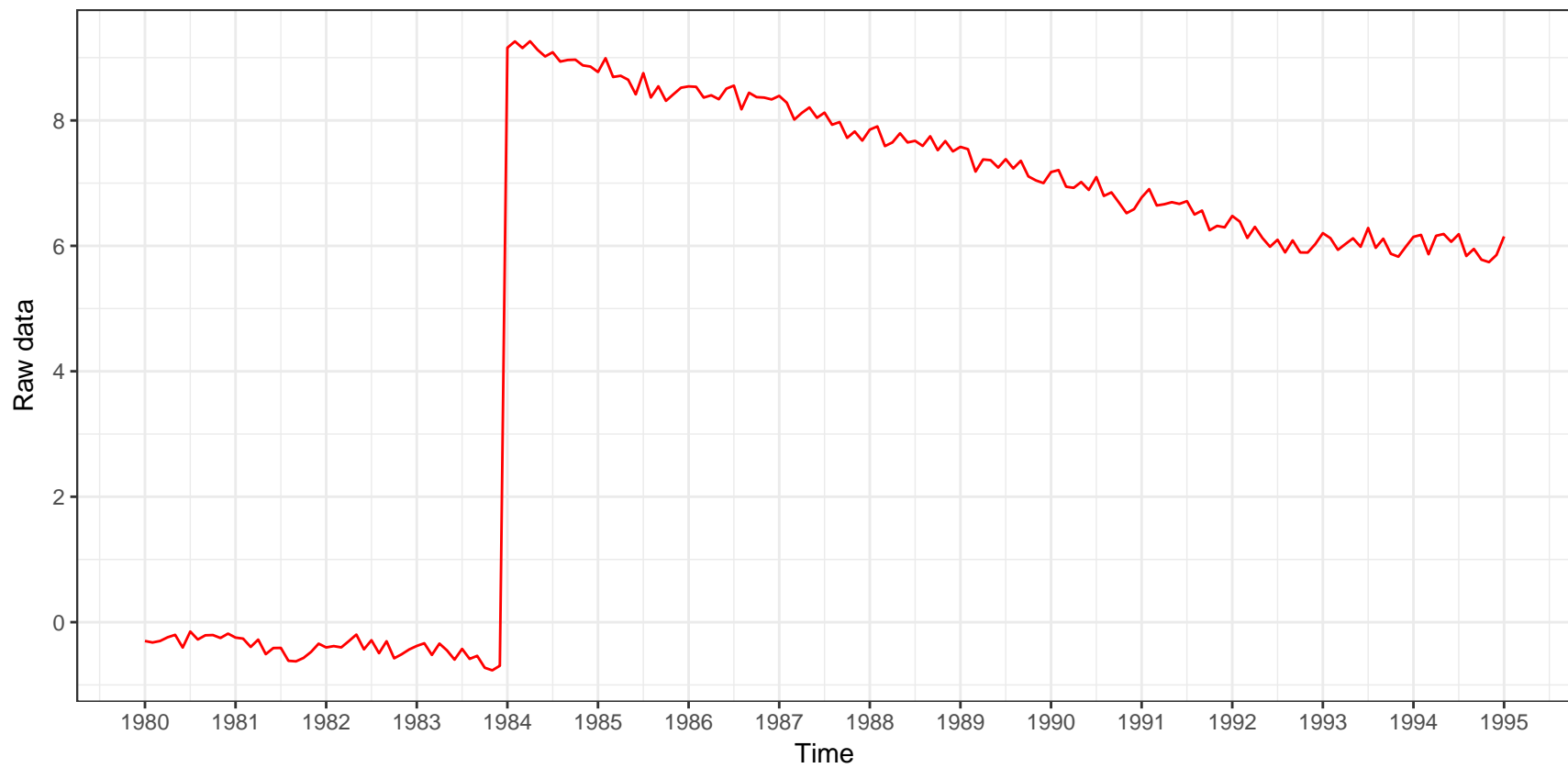


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.3B)(1-0.7B_{12})a_t$

Estimation of the outlier

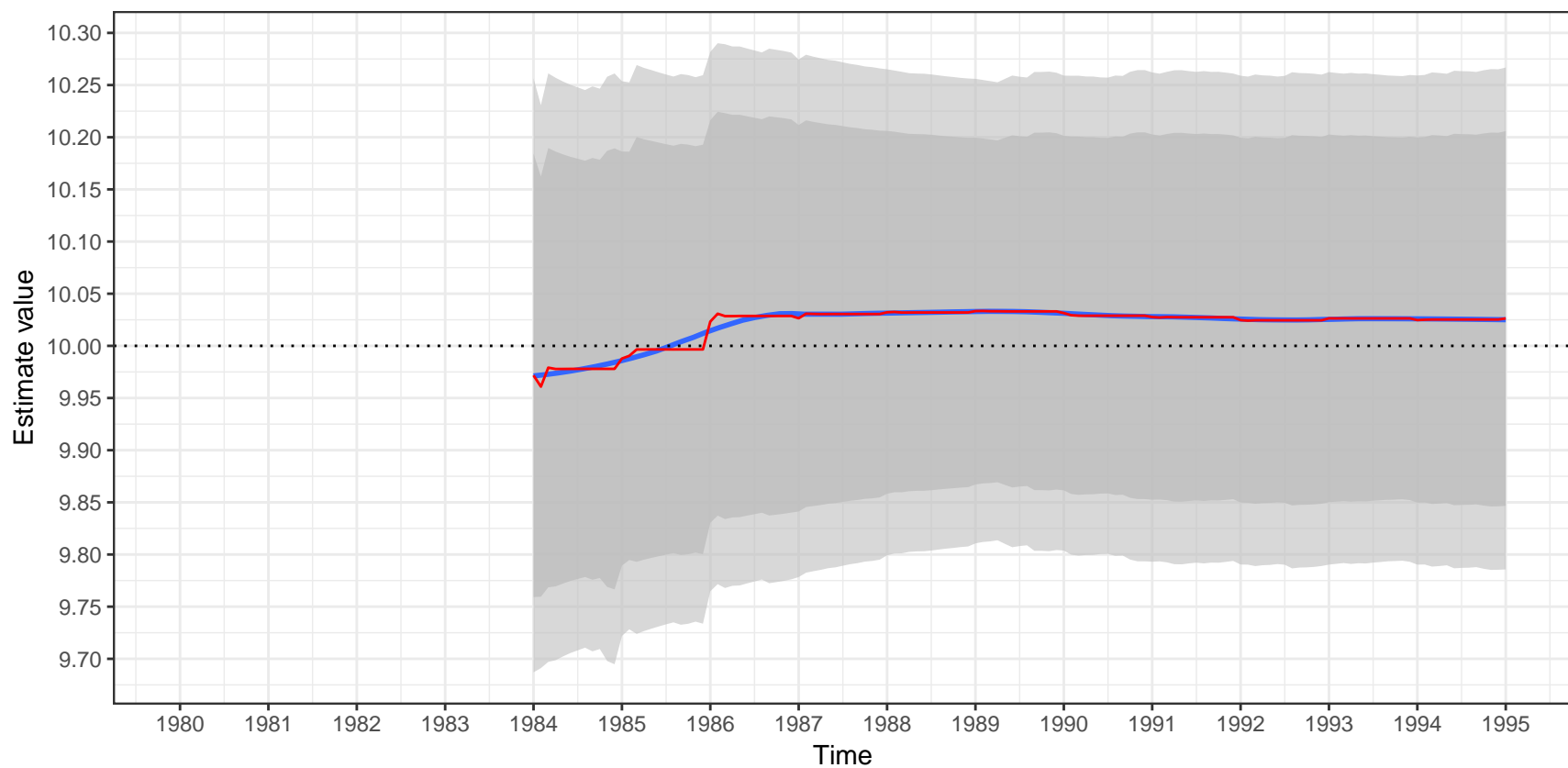


Raw data

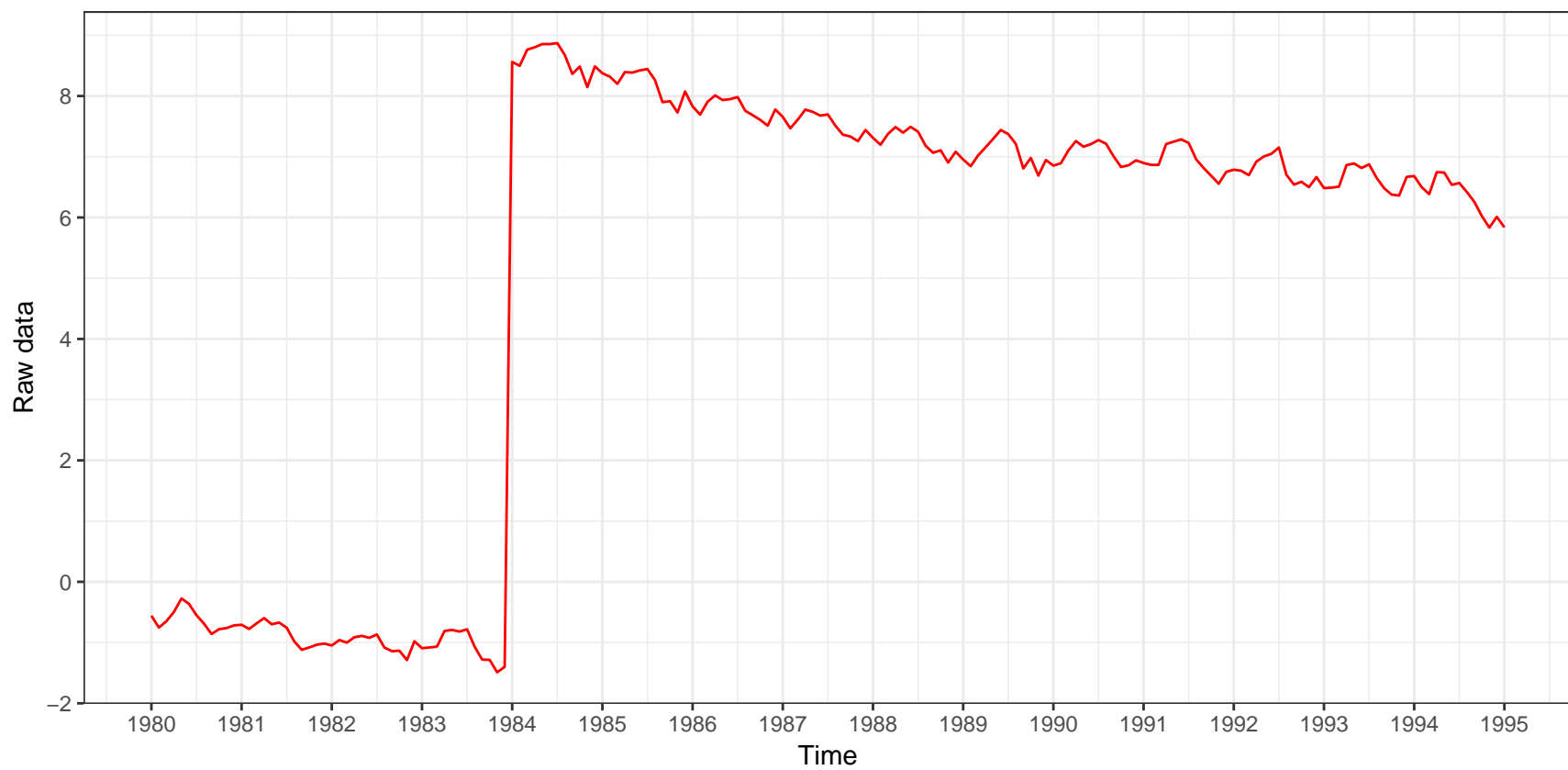


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.3B)(1-0.7B_{12})a_t$

Estimation of the outlier

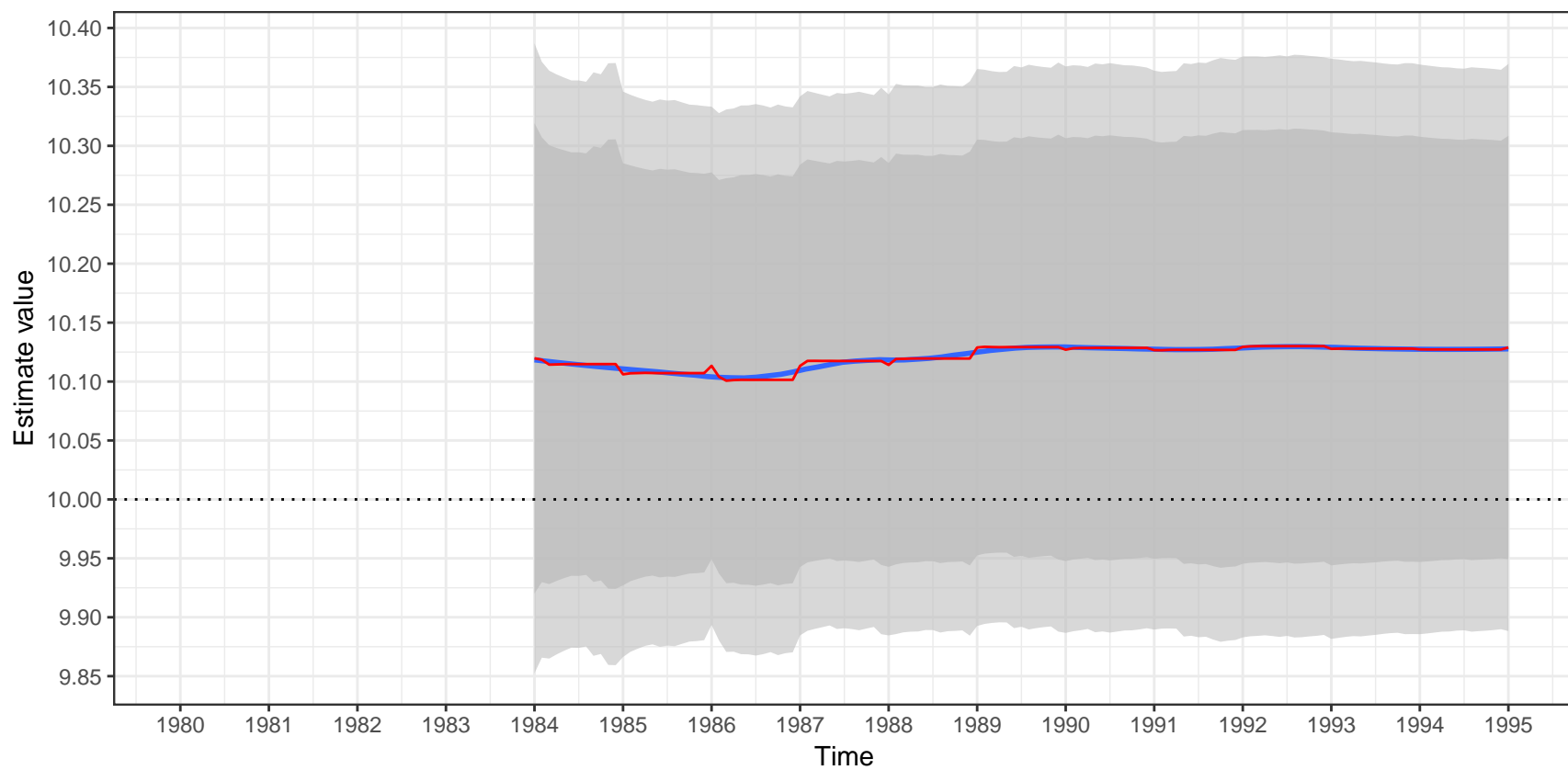


Raw data

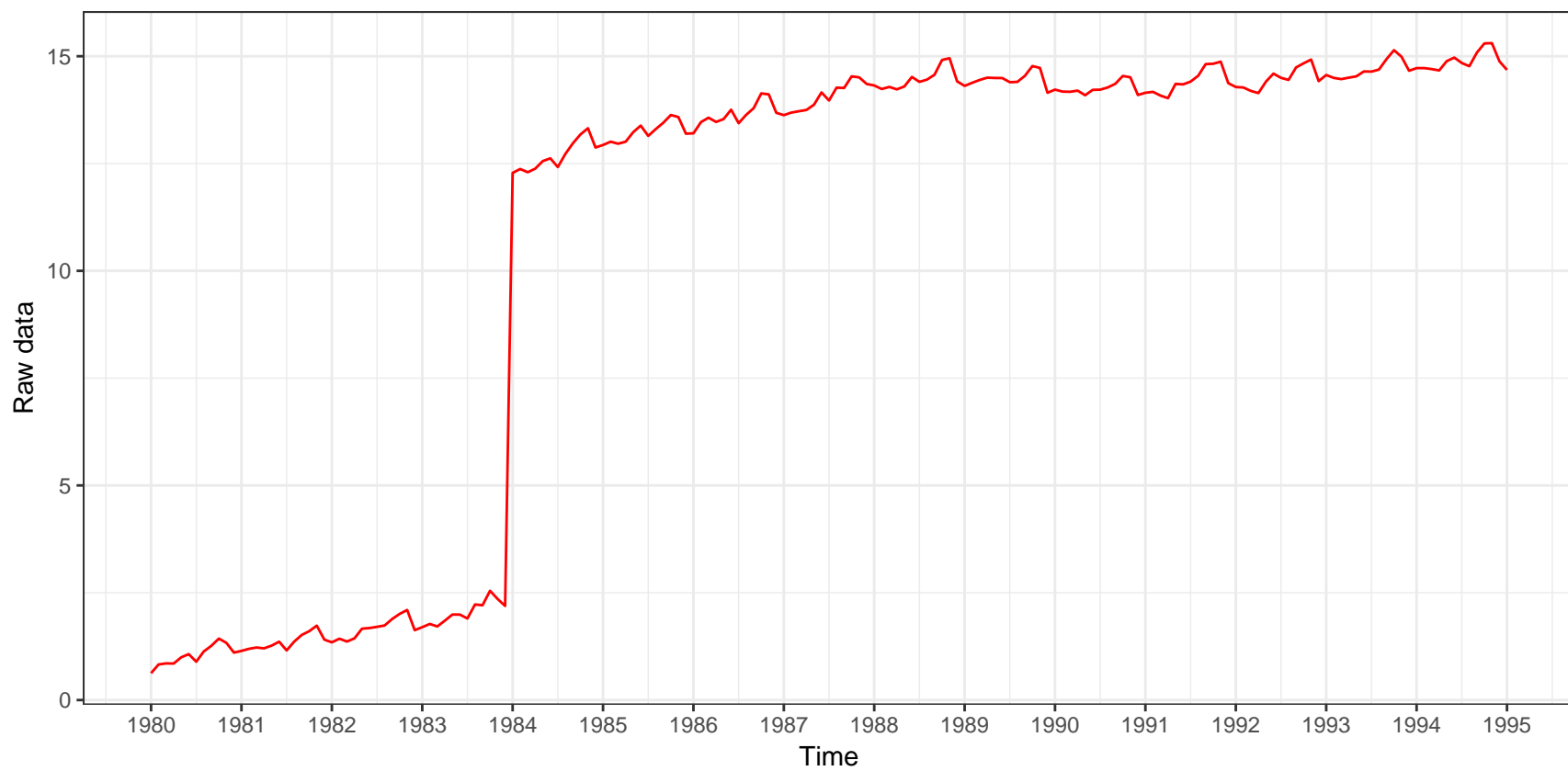


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.3B)(1-0.7B_{12})a_t$

Estimation of the outlier

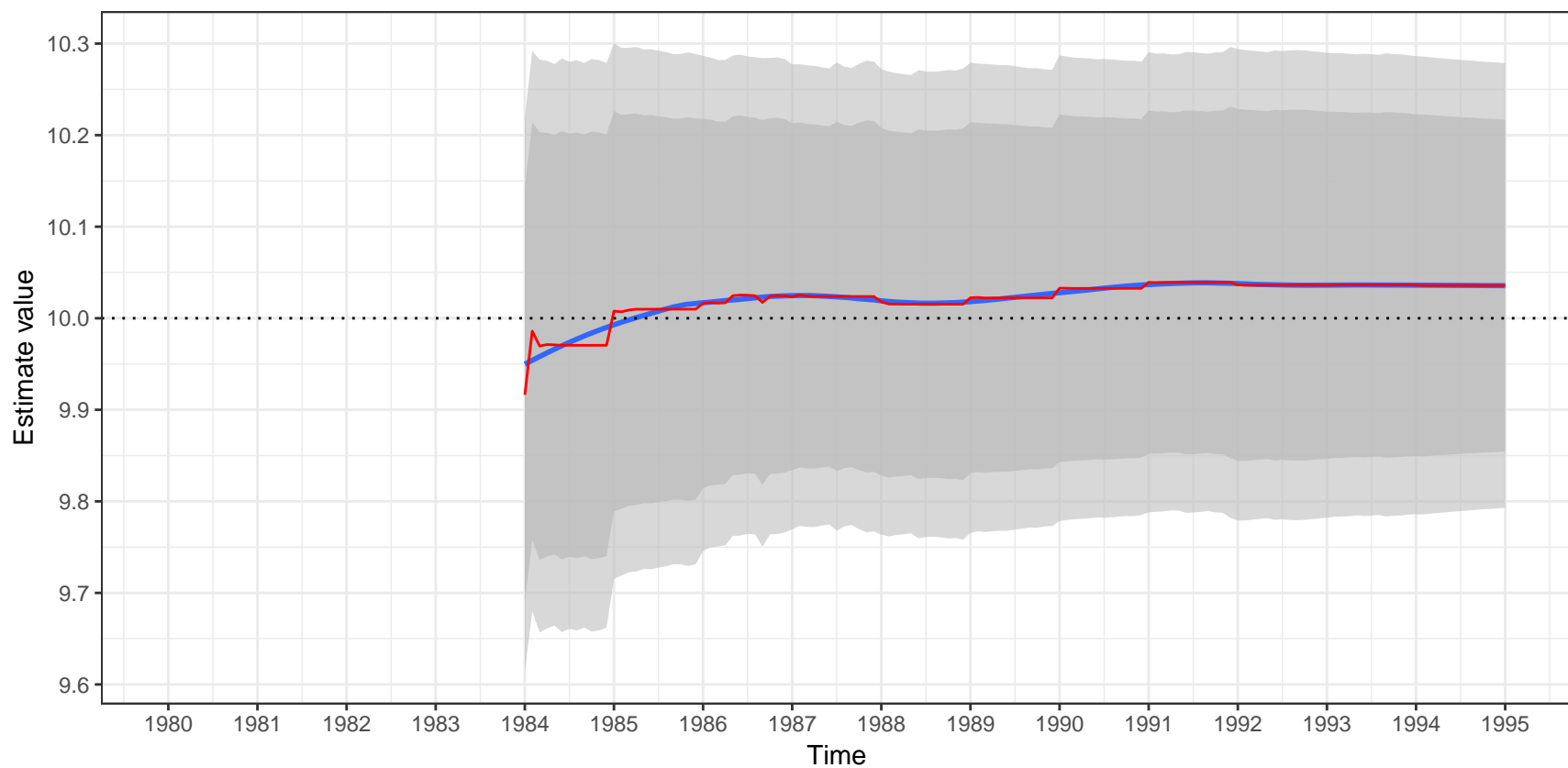


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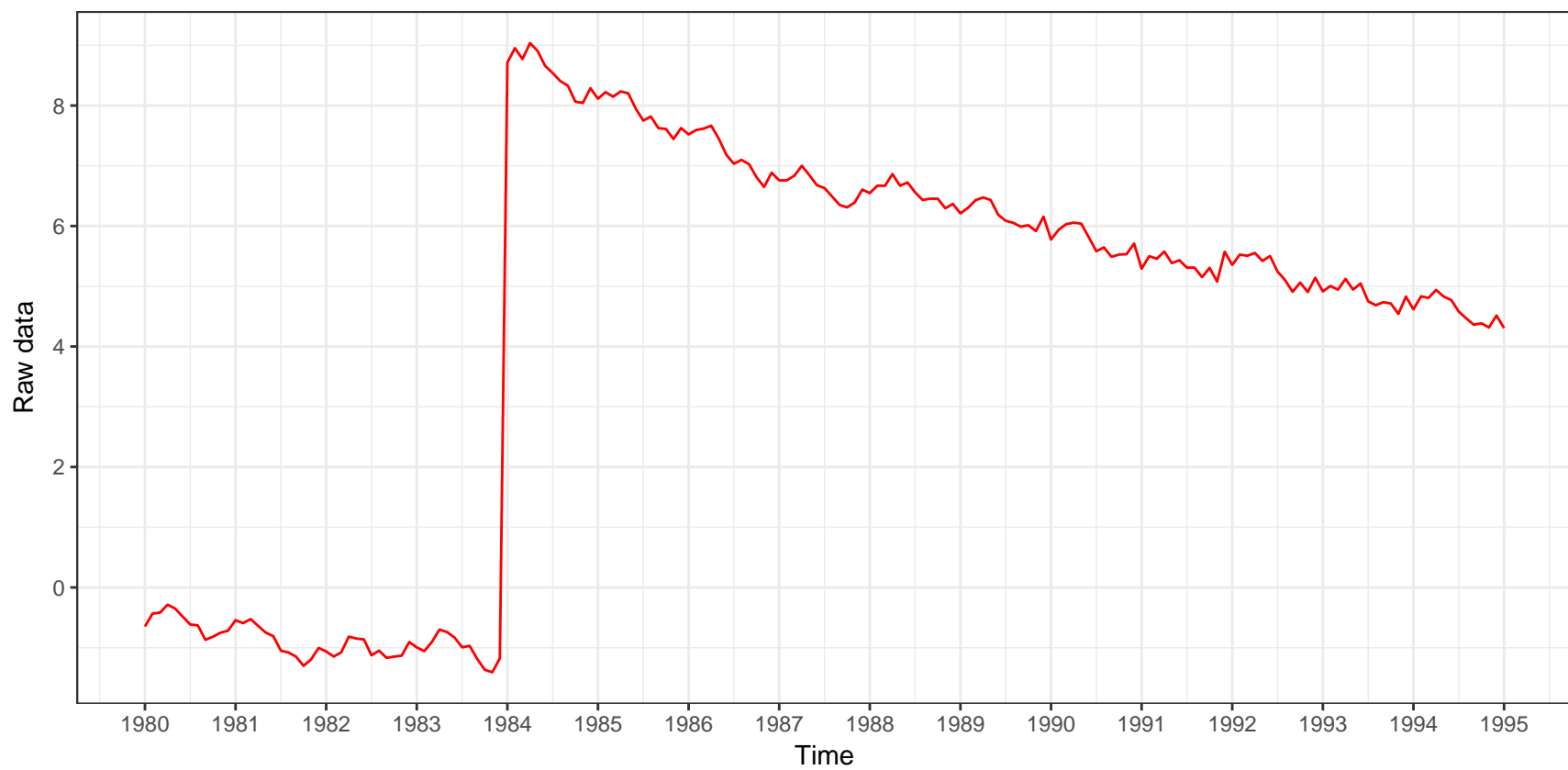


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t = (1-0.3B)(1-0.7B_{12})a_t$

Estimation of the outlier

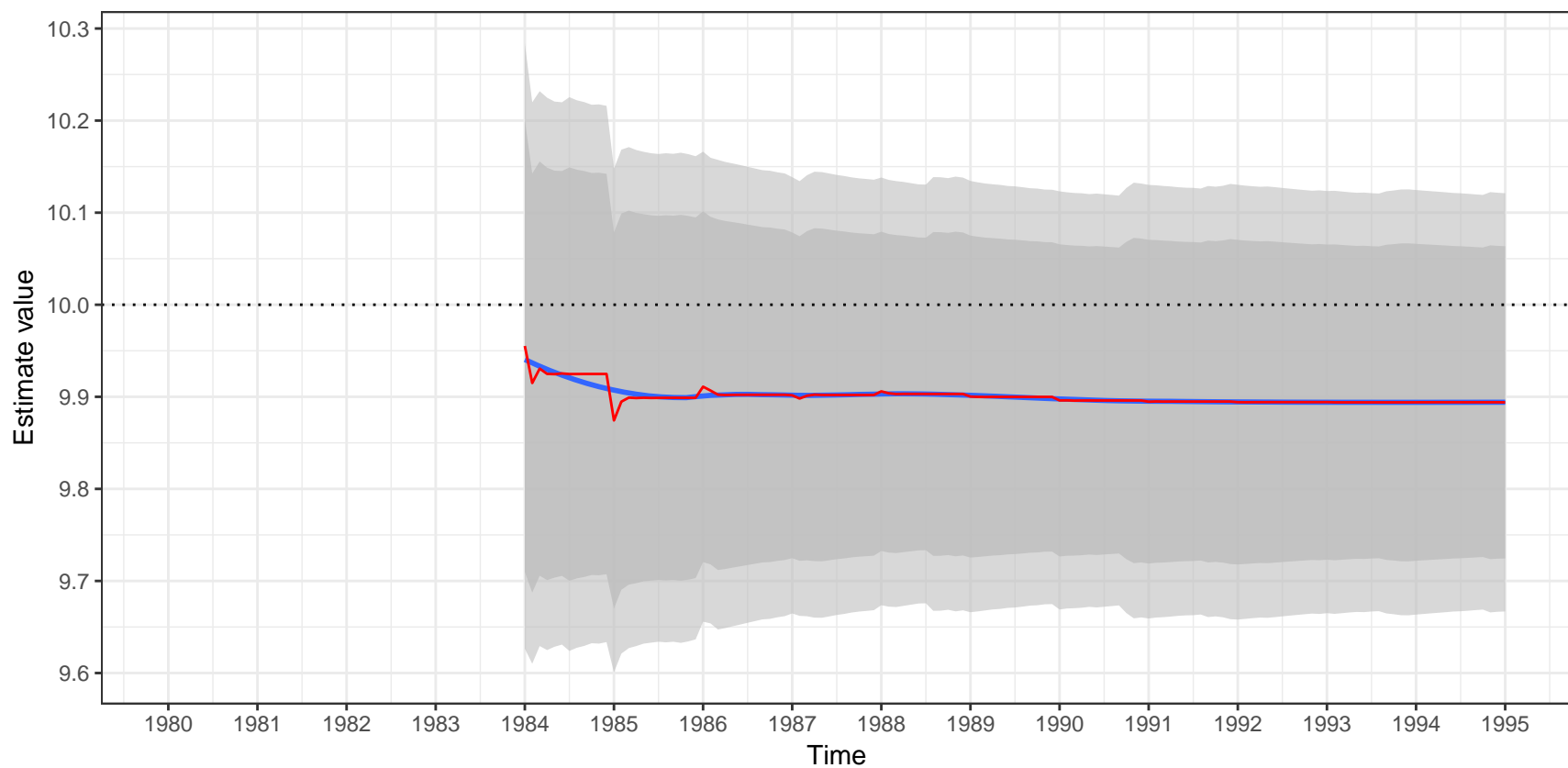


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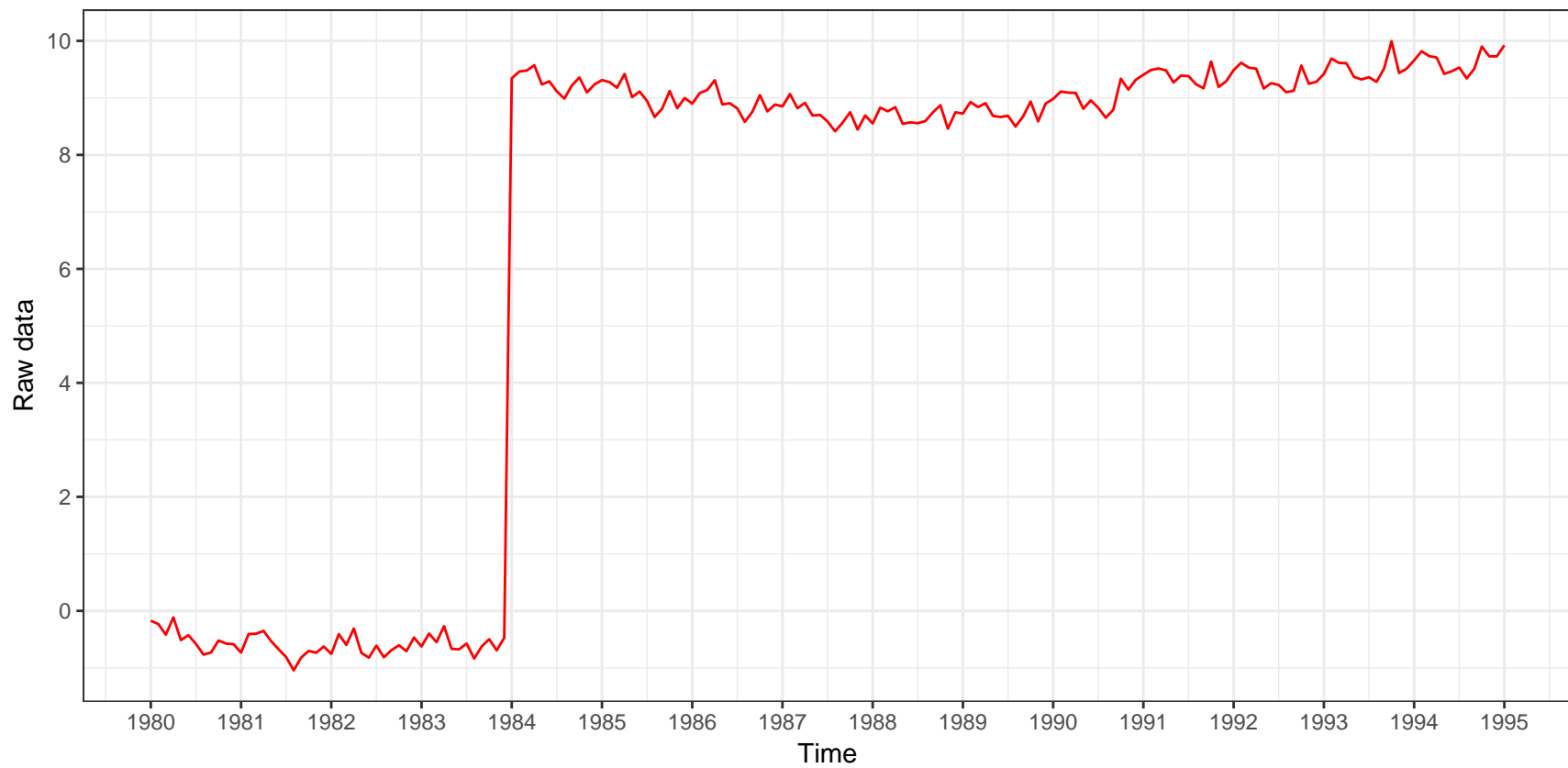


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)(1-0.6B^{12})a_t$

Estimation of the outlier

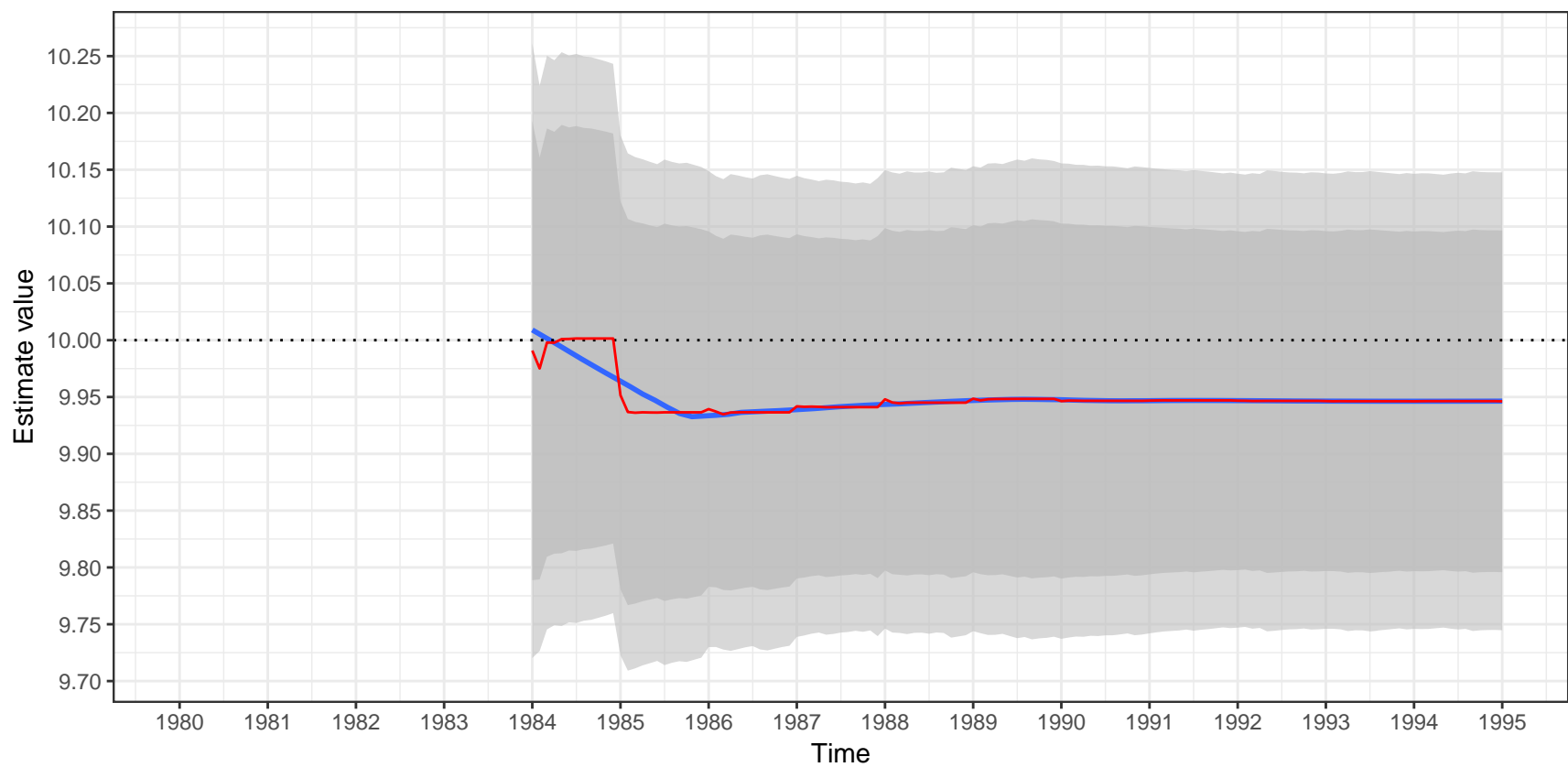


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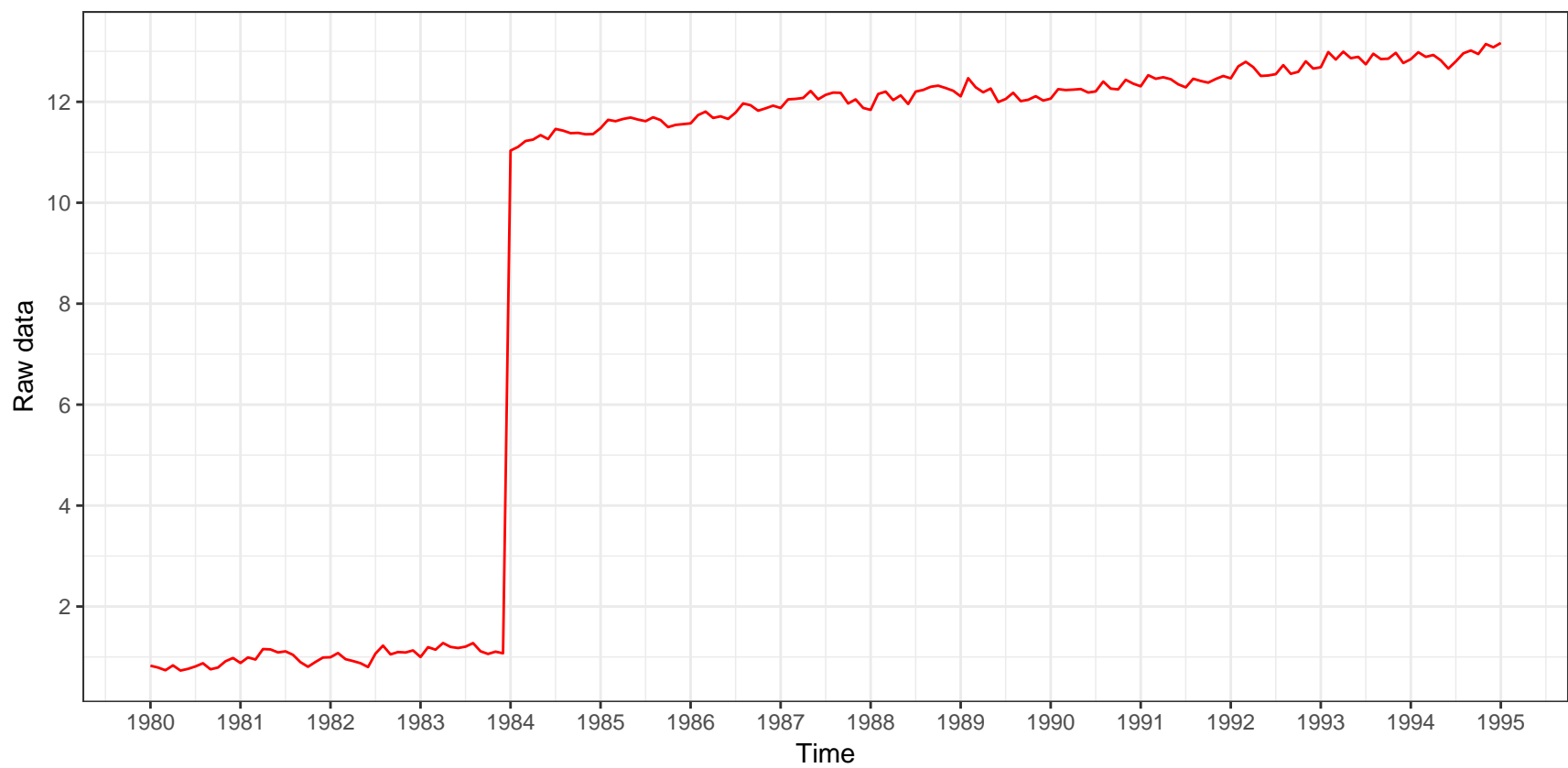


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.4B)(1-0.6B^{12})a_t$

Estimation of the outlier

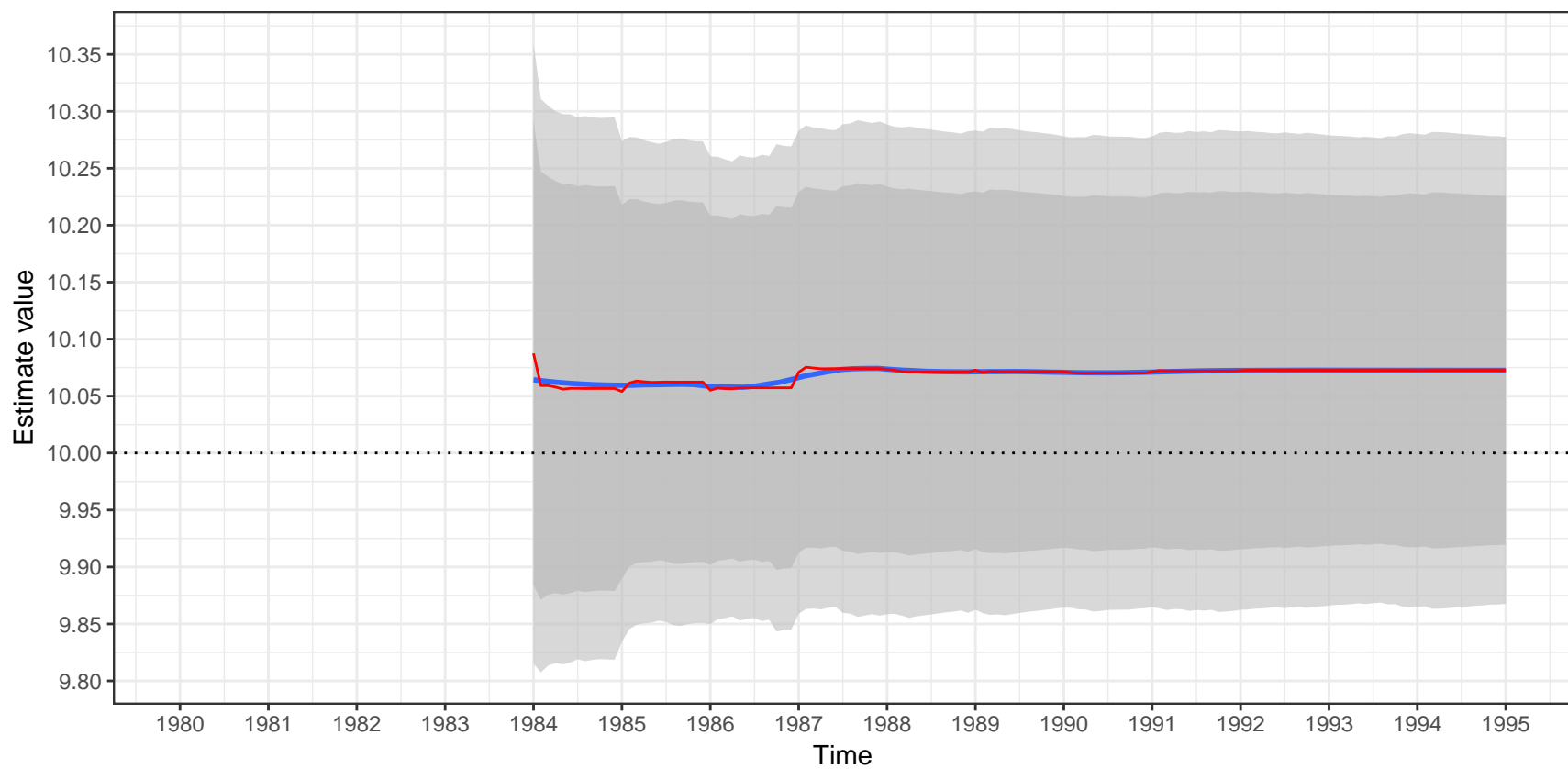


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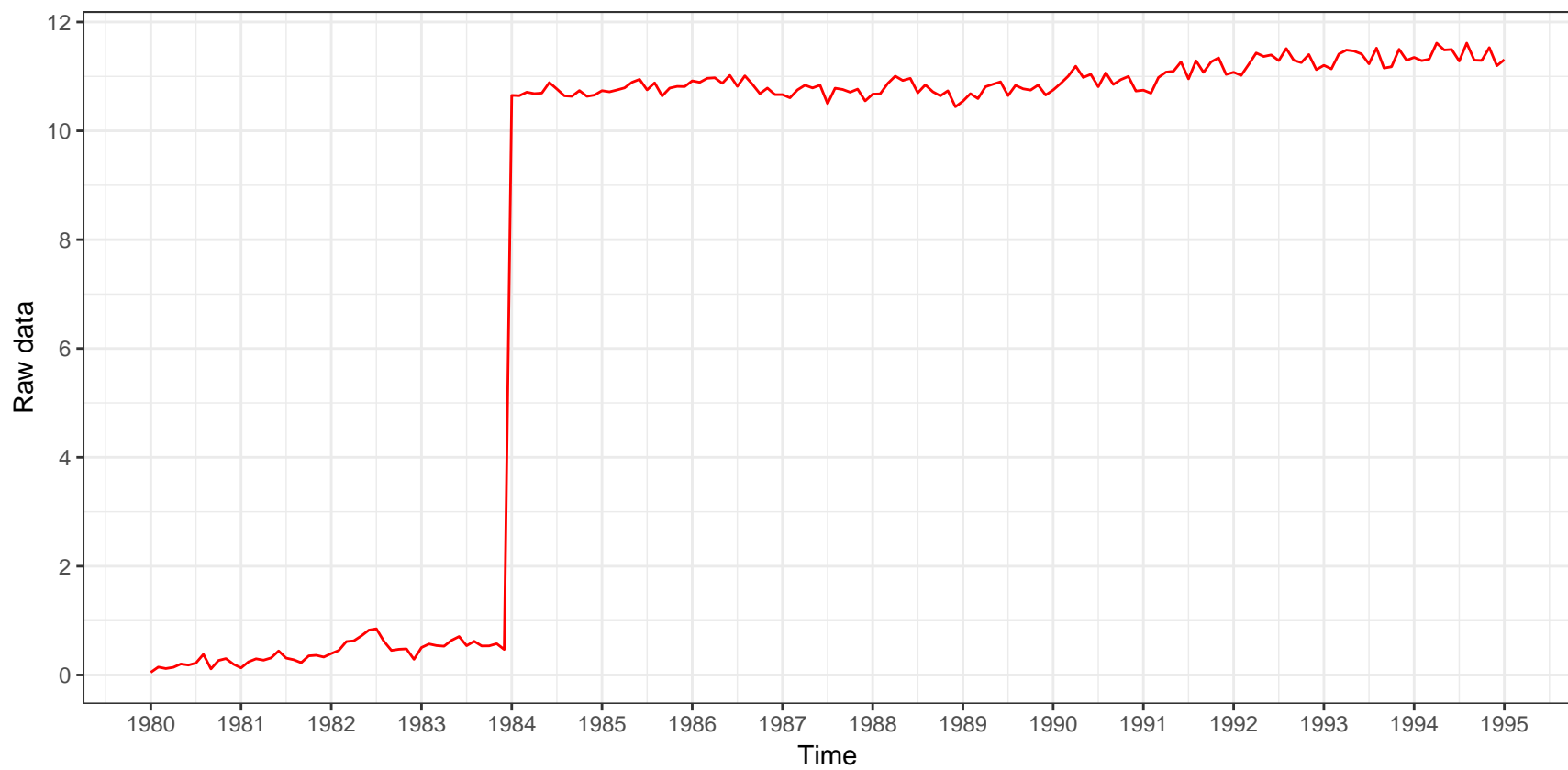


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

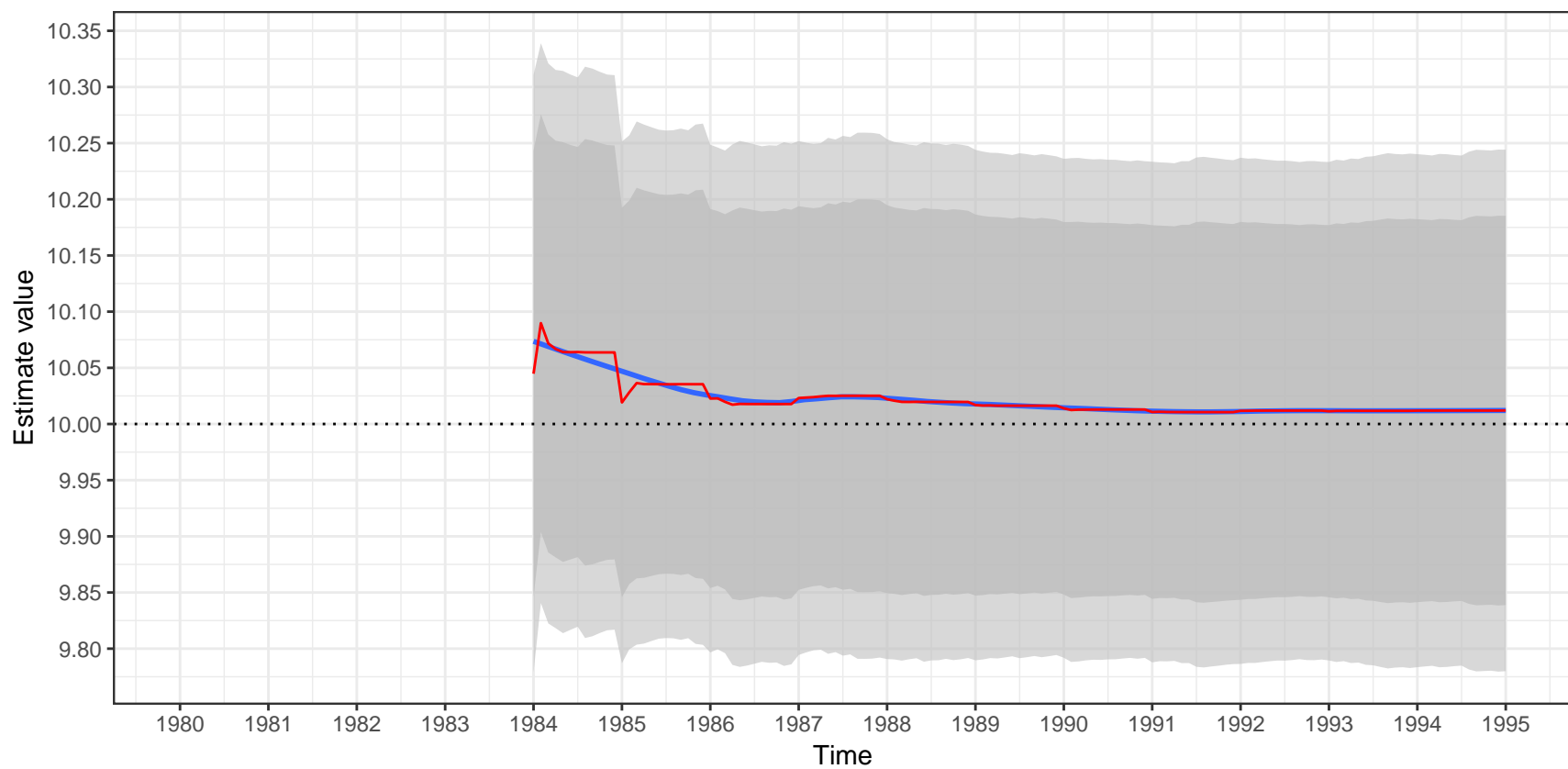


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Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.4B)(1-0.6B^{12})a_t$

Estimation of the outlier

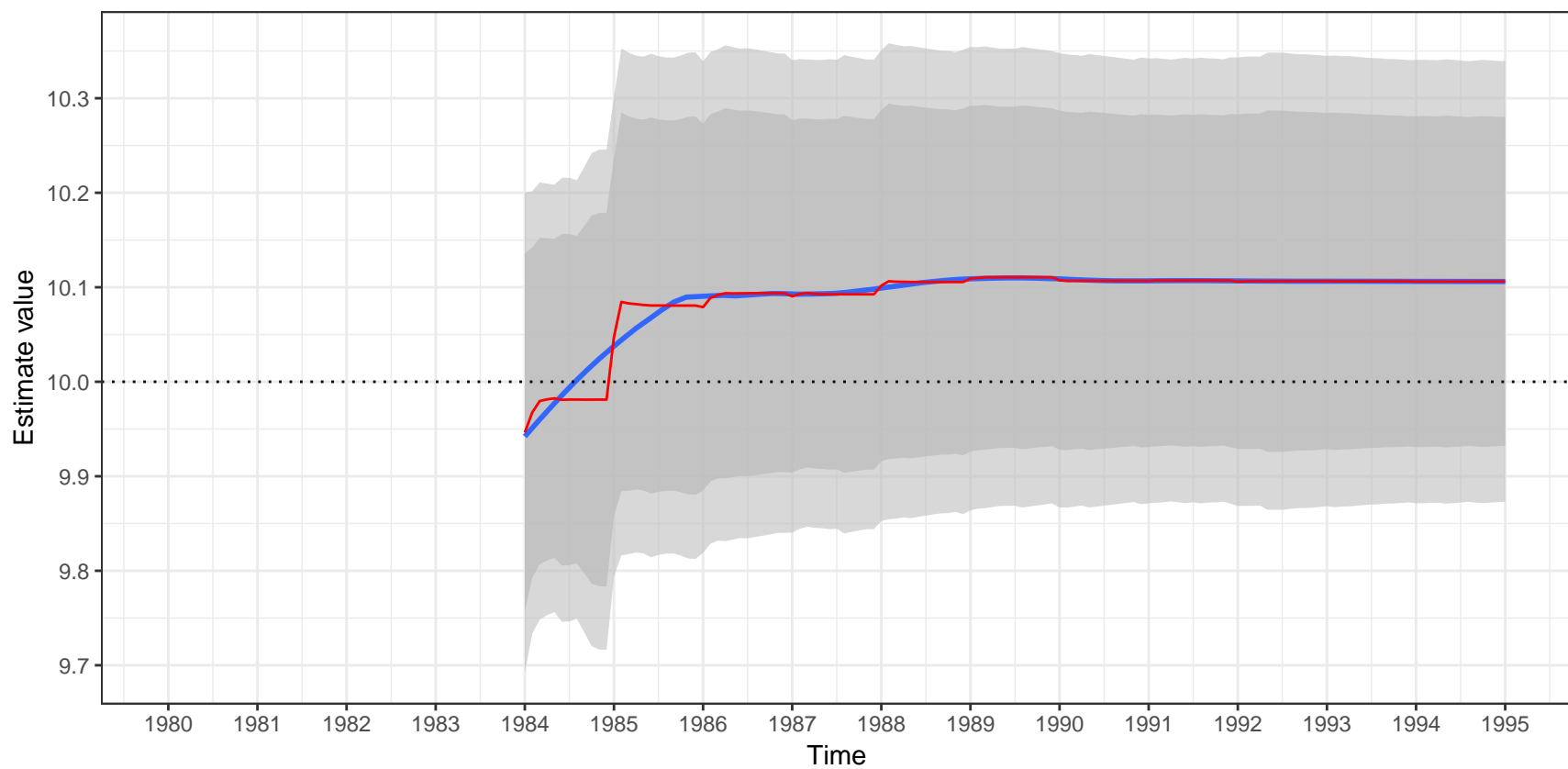


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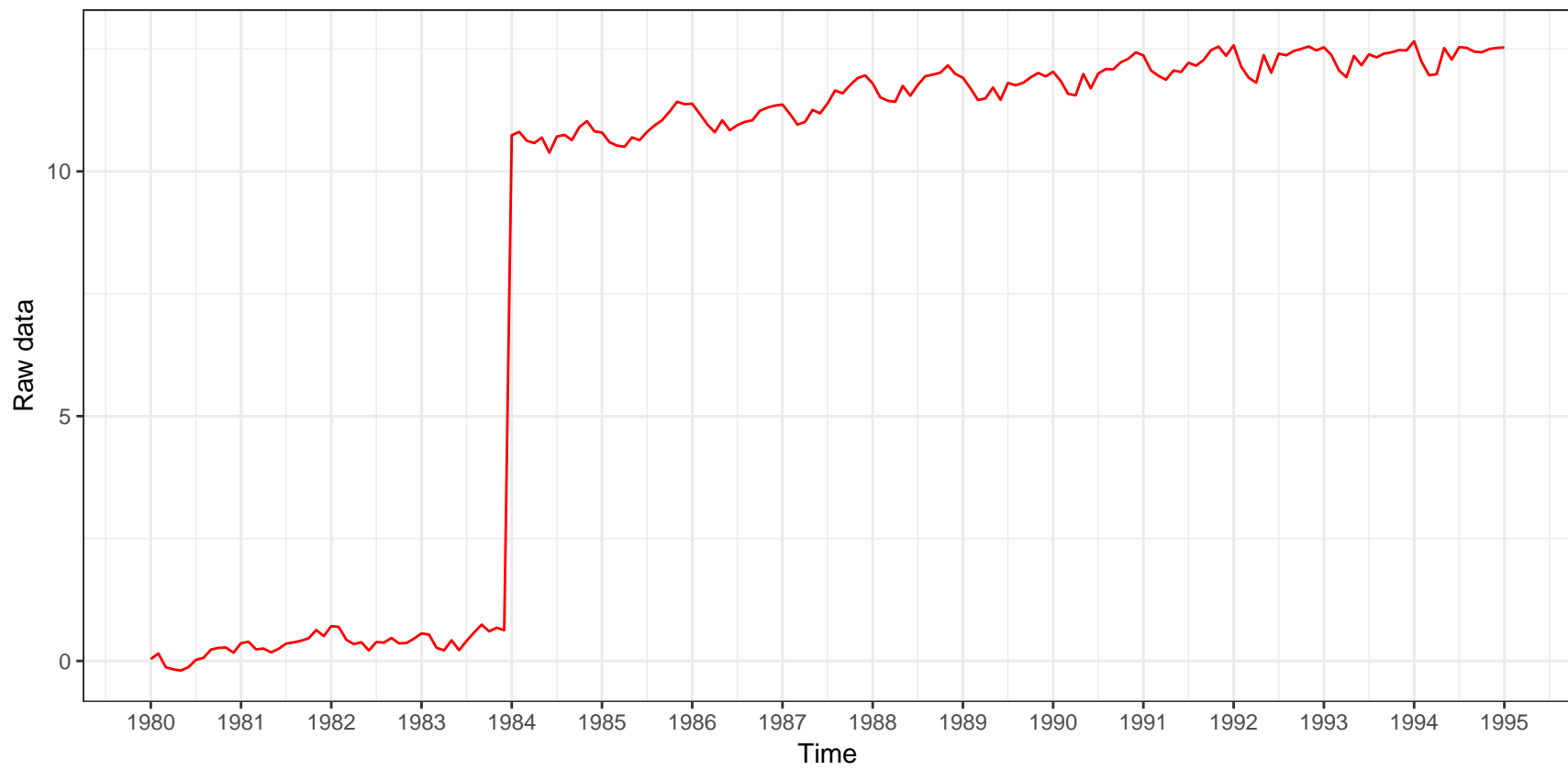


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.4B)(1-0.6B^{12})a_t$

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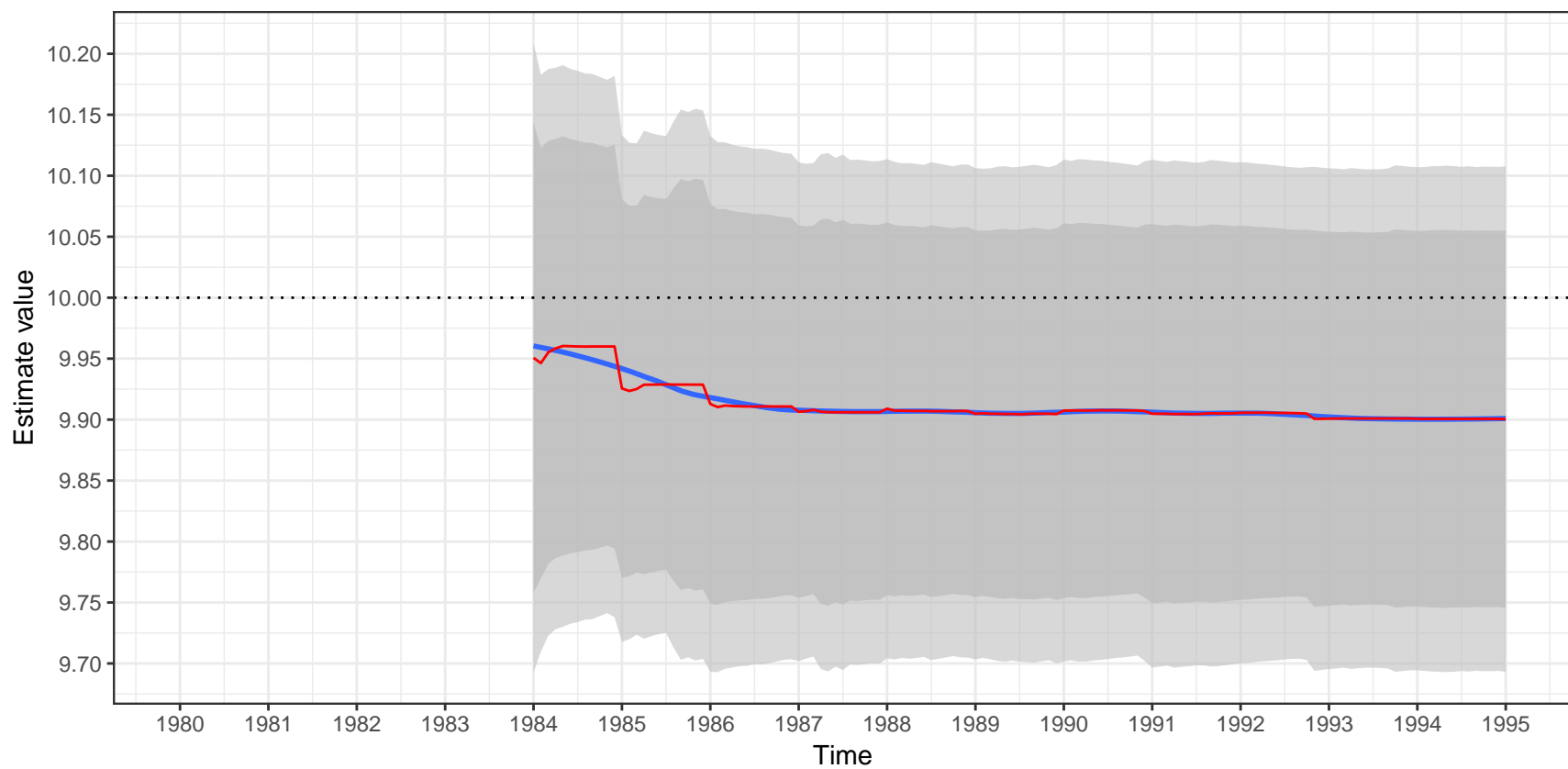


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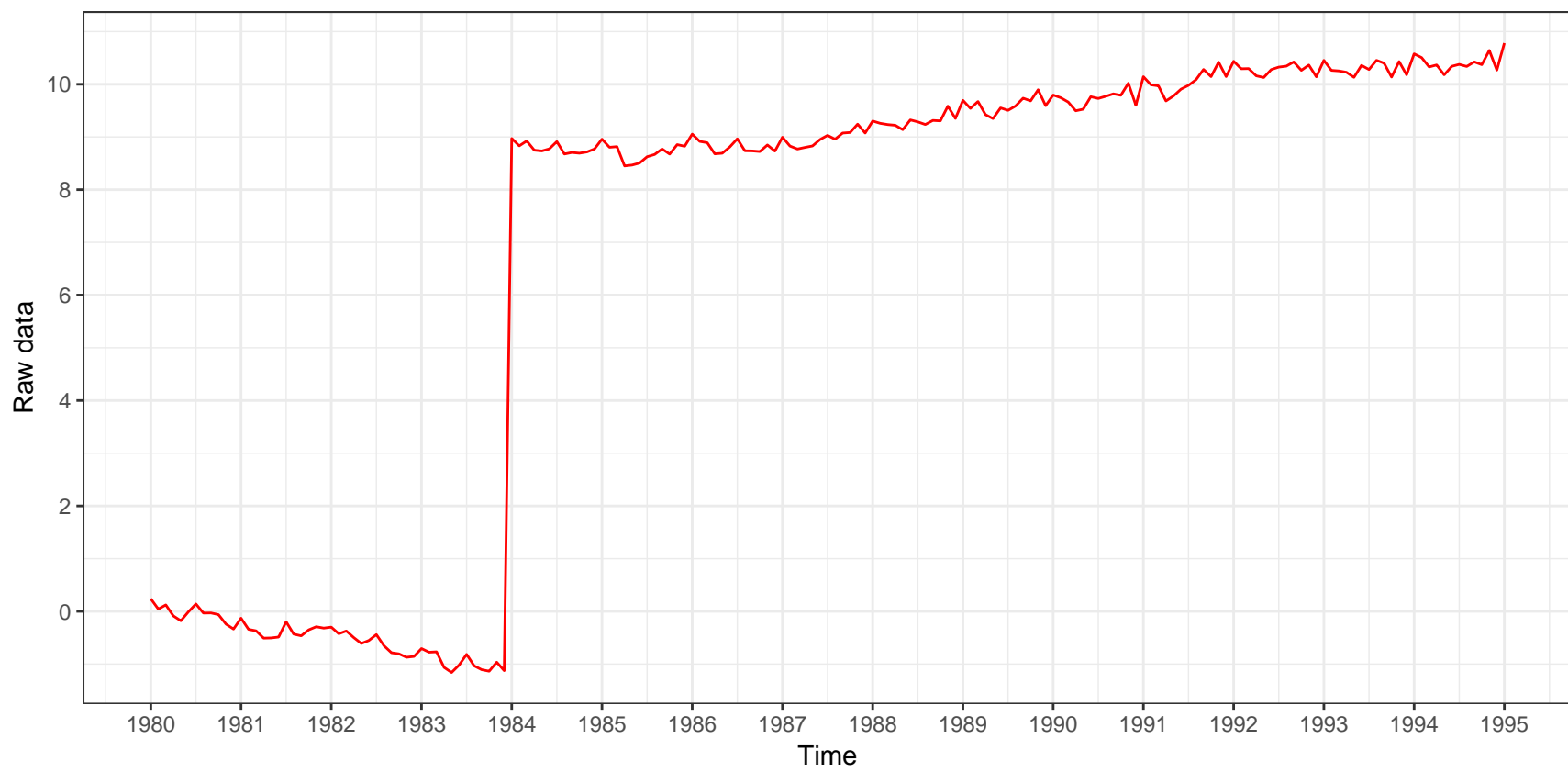


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.4B)(1-0.6B^{12})a_t$

Estimation of the outlier

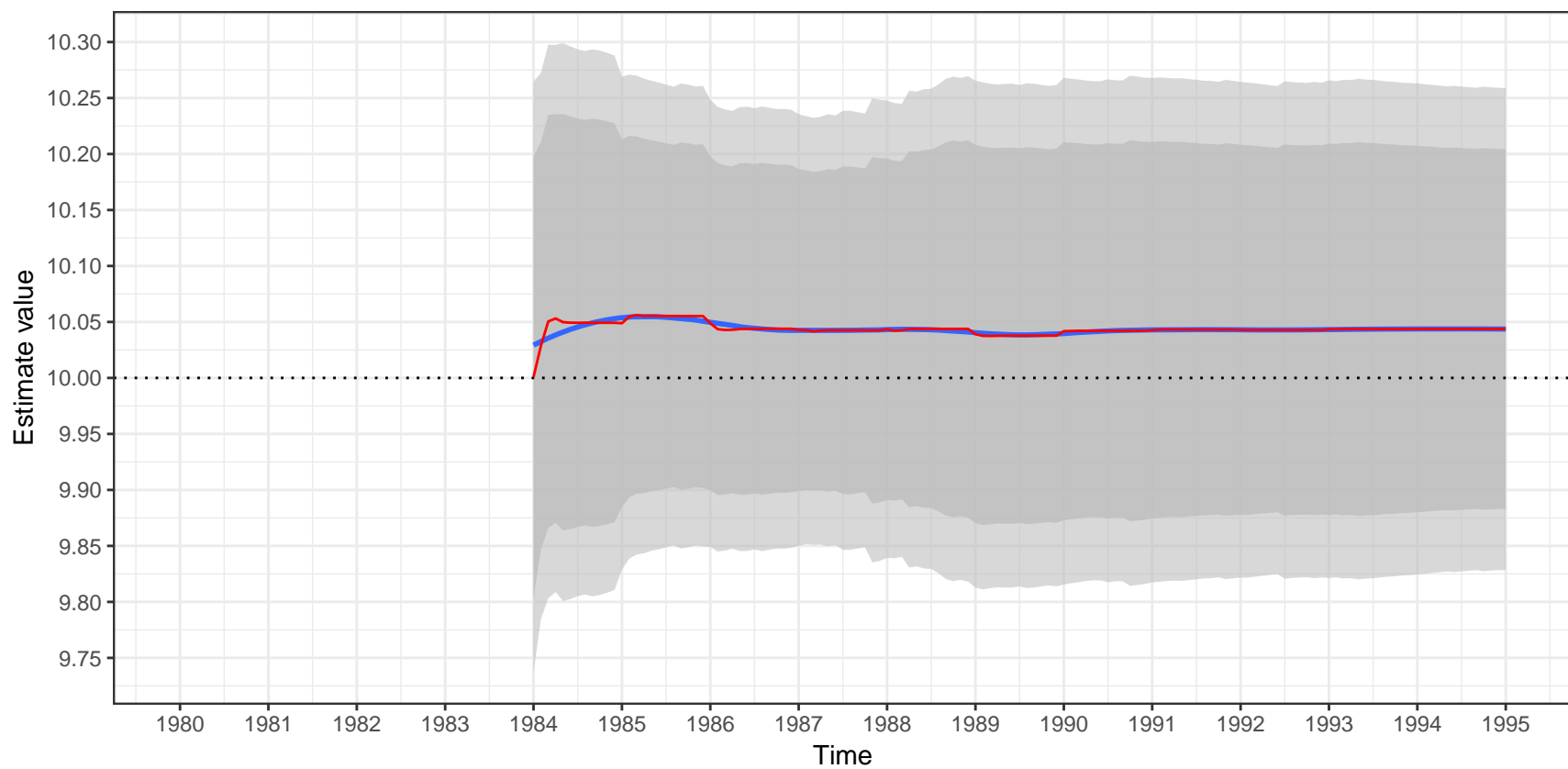


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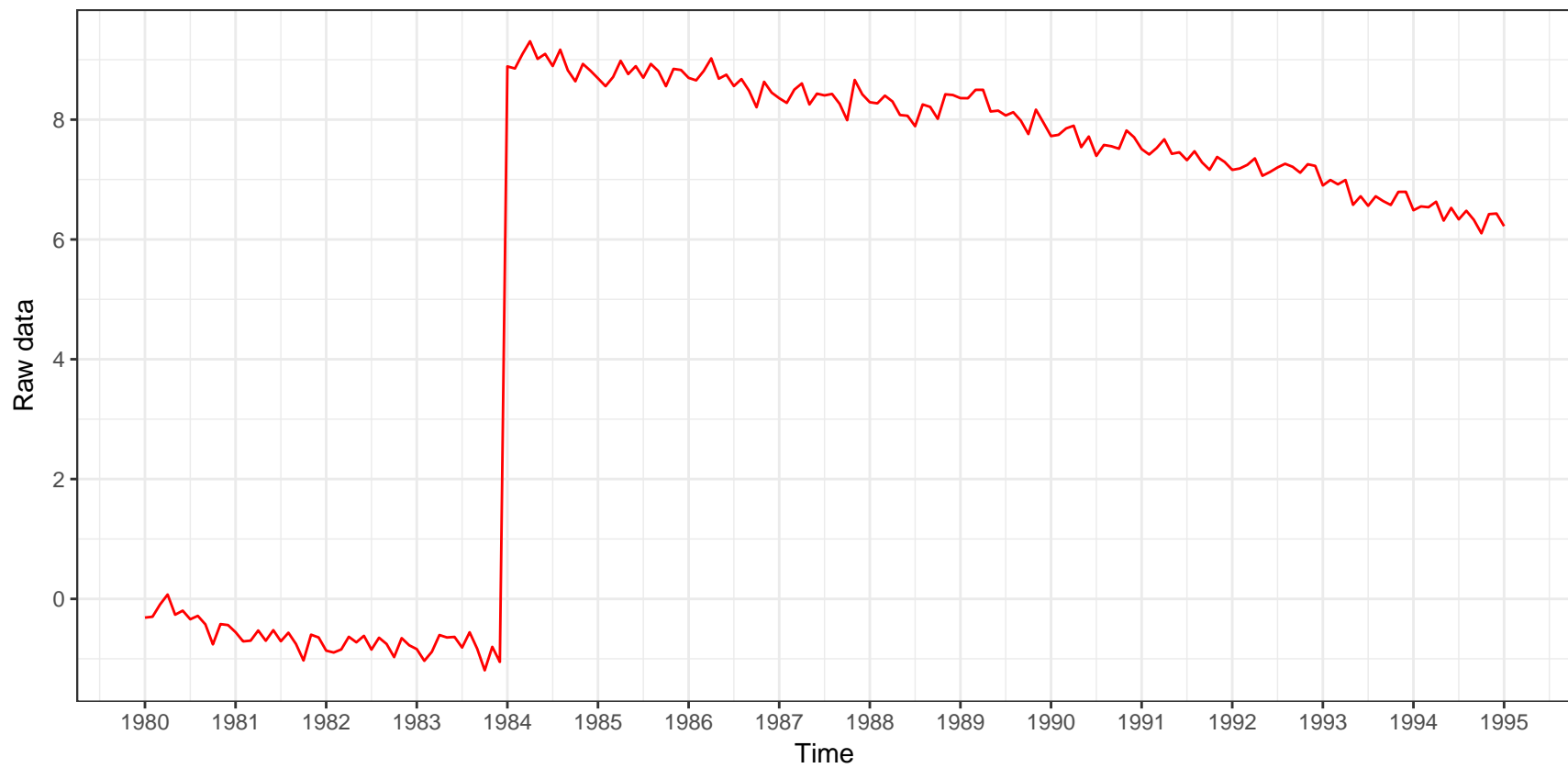


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)(1-0.6B^{12})a_t$

Estimation of the outlier

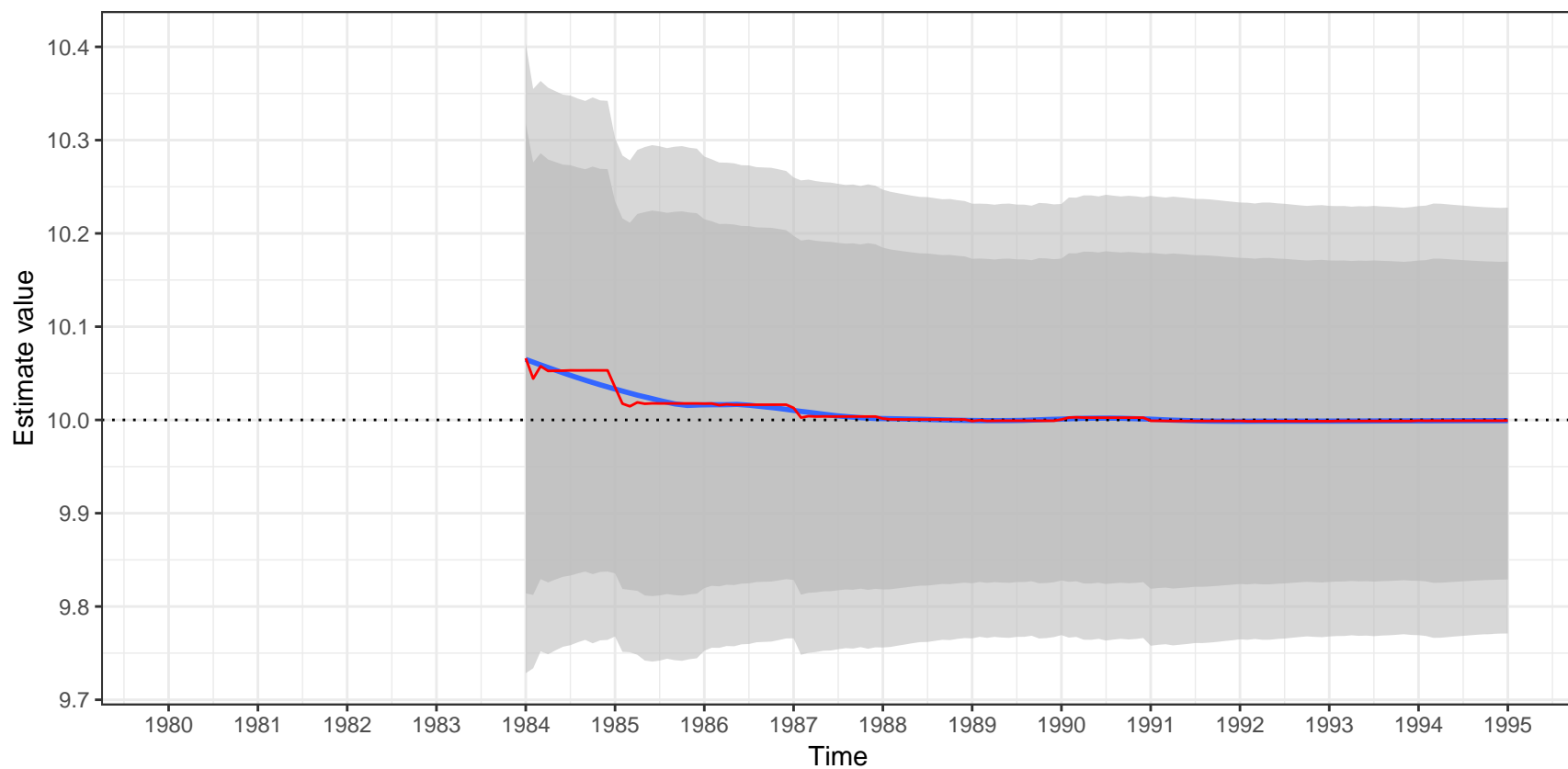


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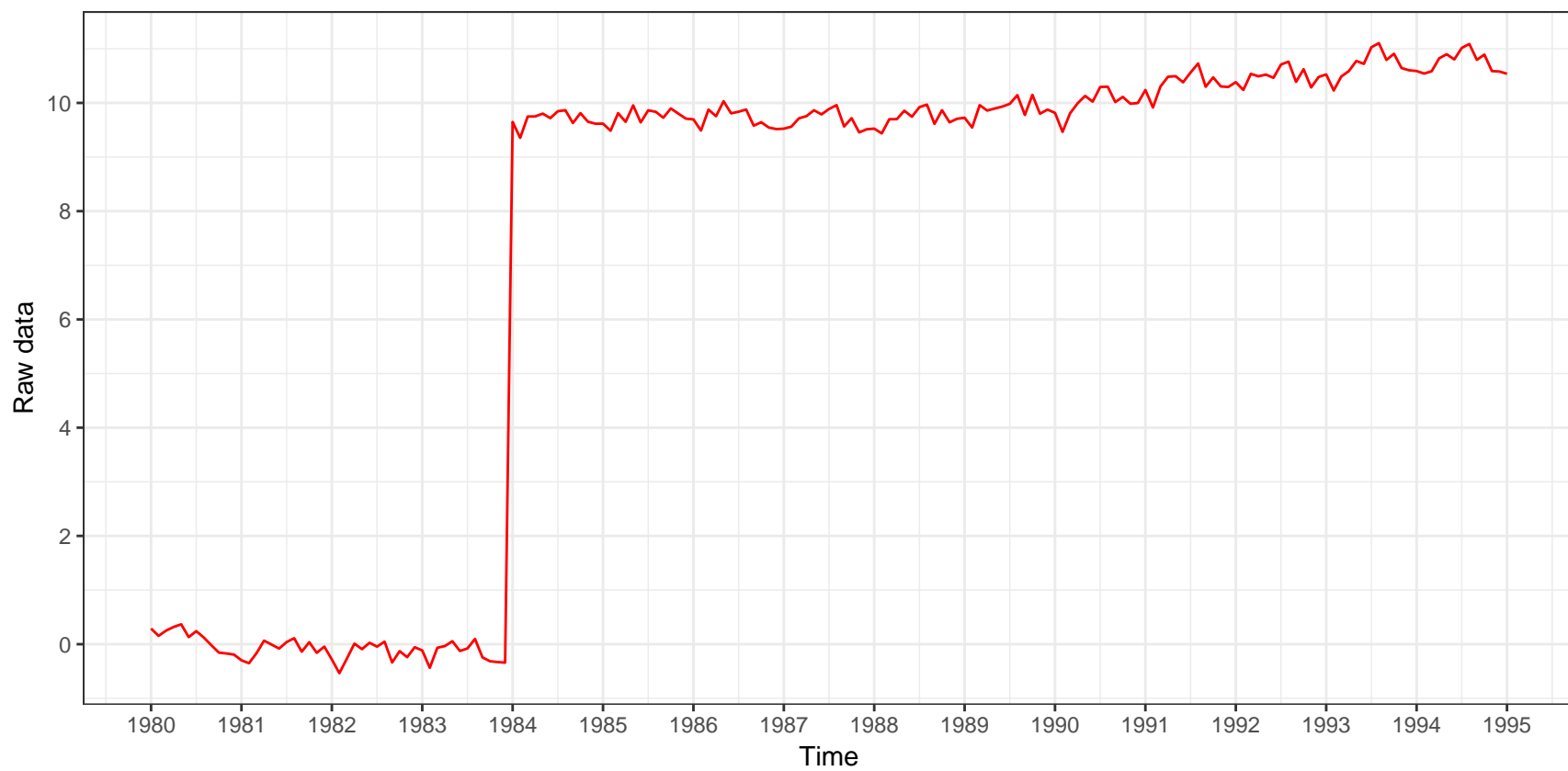


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)(1-0.6B^{12})a_t$

Estimation of the outlier

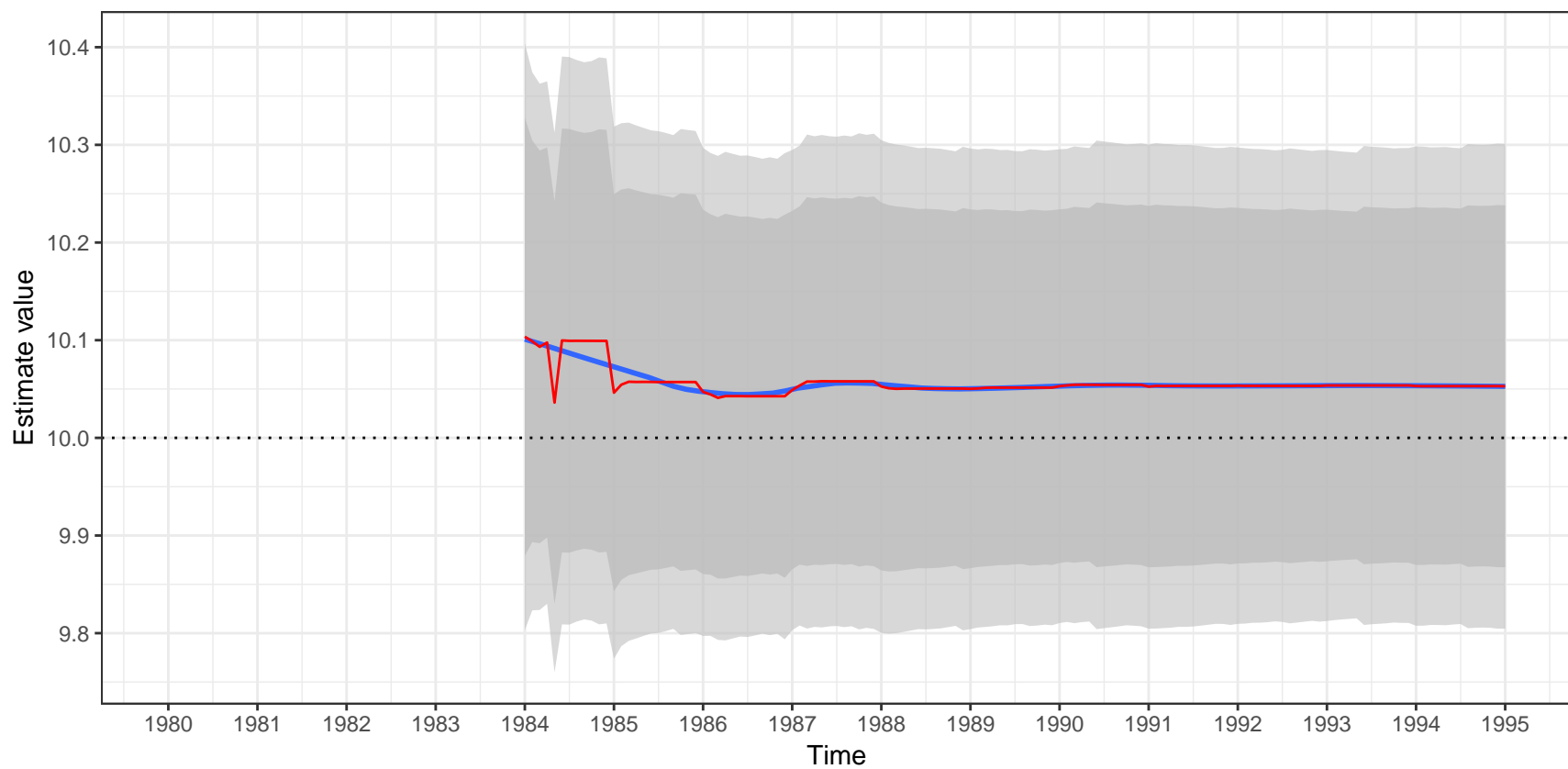


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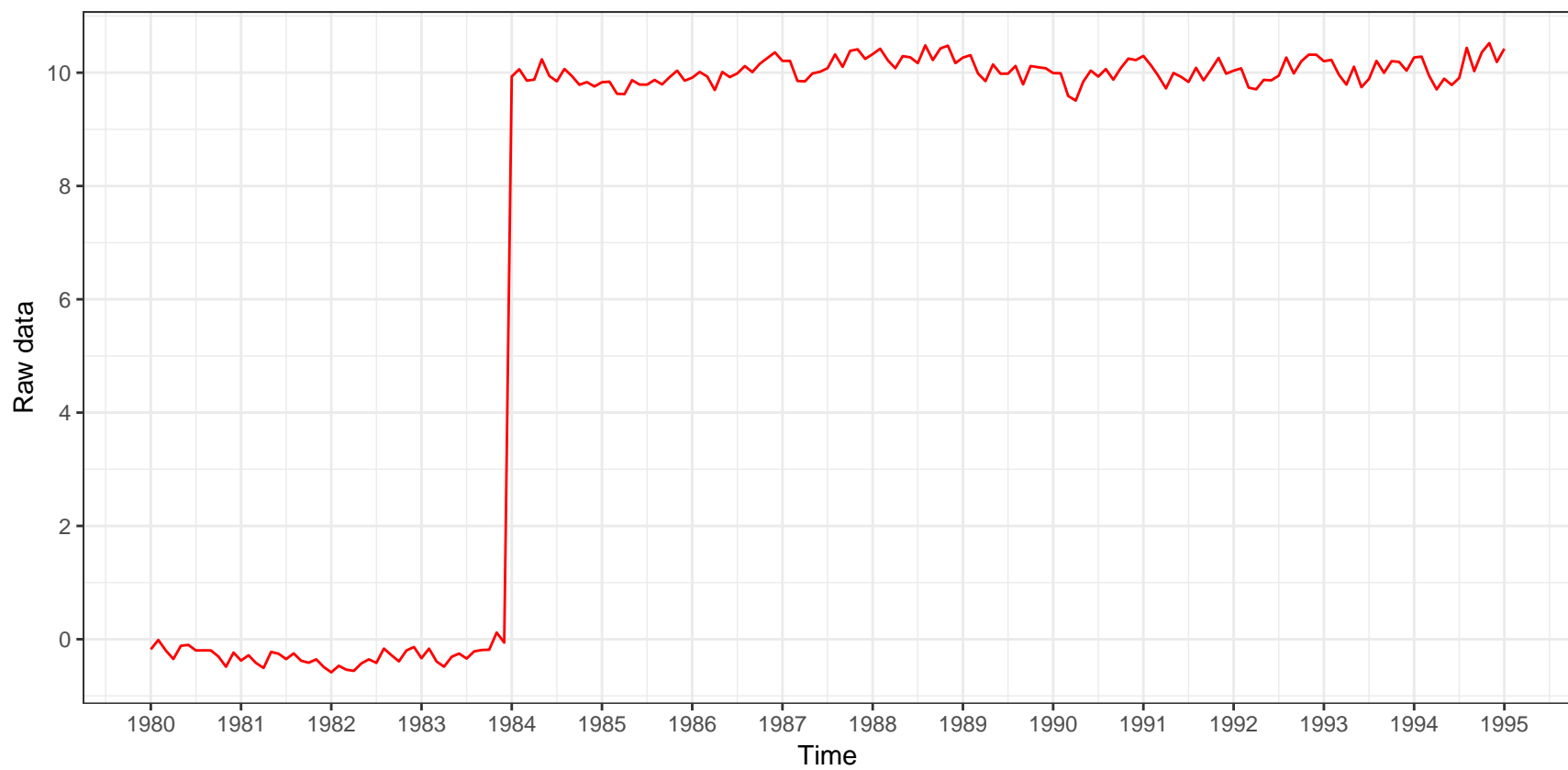


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})X_t=(1-0.4B)(1-0.6B_{12})a_t$

Estimation of the outlier

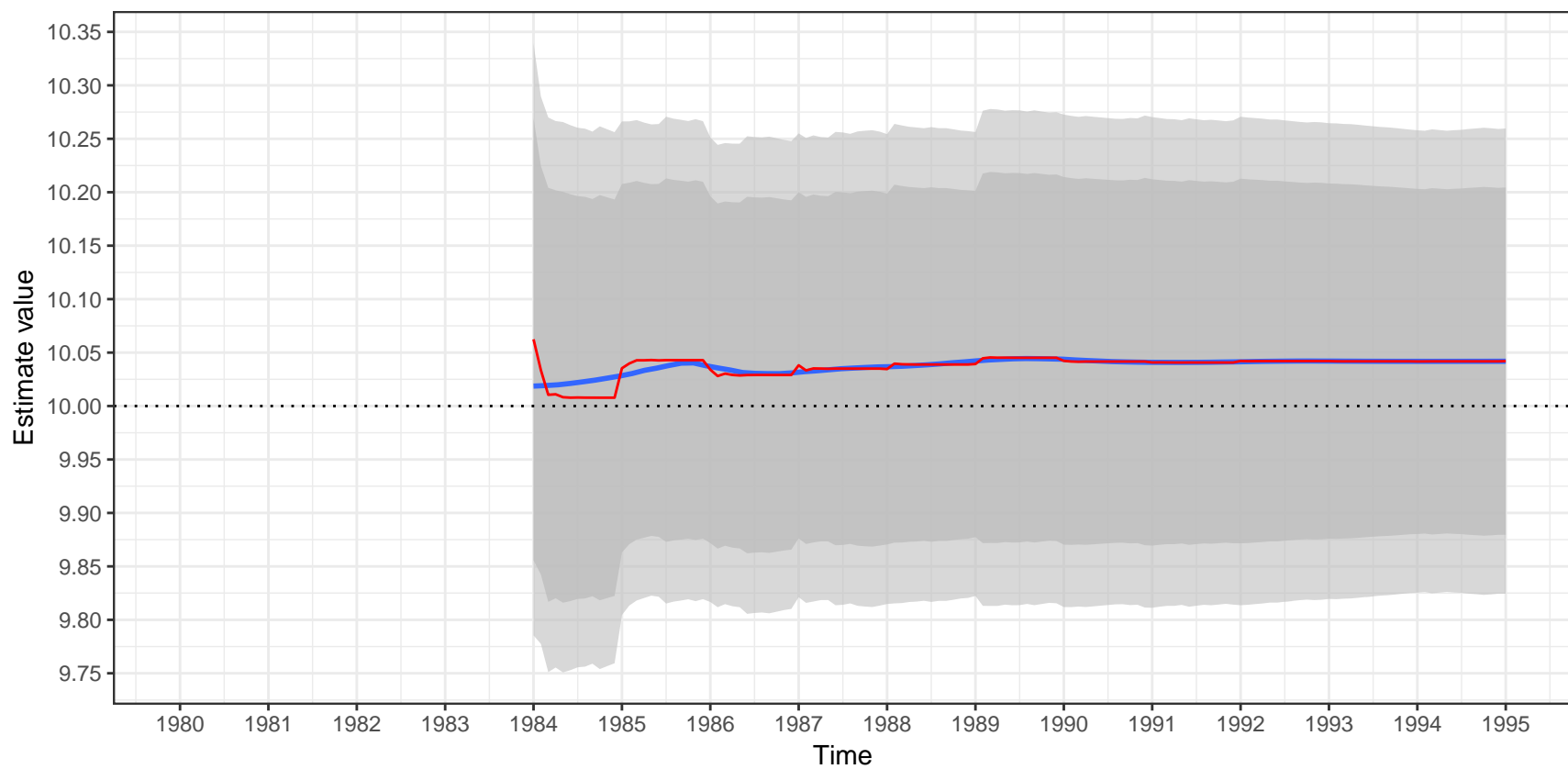


Raw data

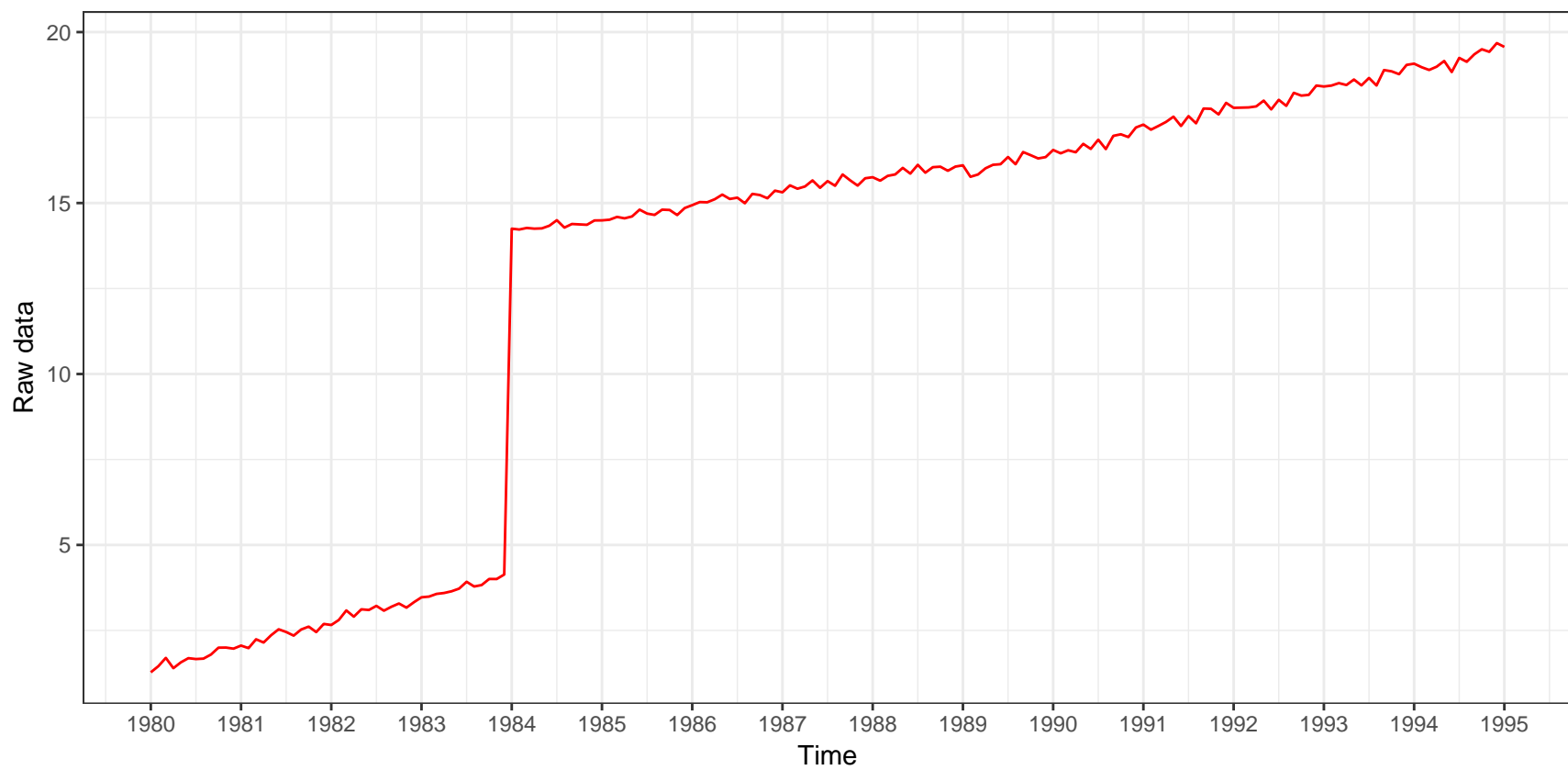


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.4B)(1-0.6B^{12})a_t$

Estimation of the outlier

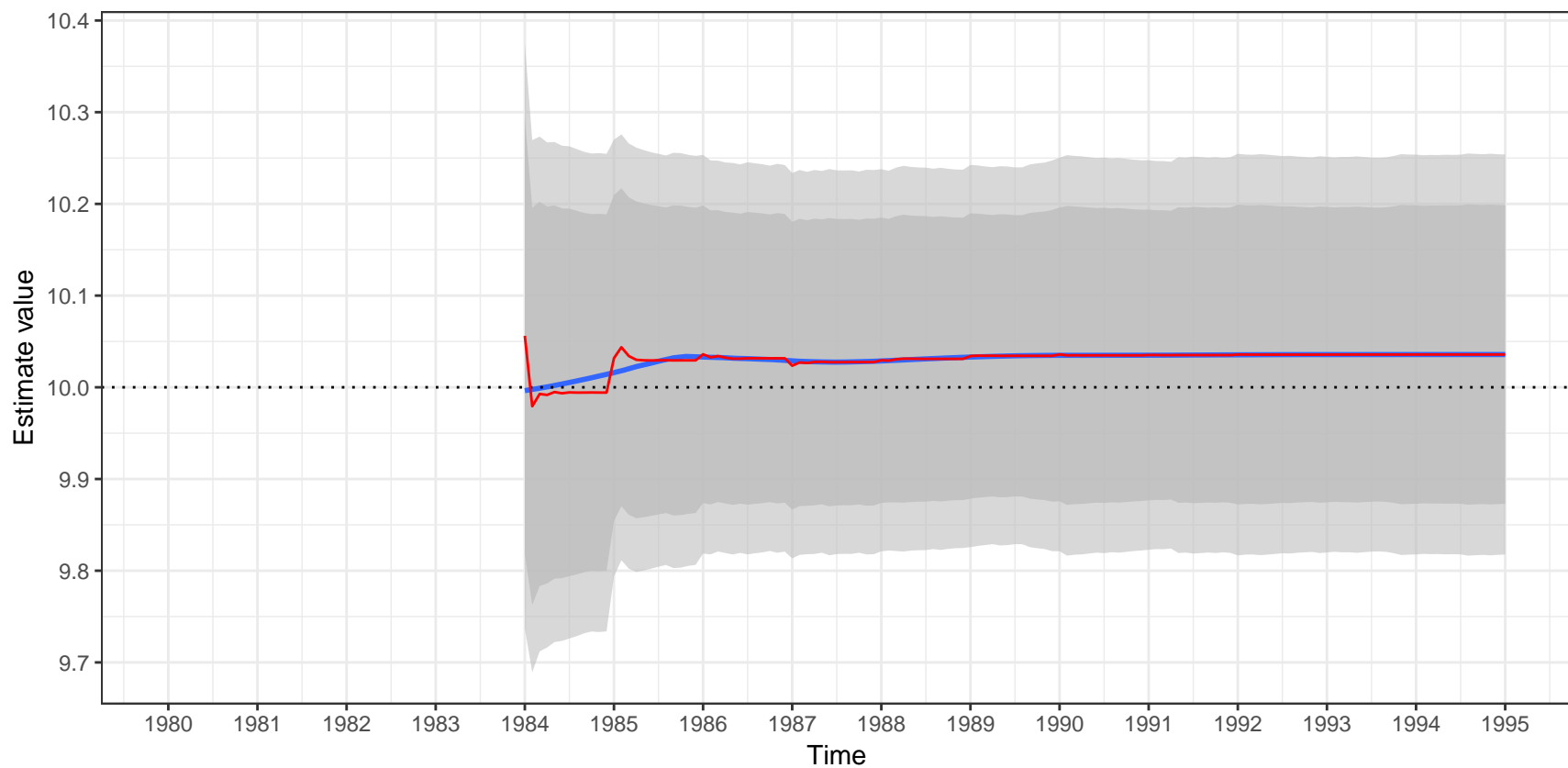


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.5B)(1-0.5B^{12})a_t$

Estimation of the outlier

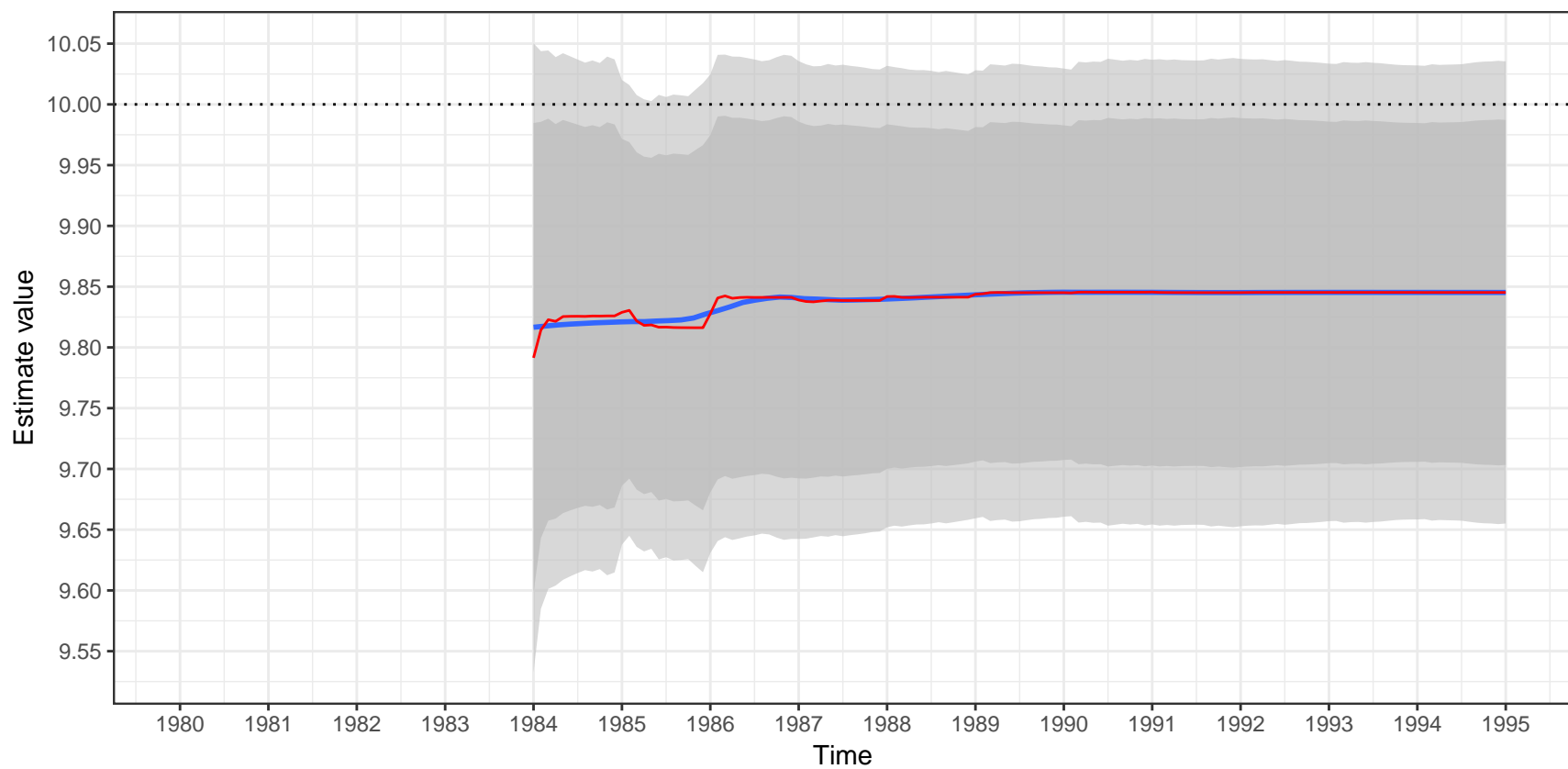


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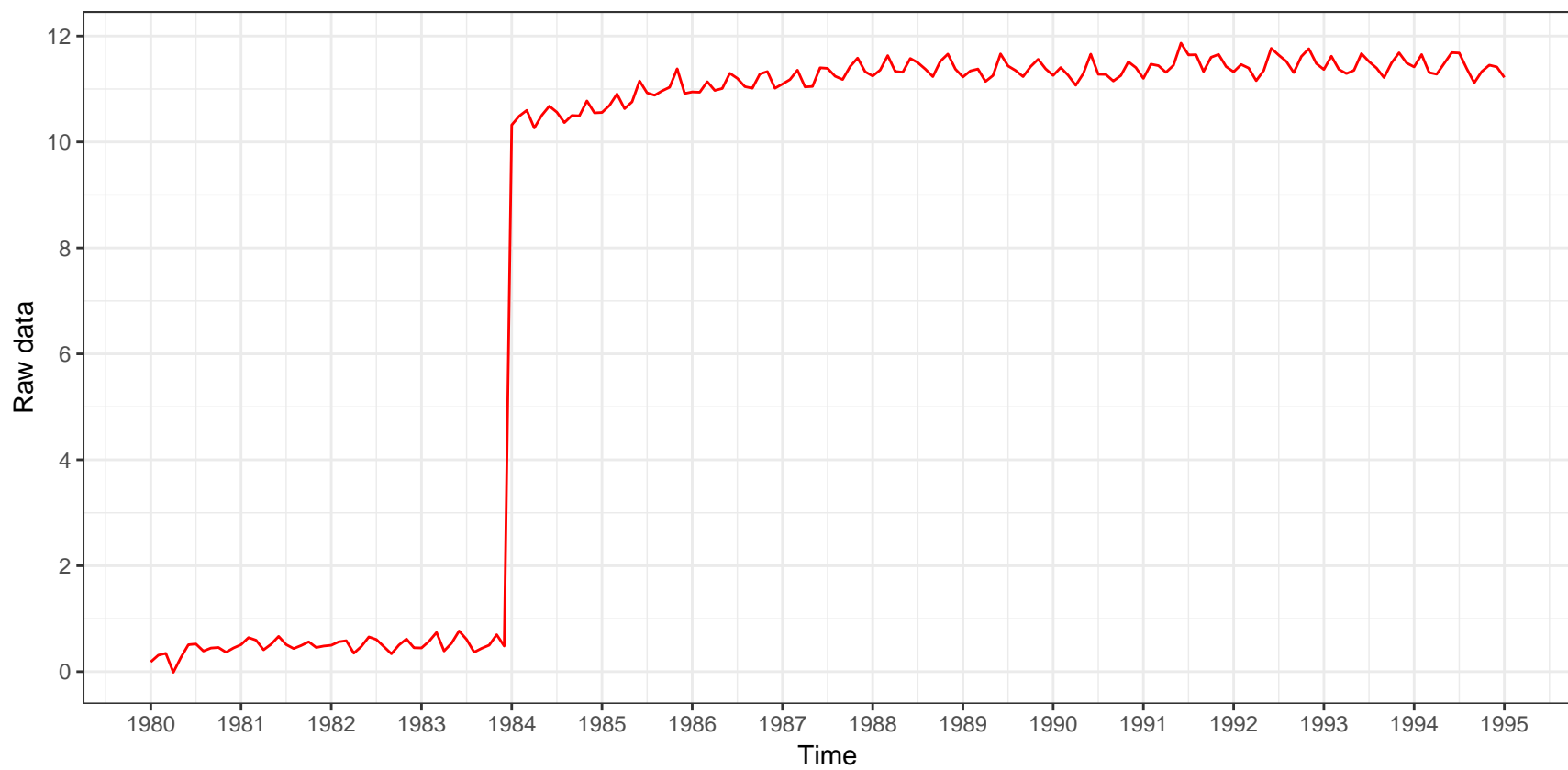


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B)(1-0.5B^{12})a_t$

Estimation of the outlier

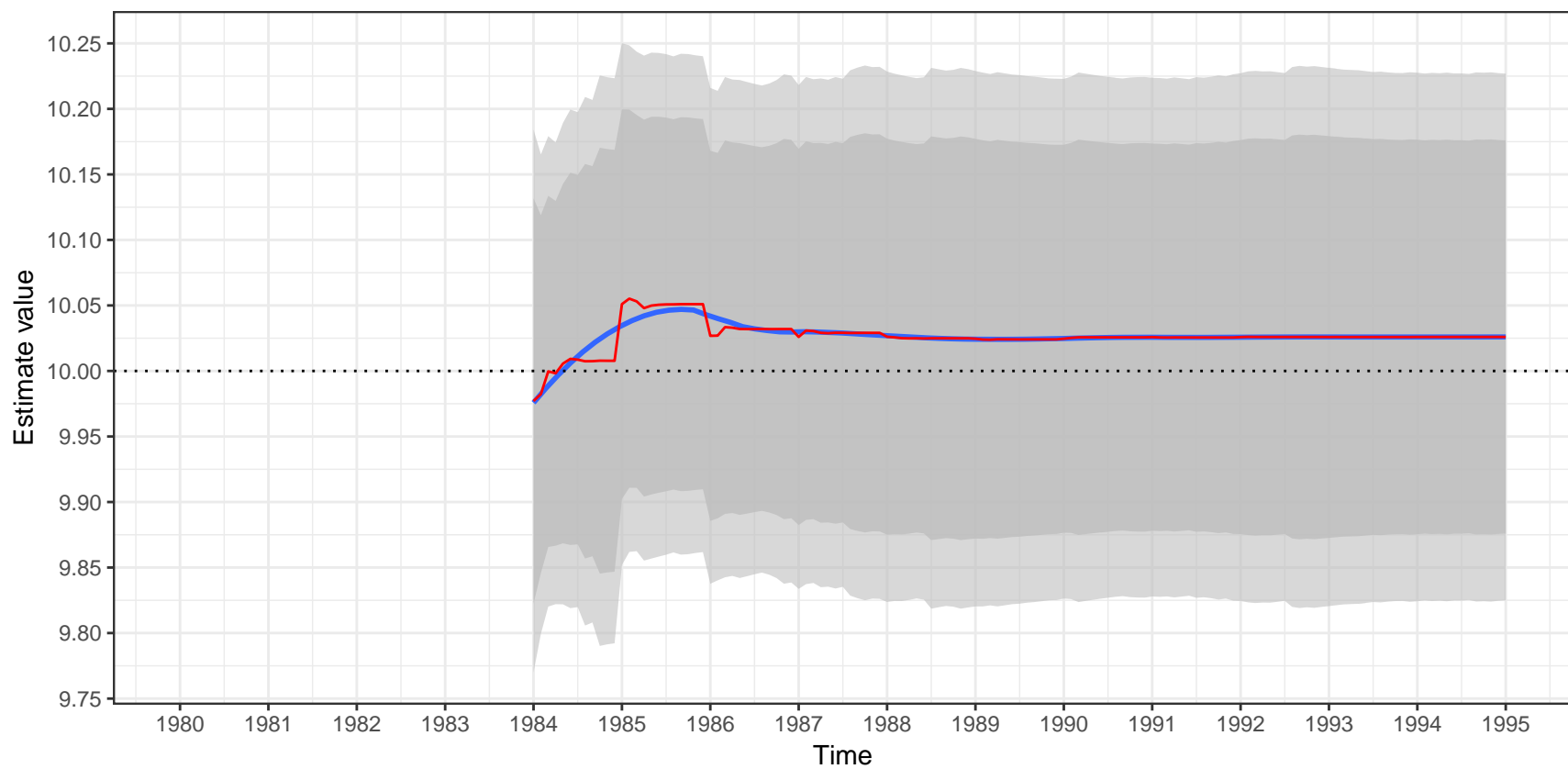


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.5B)(1-0.5B^{12})a_t$

Estimation of the outlier

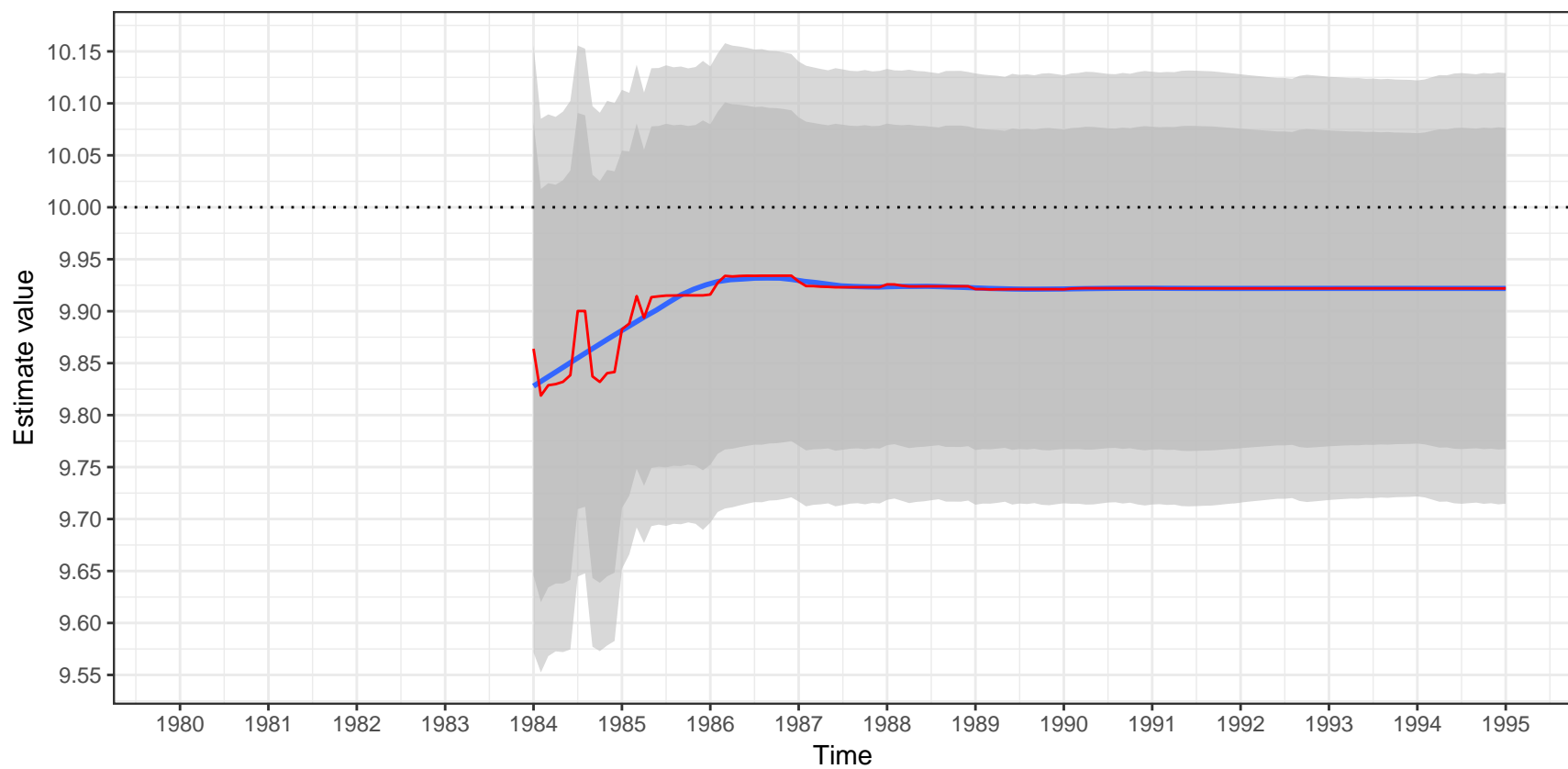


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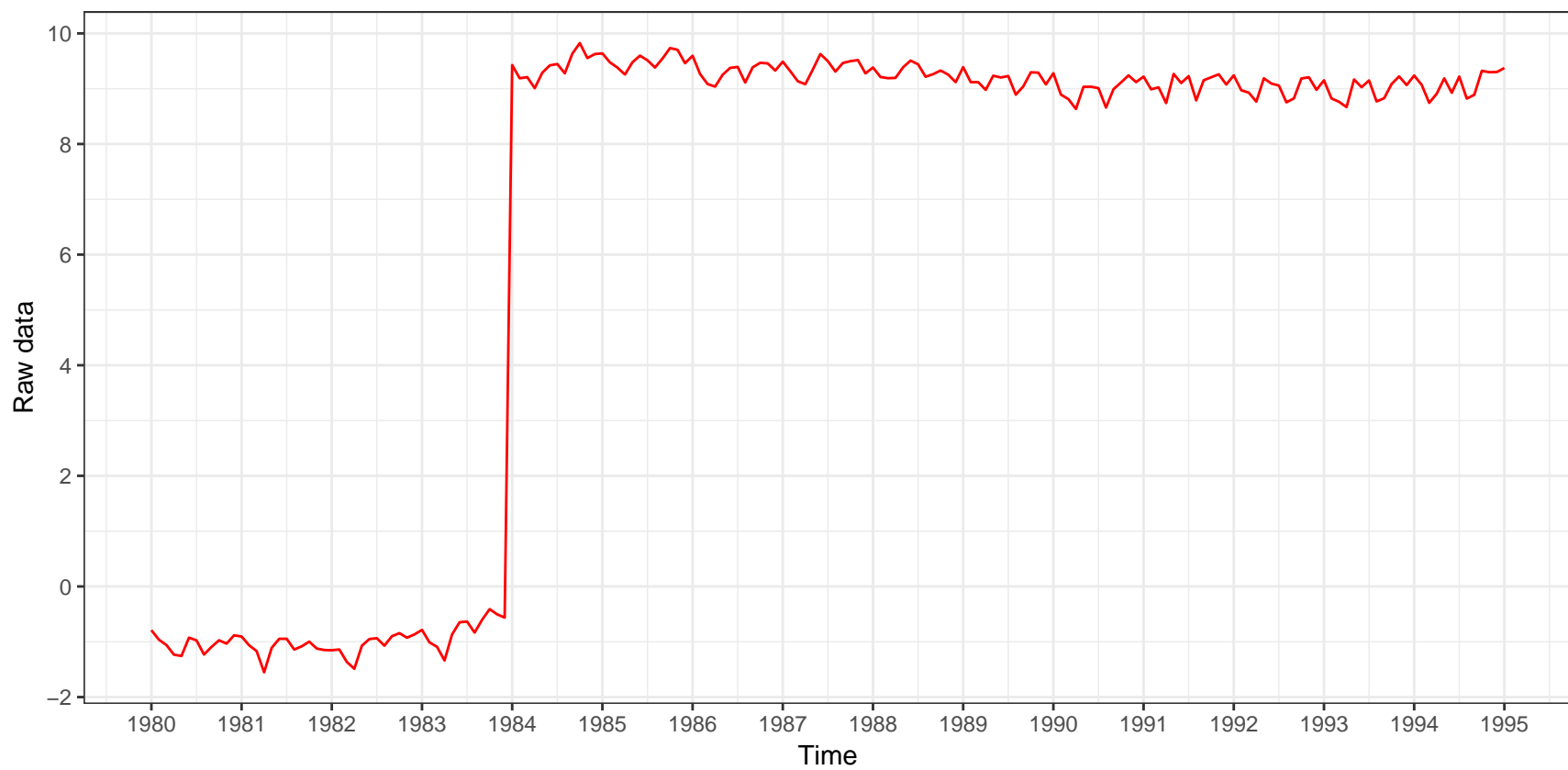


Estimate value of a LS(1984-01)
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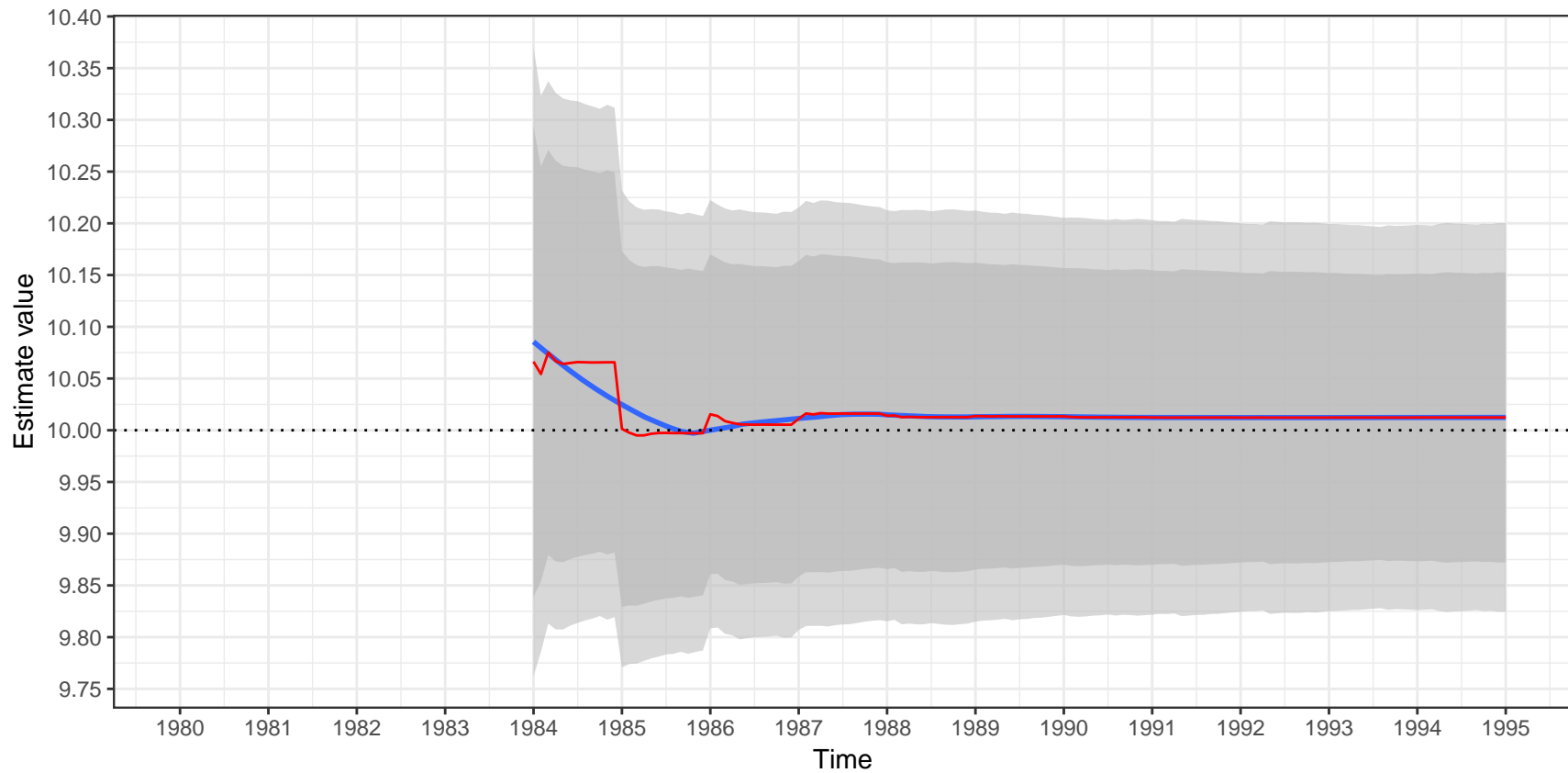


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Estimate value of a LS(1984-01)
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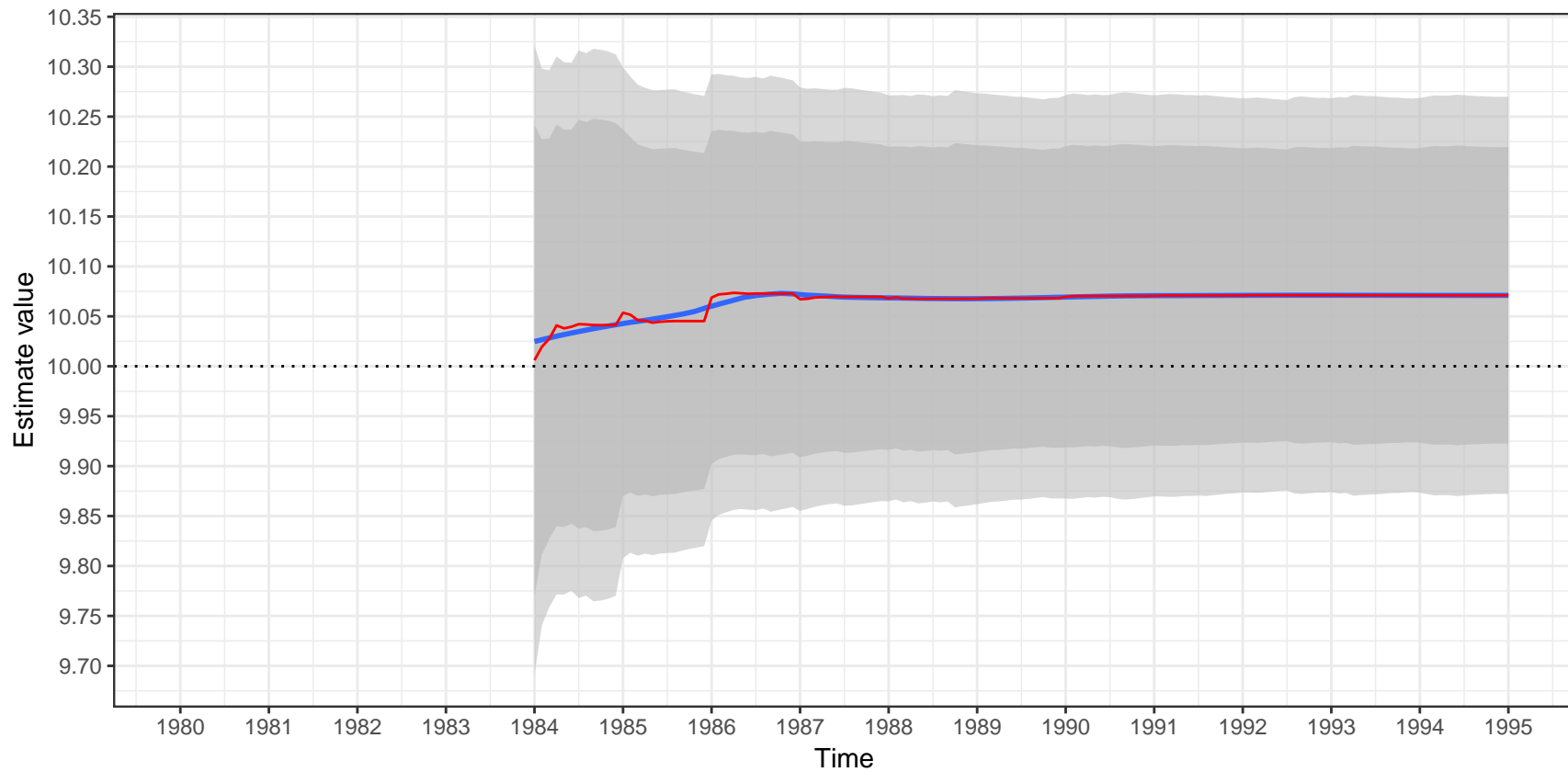


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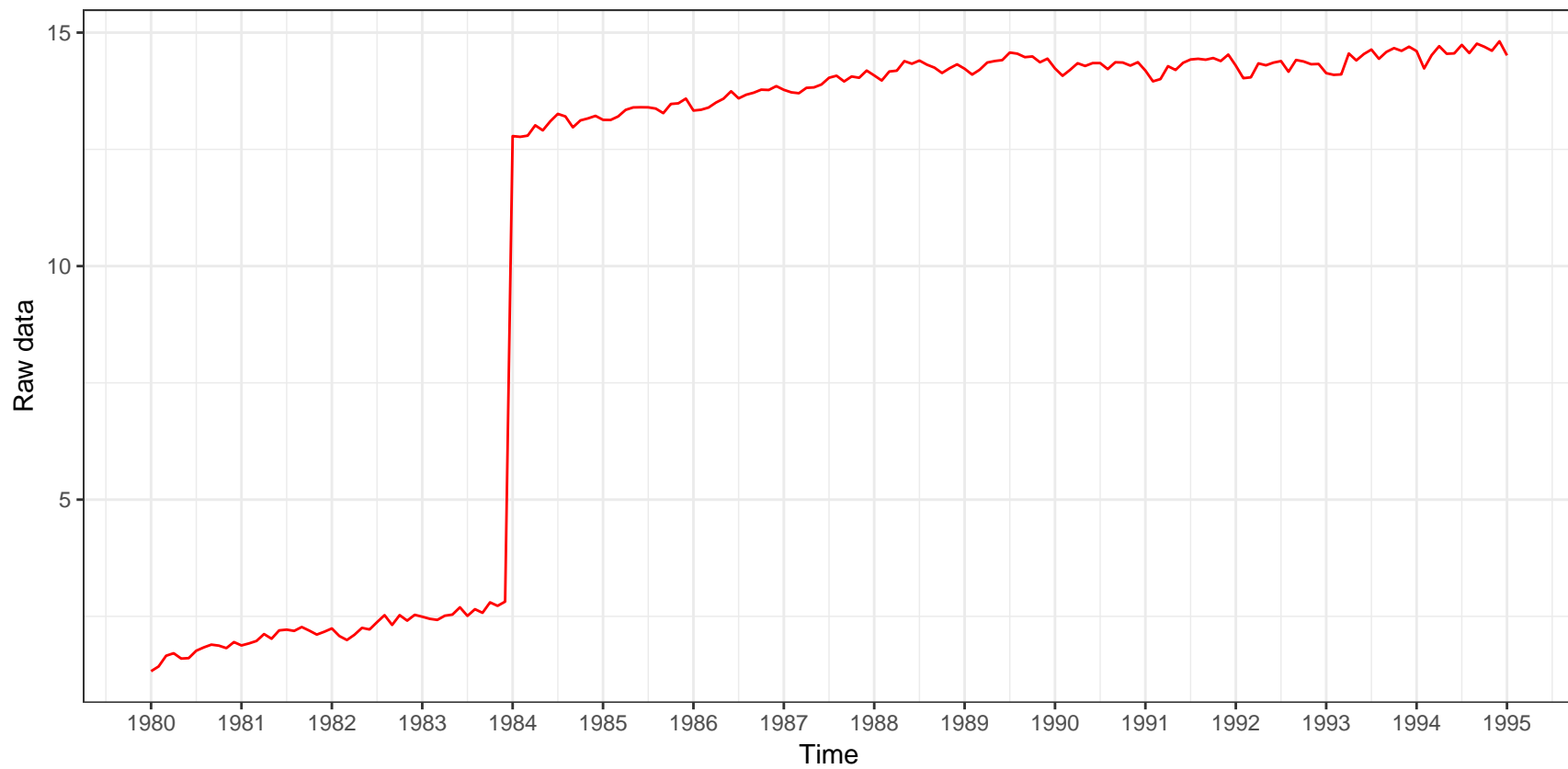


Estimate value of a LS(1984-01)
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Estimation of the outlier

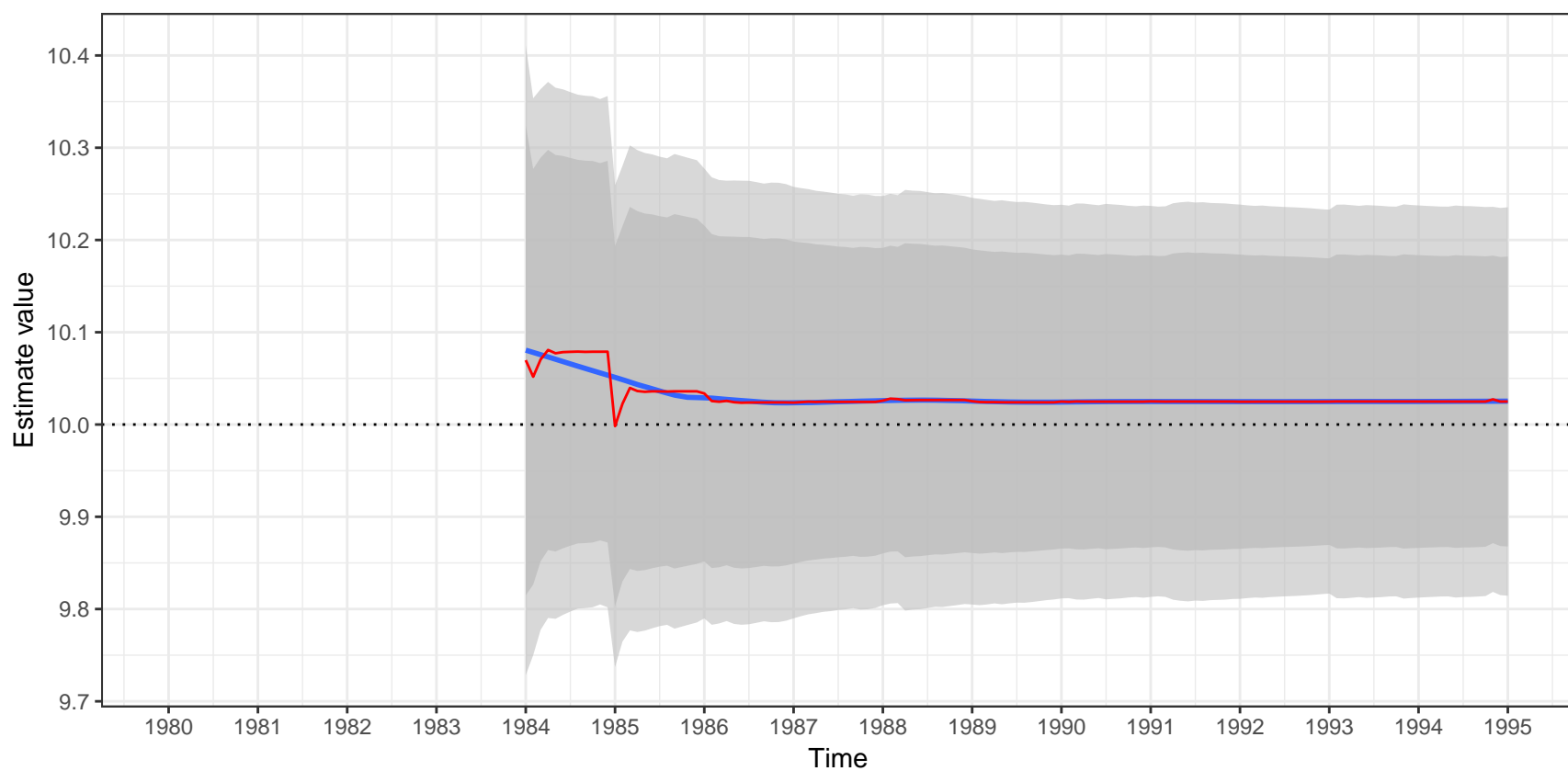


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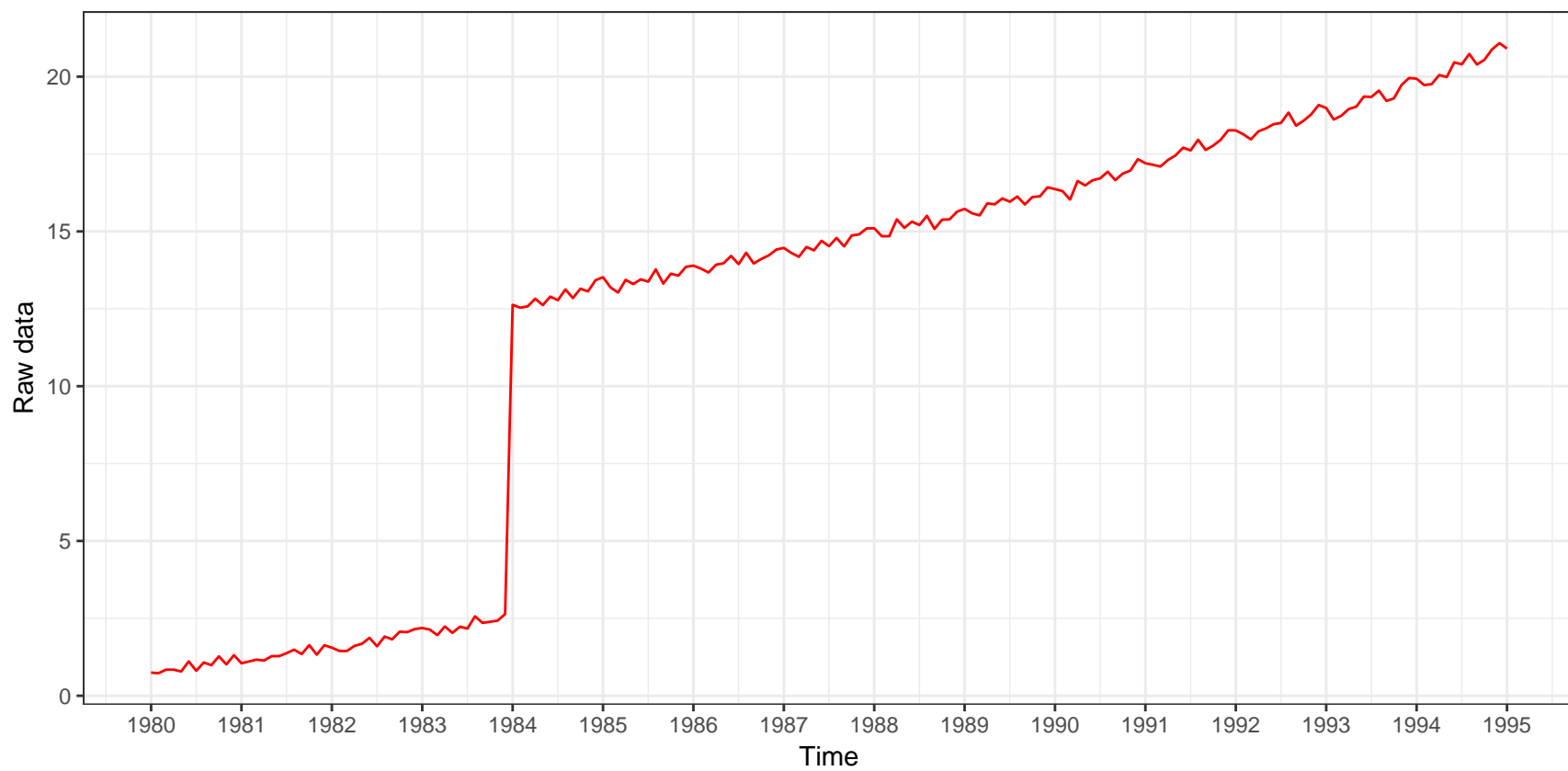


Estimate value of a LS(1984-01)
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Estimation of the outlier

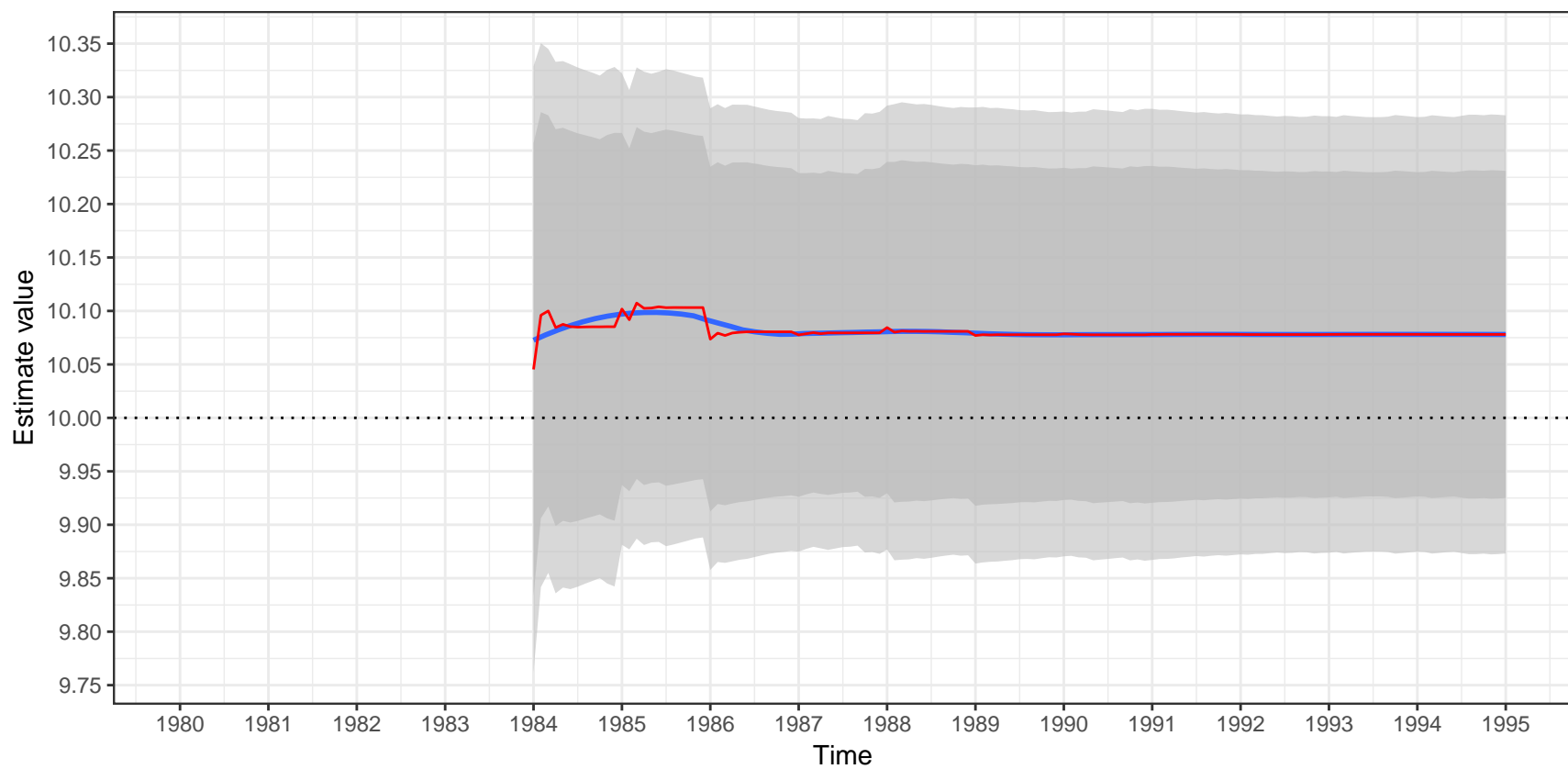


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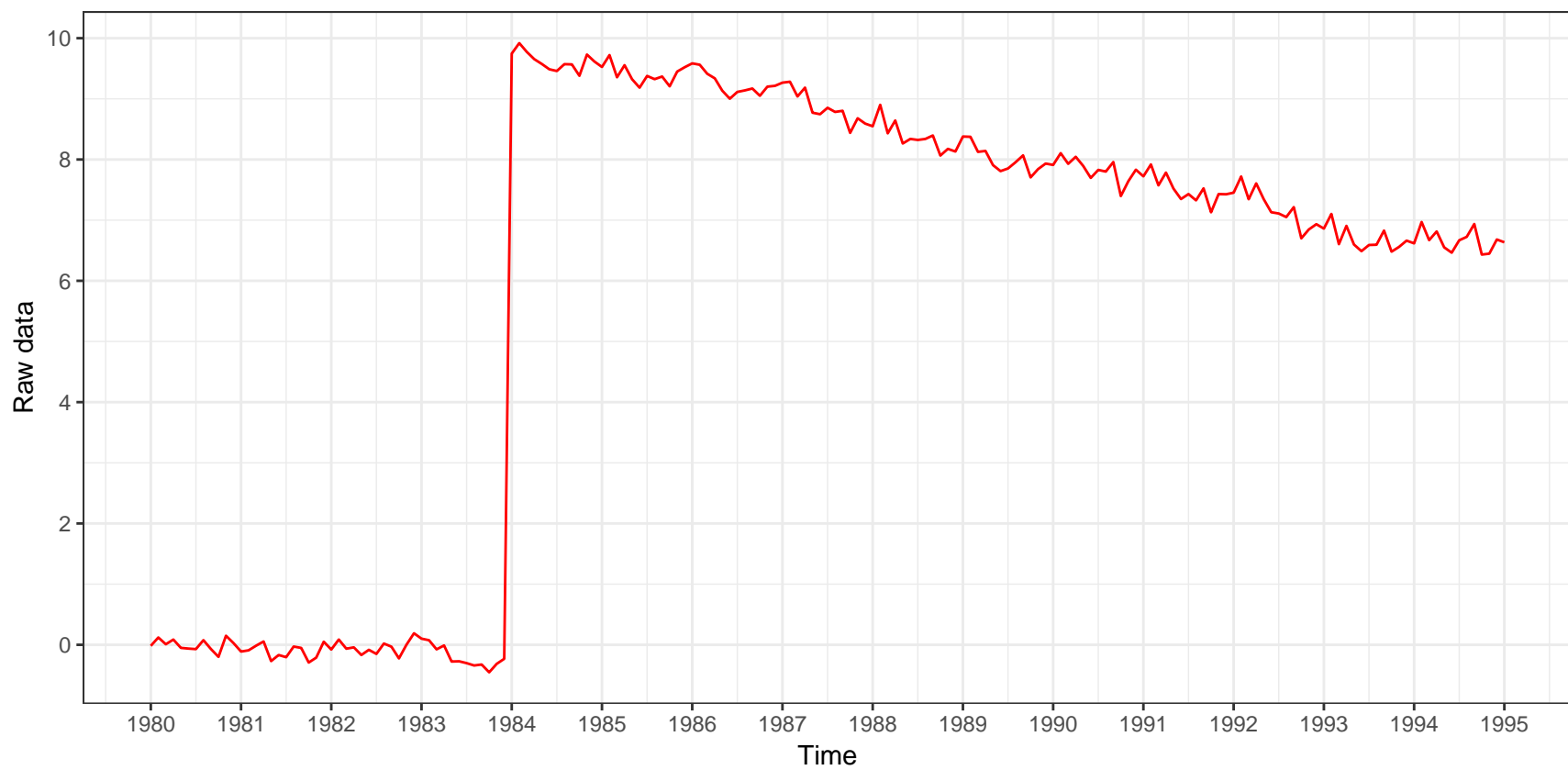


Estimate value of a LS(1984-01)
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Estimation of the outlier

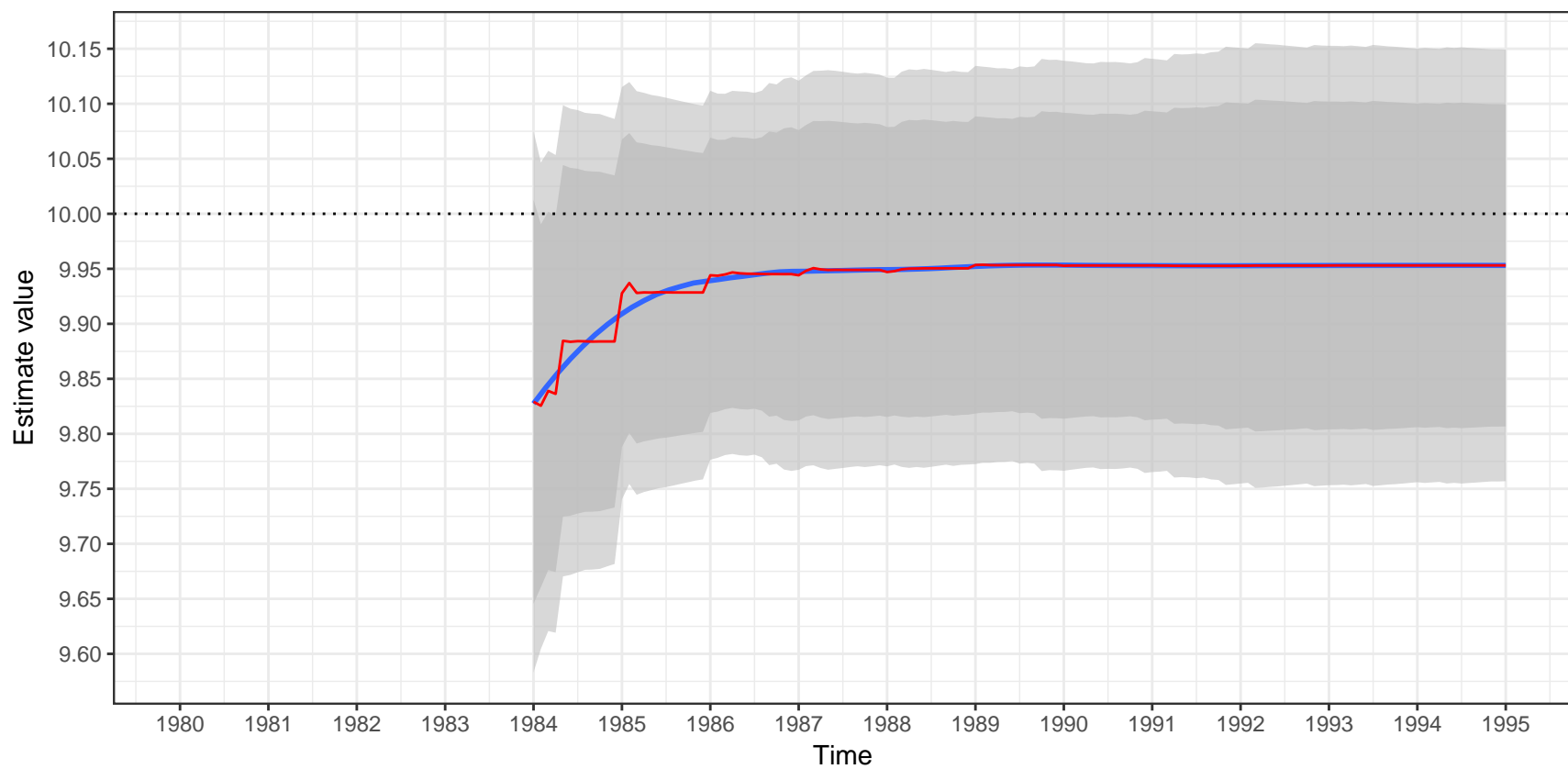


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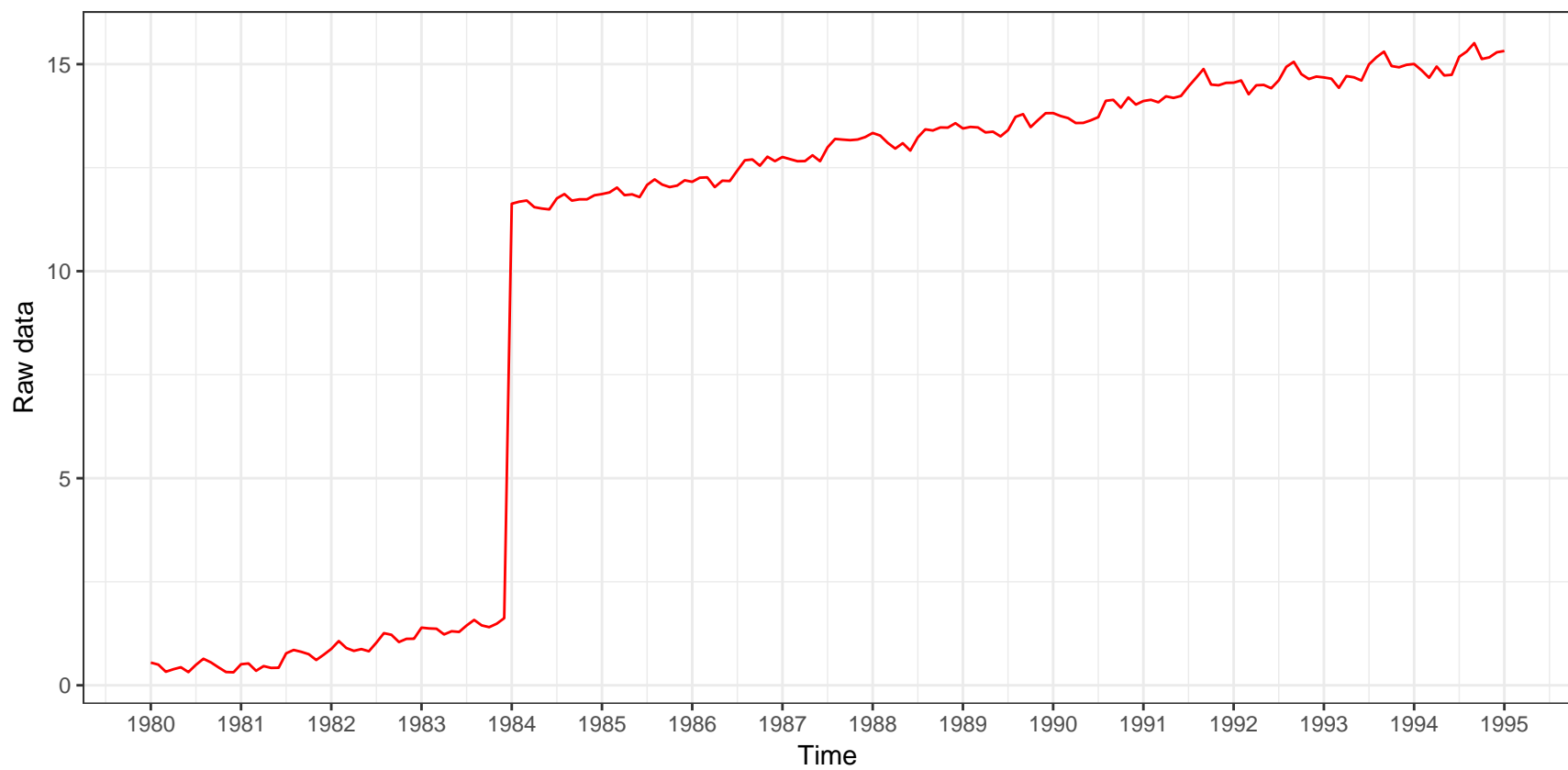


Estimate value of a LS(1984-01)
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Estimation of the outlier

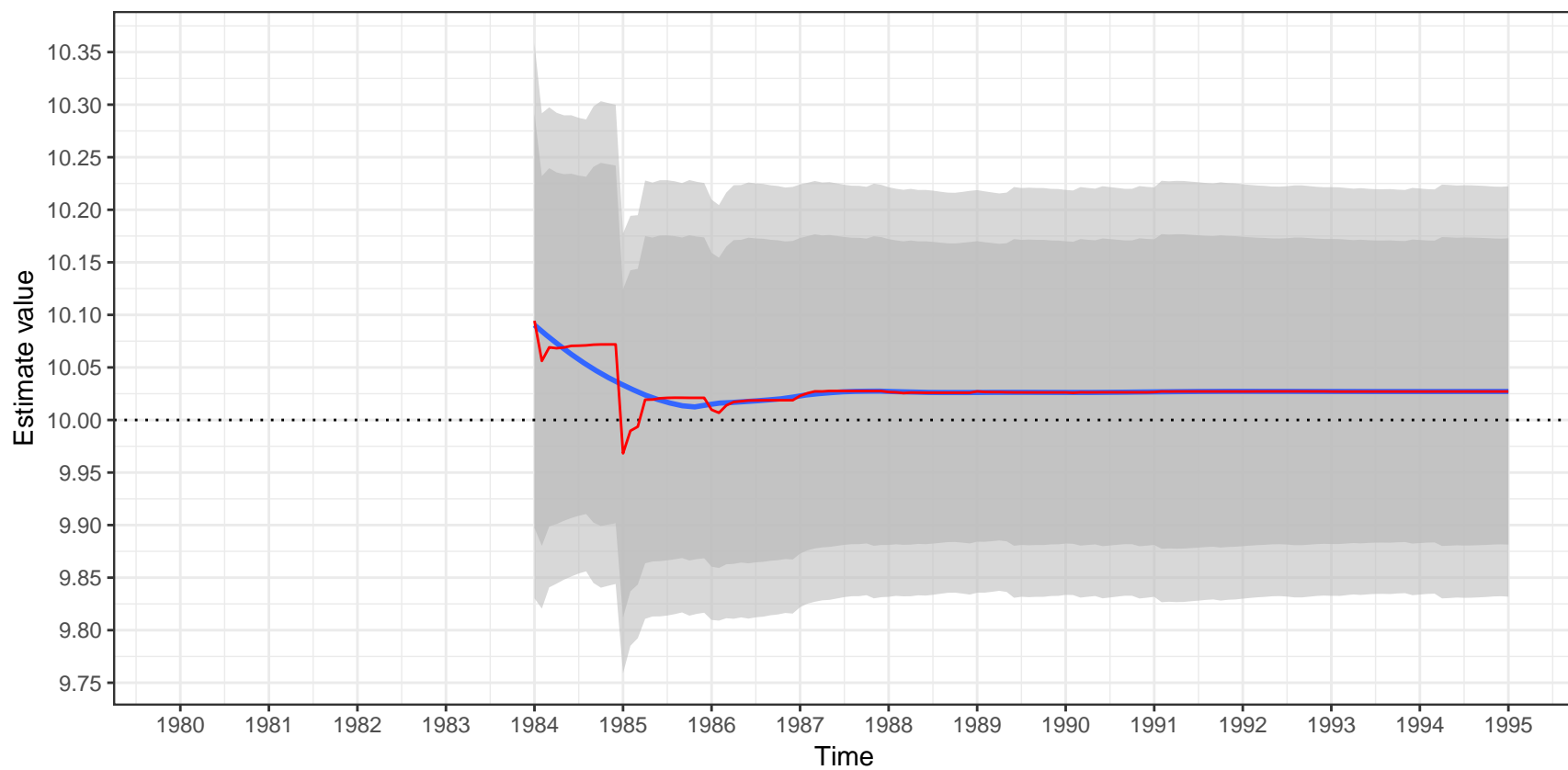


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

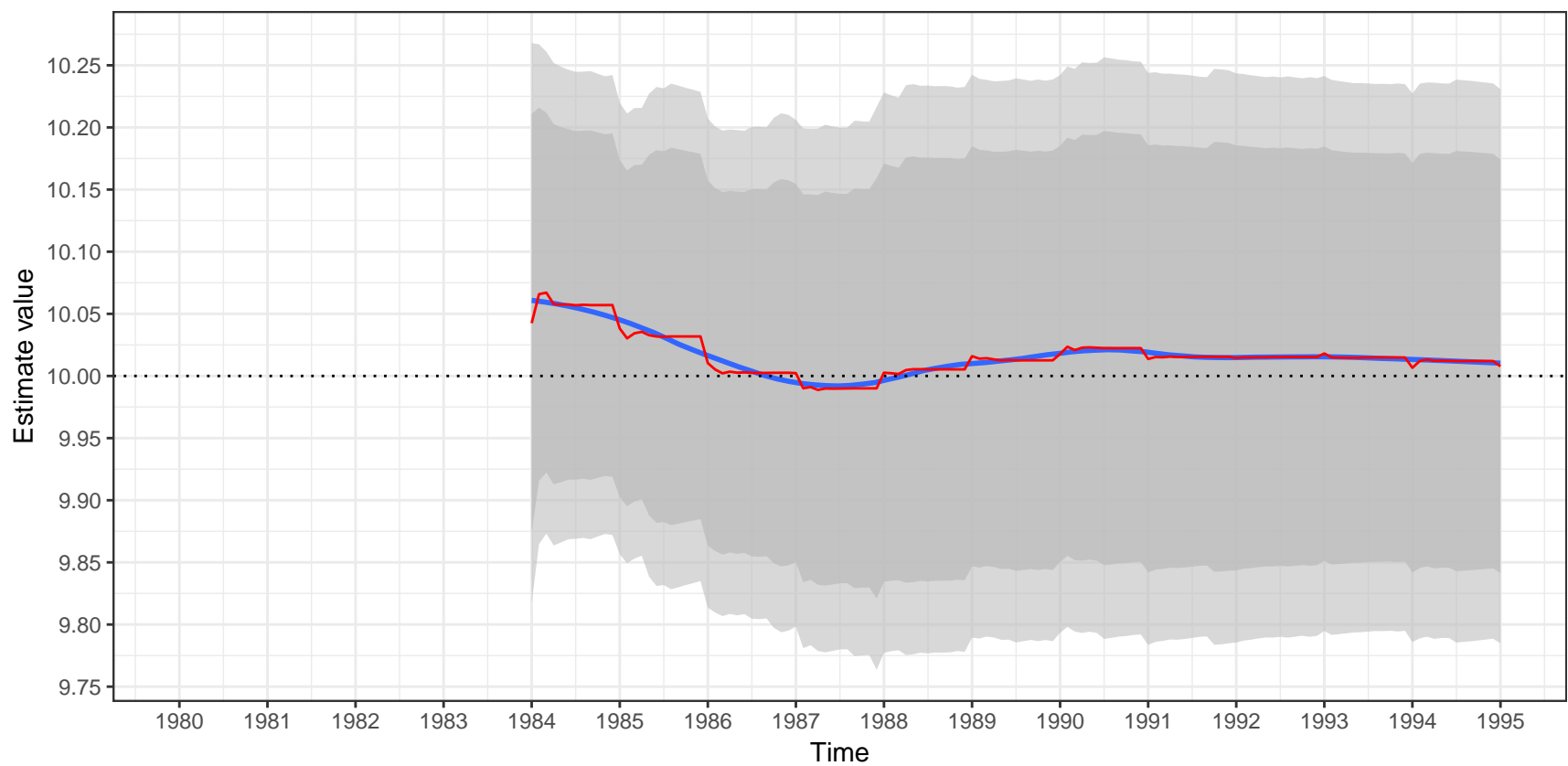


Raw data



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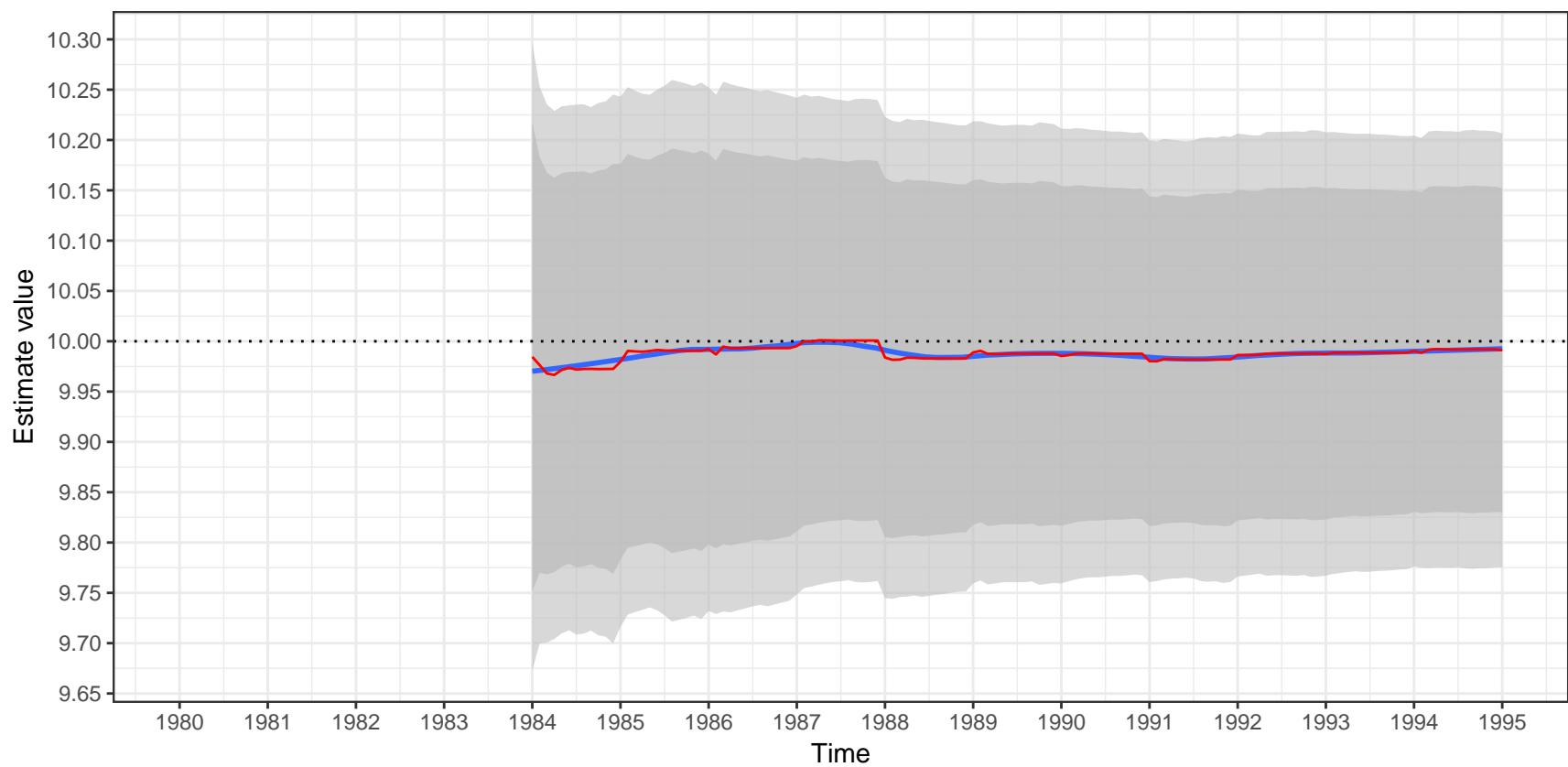


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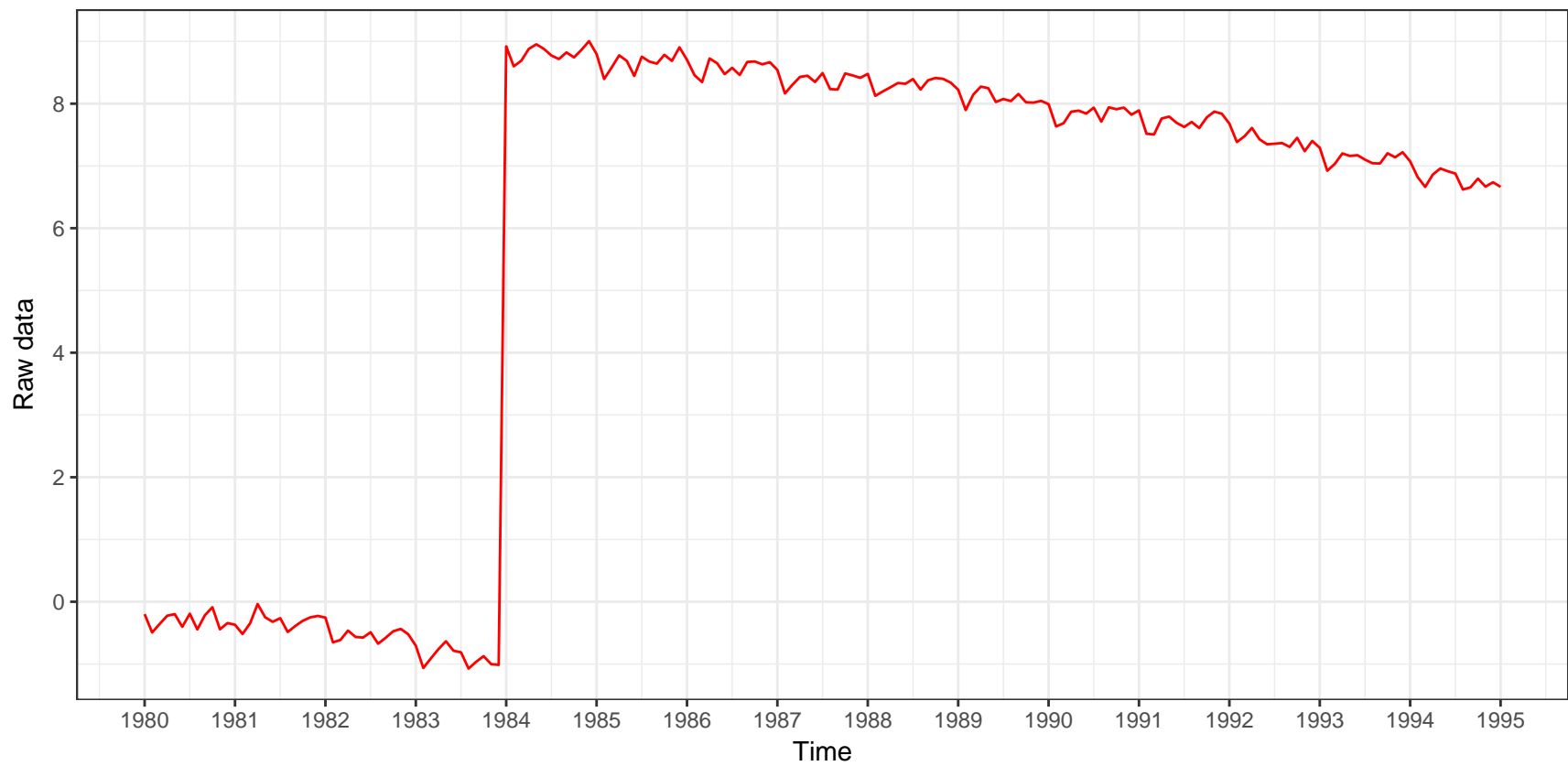


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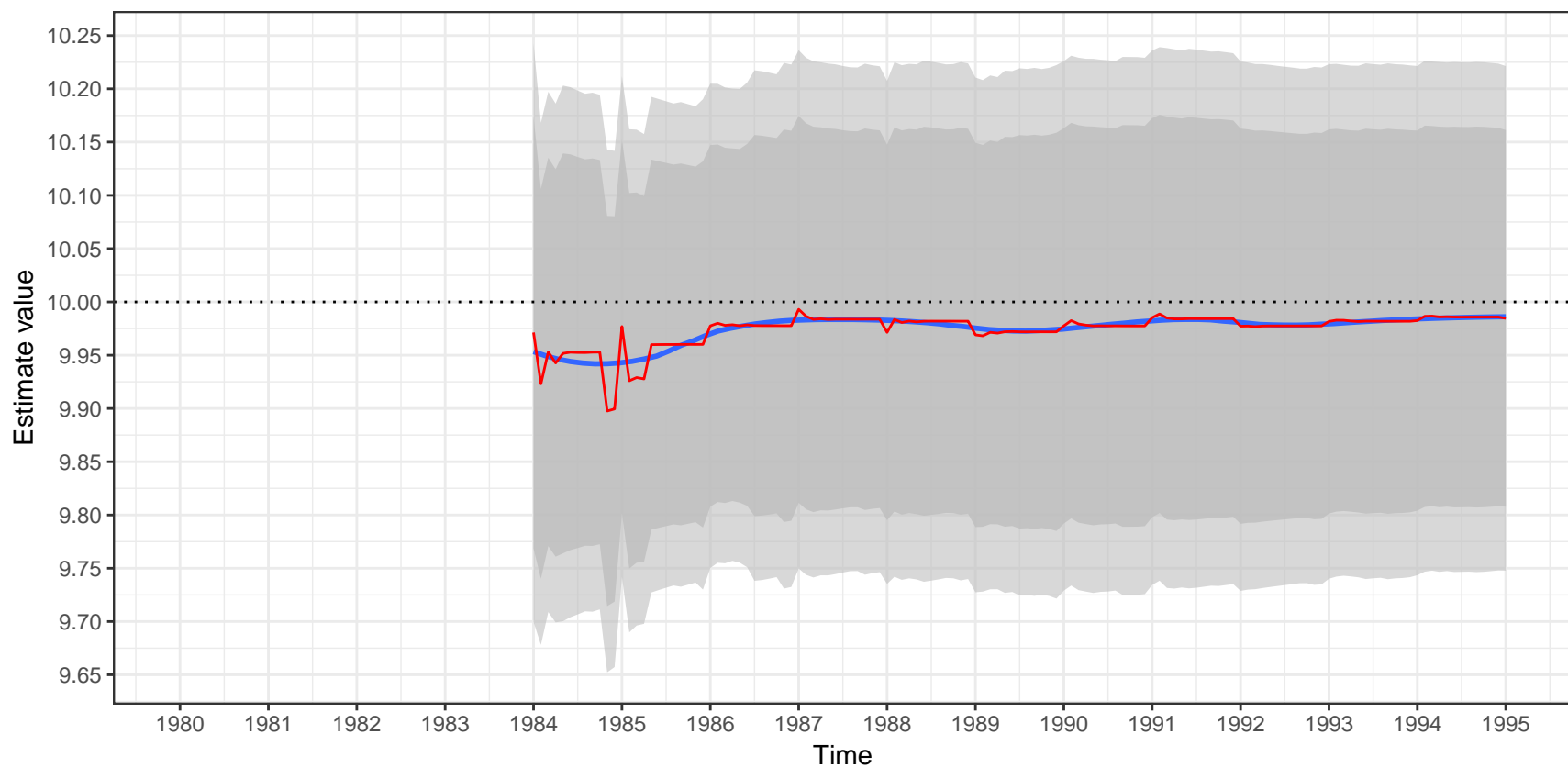


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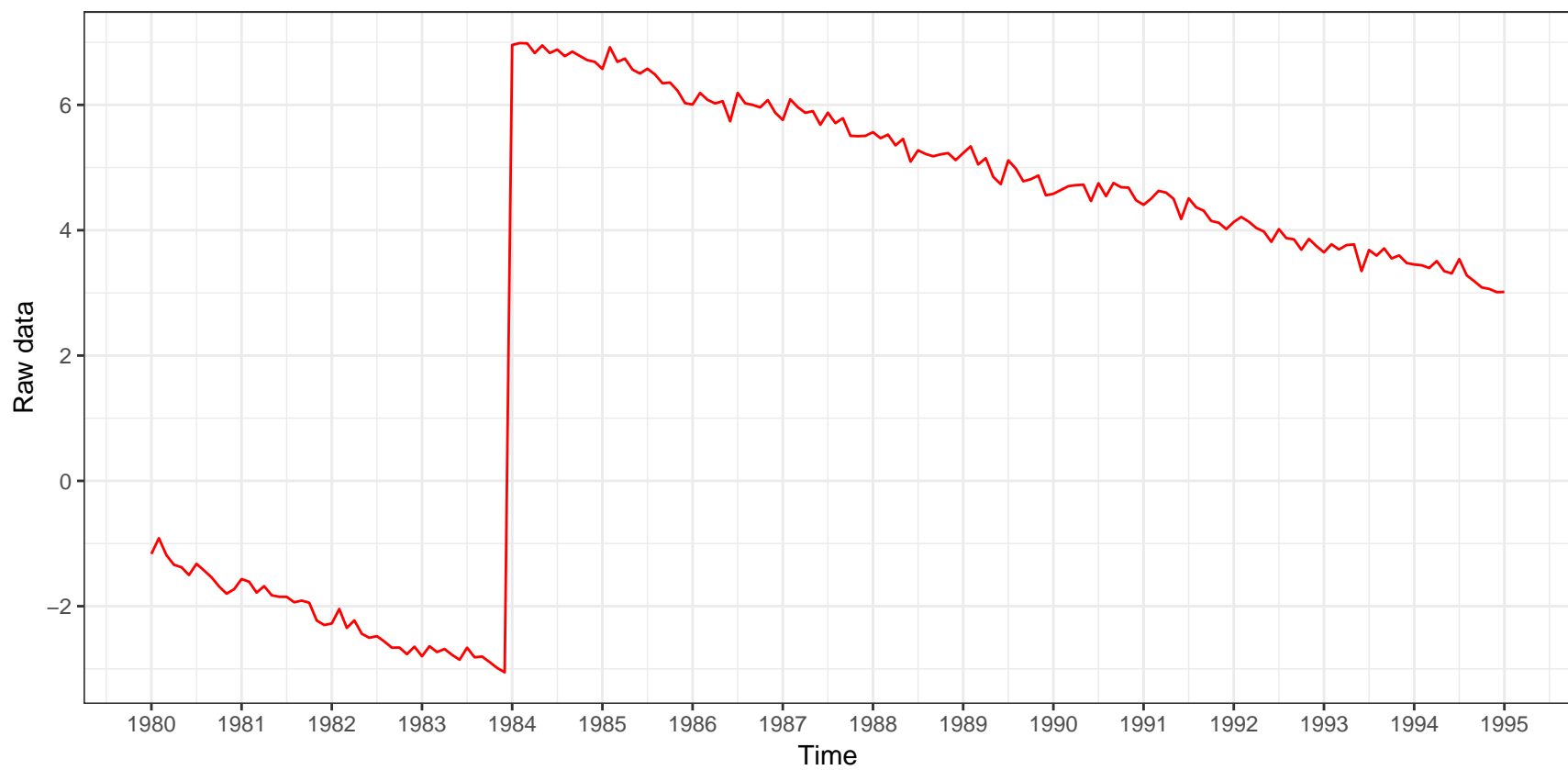


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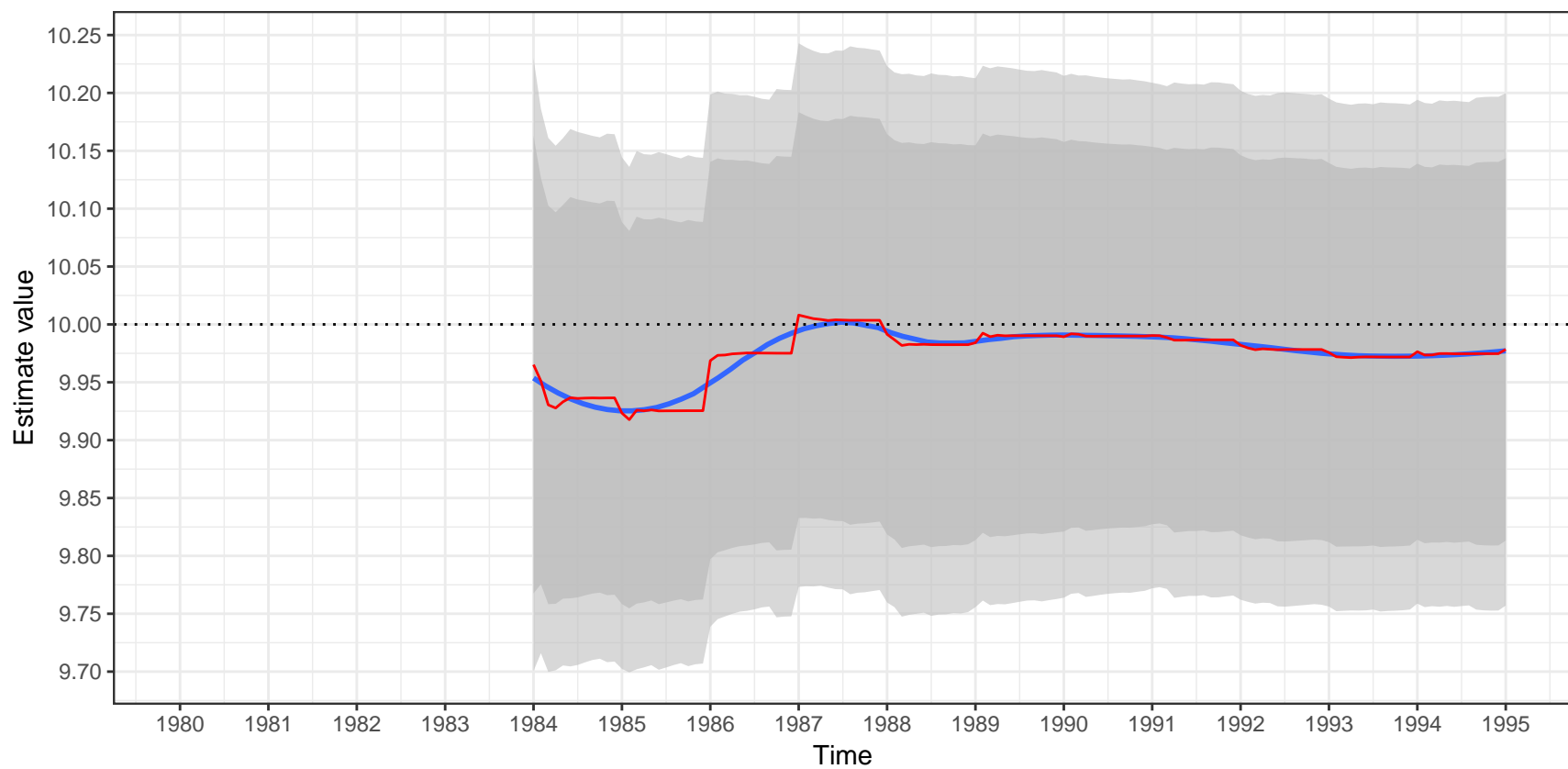


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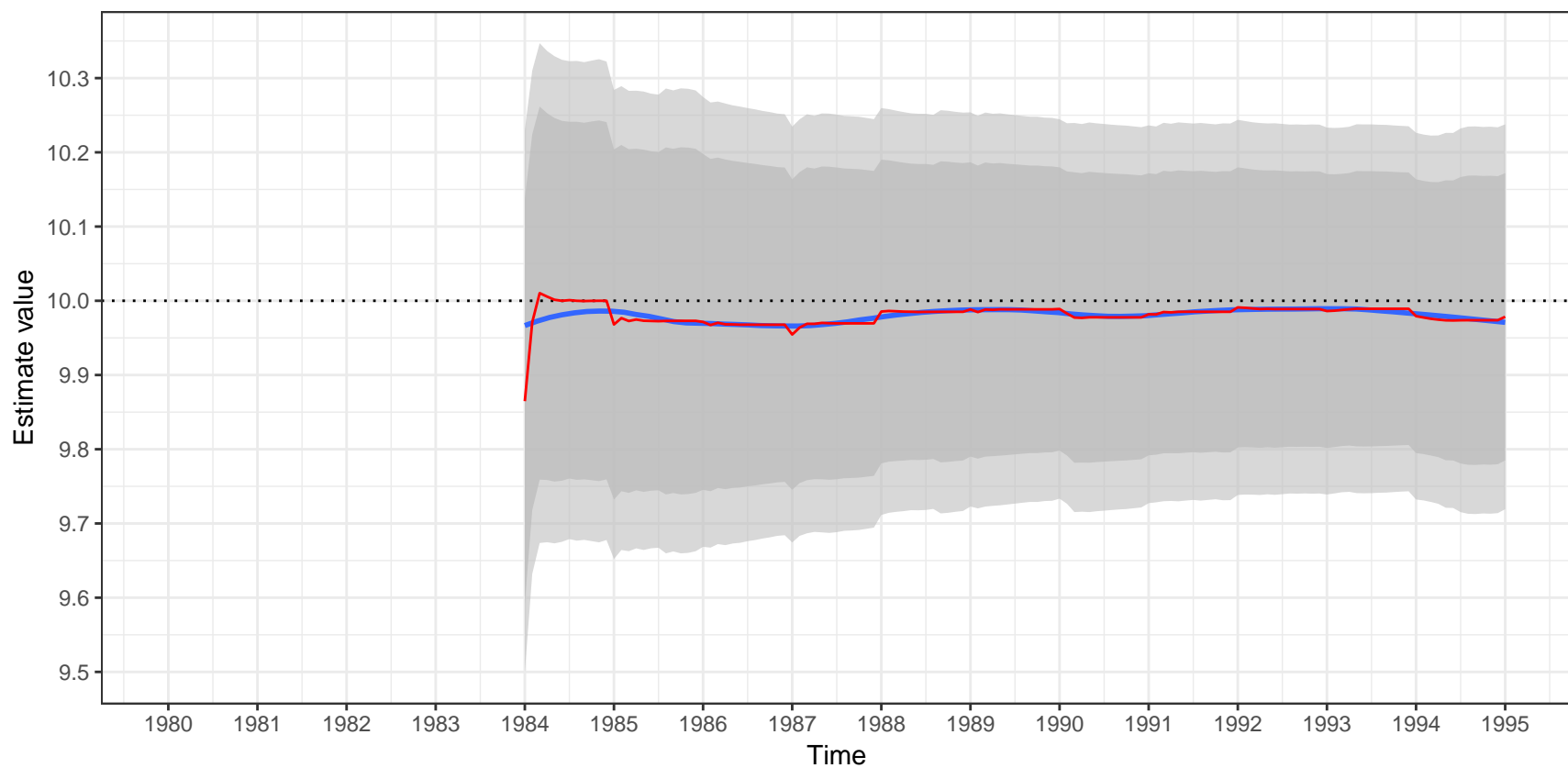


Raw data



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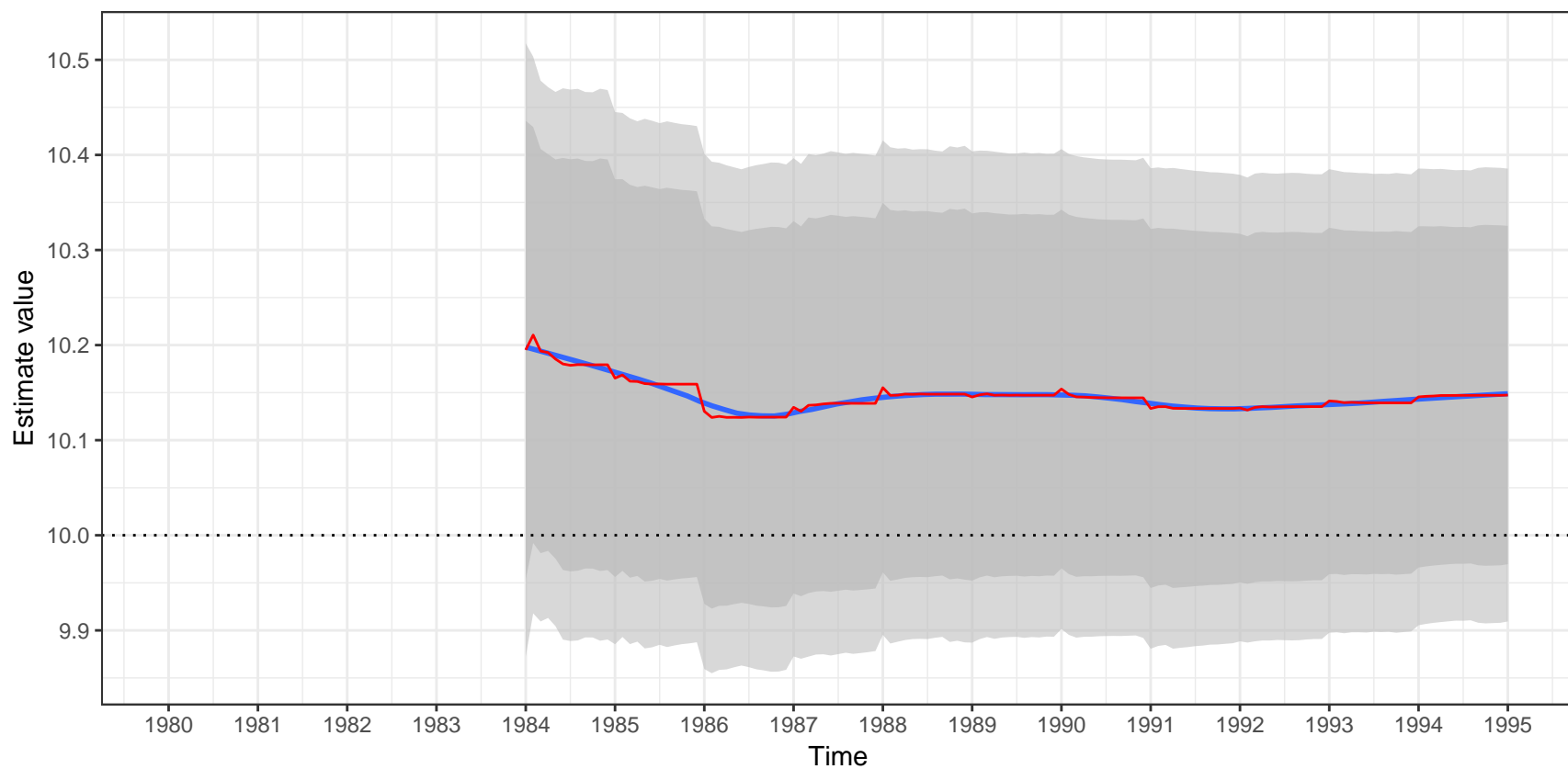


Raw data



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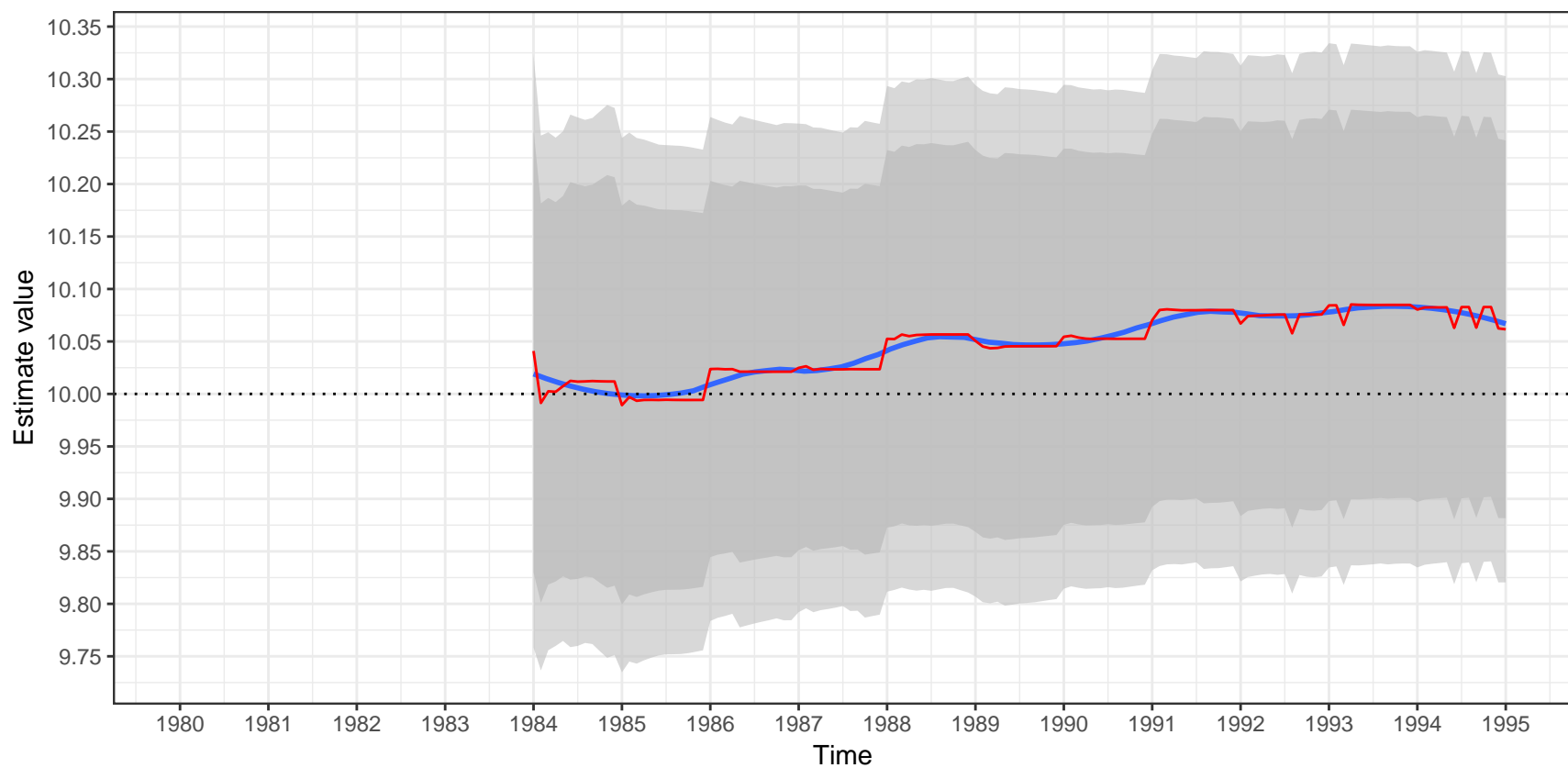


Raw data



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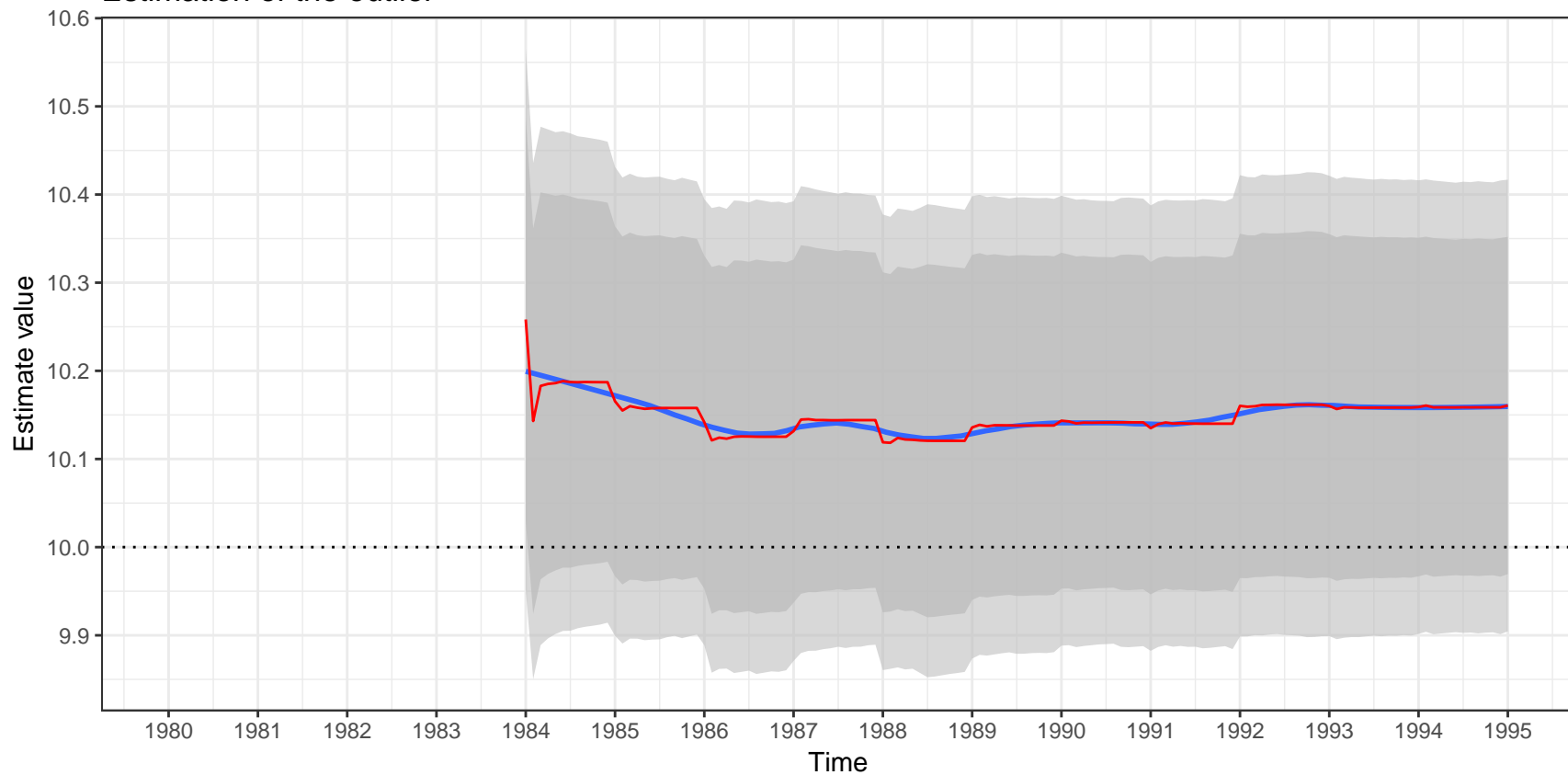


Raw data



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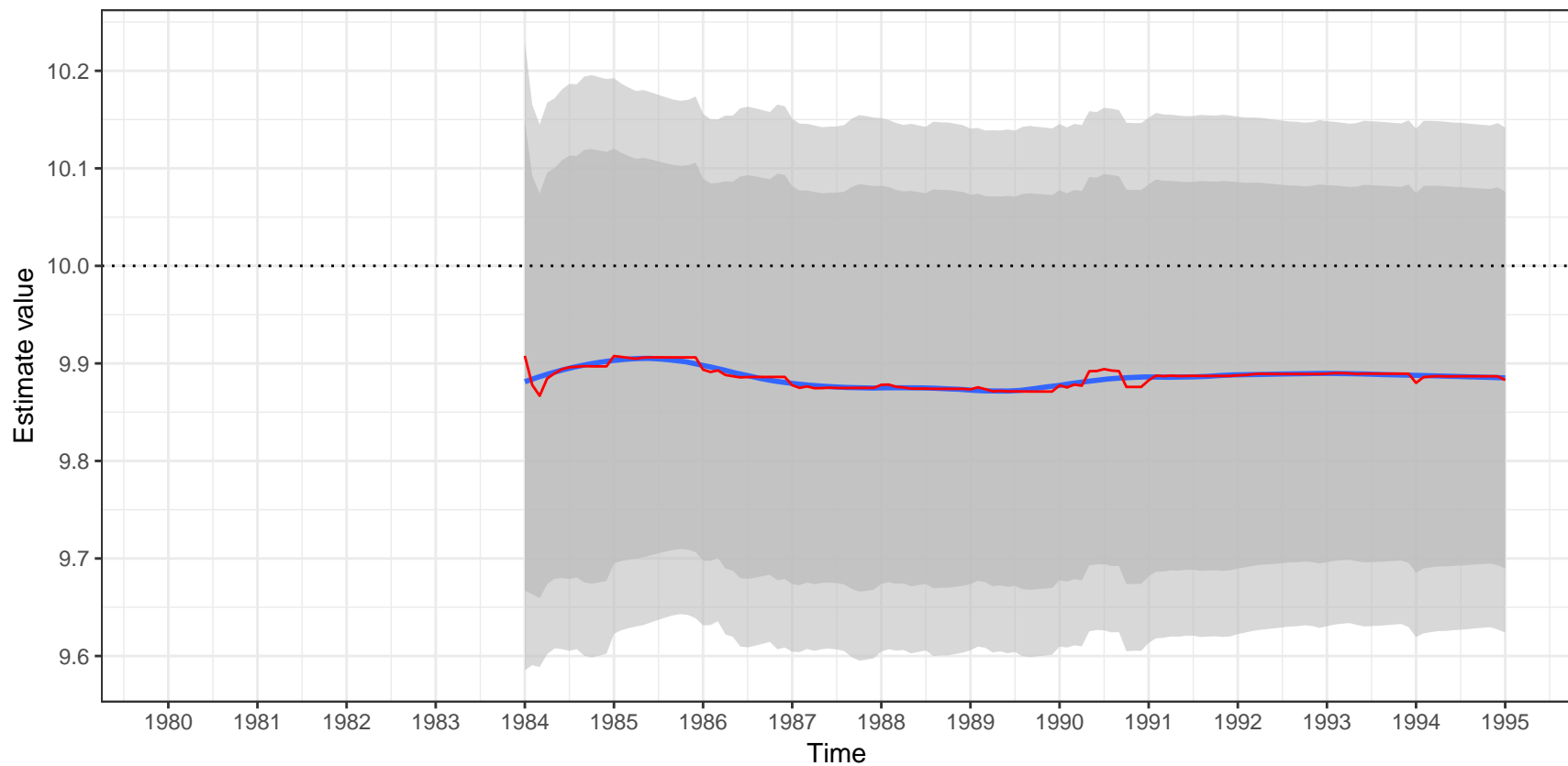


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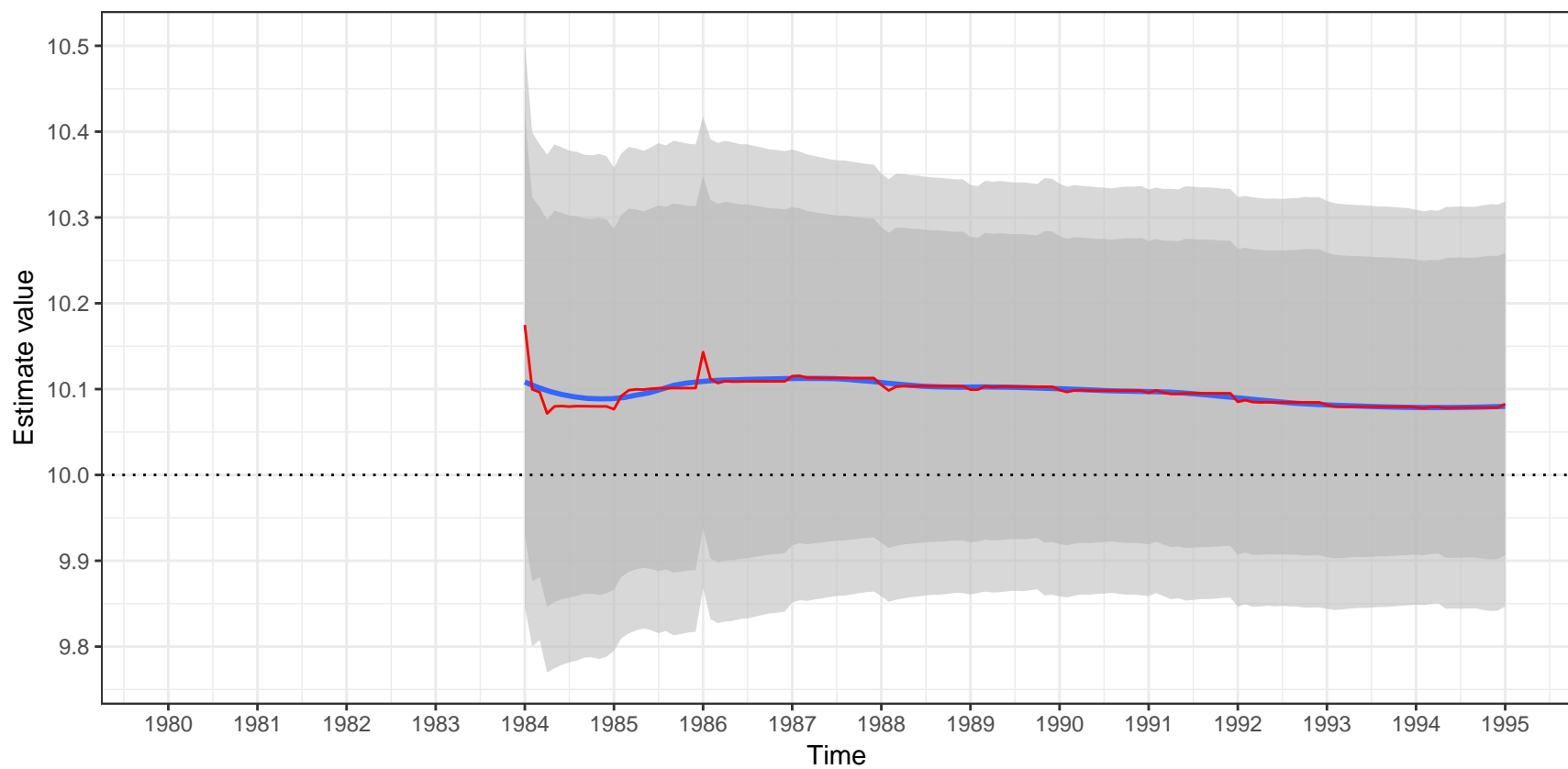


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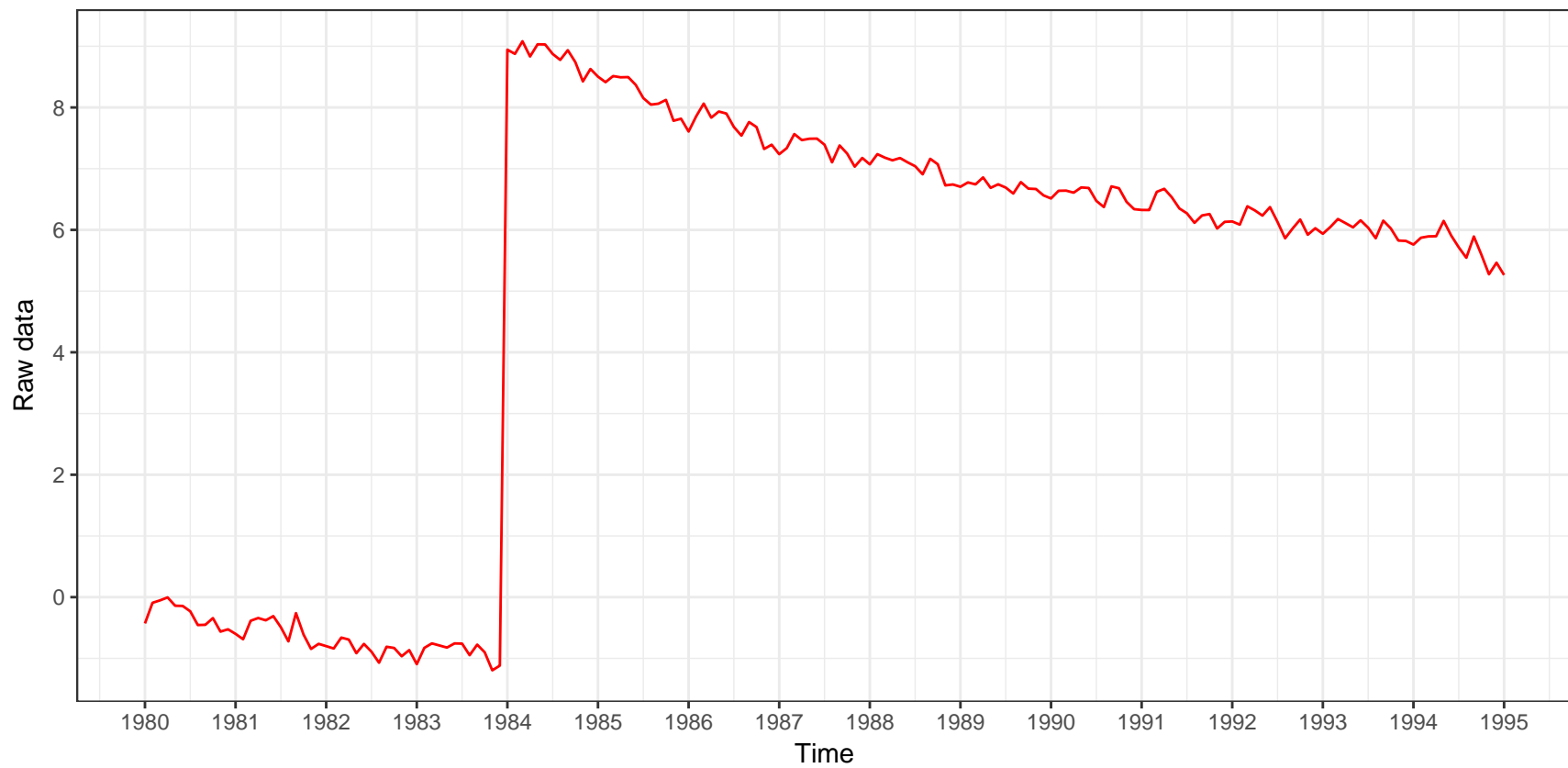


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

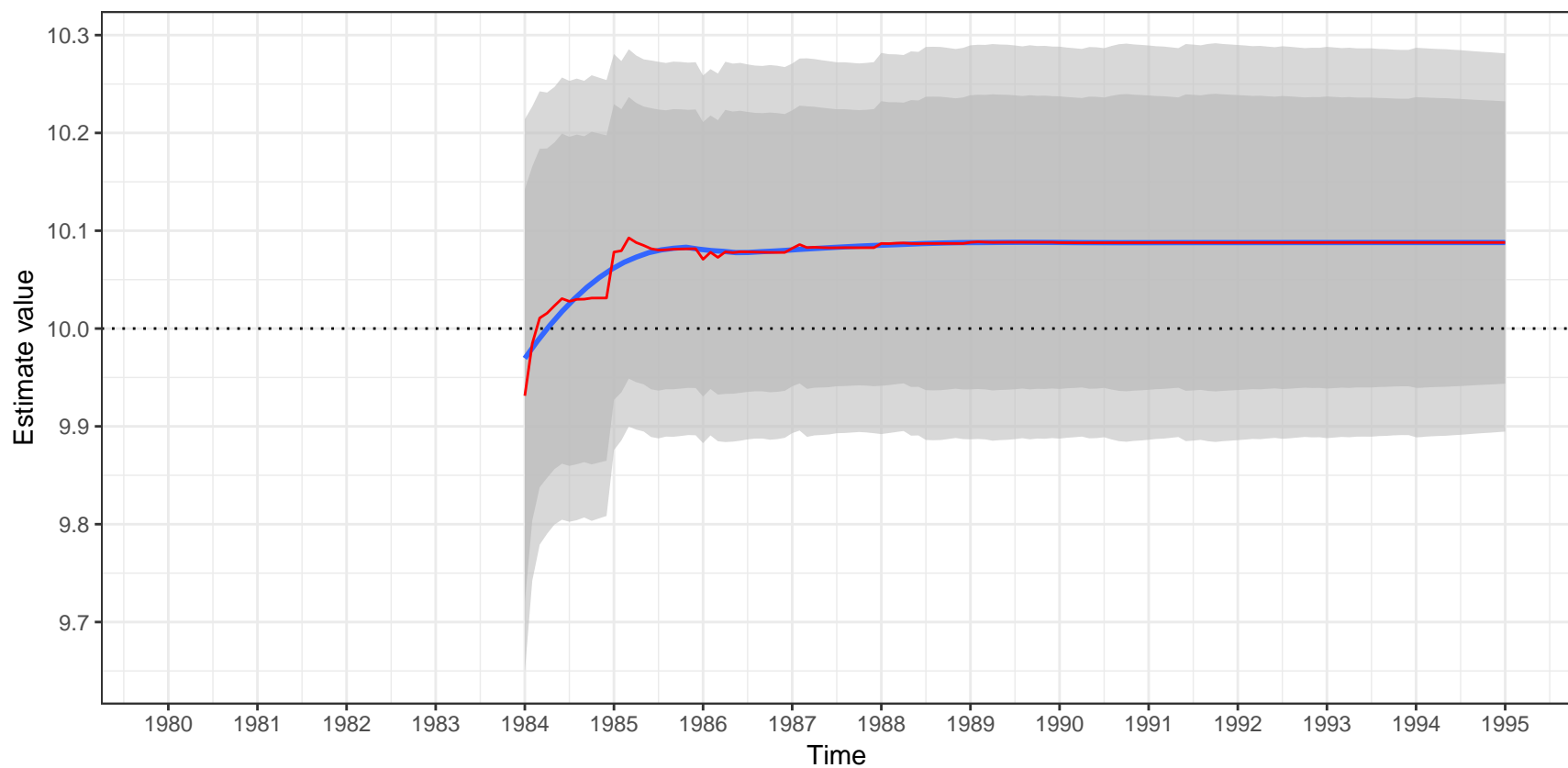


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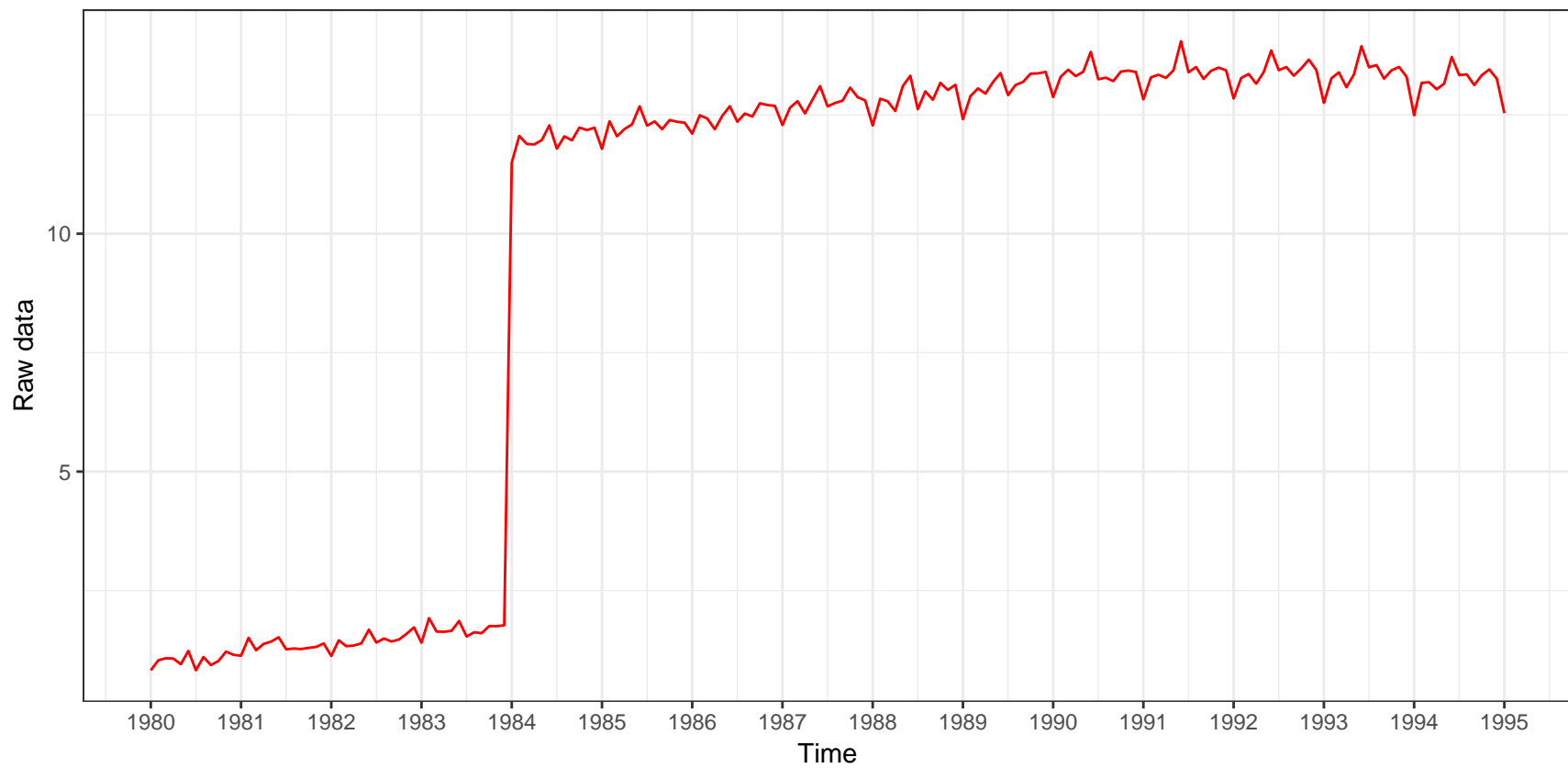


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)(1-0.4B^{12})a_t$

Estimation of the outlier

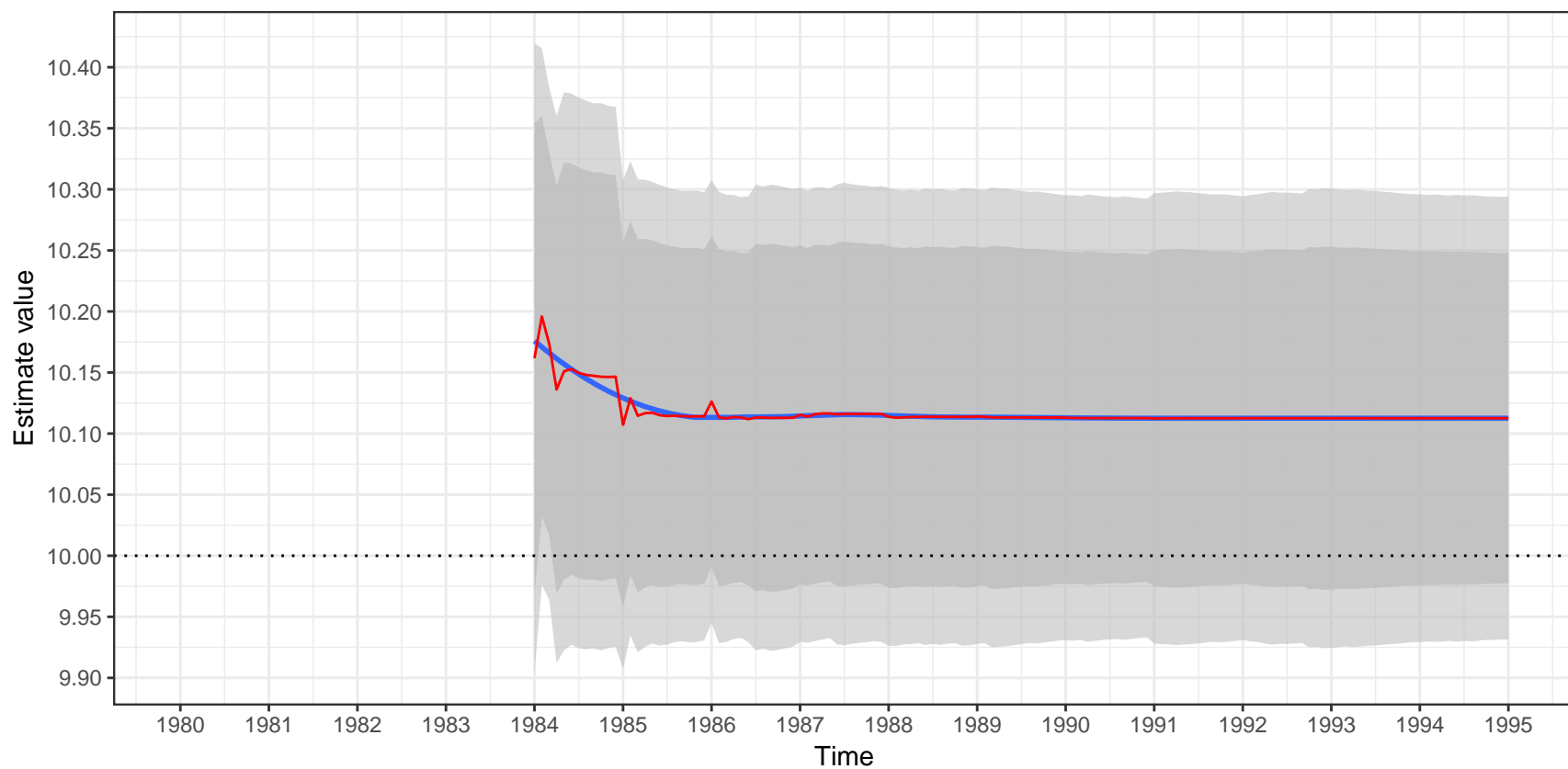


Raw data

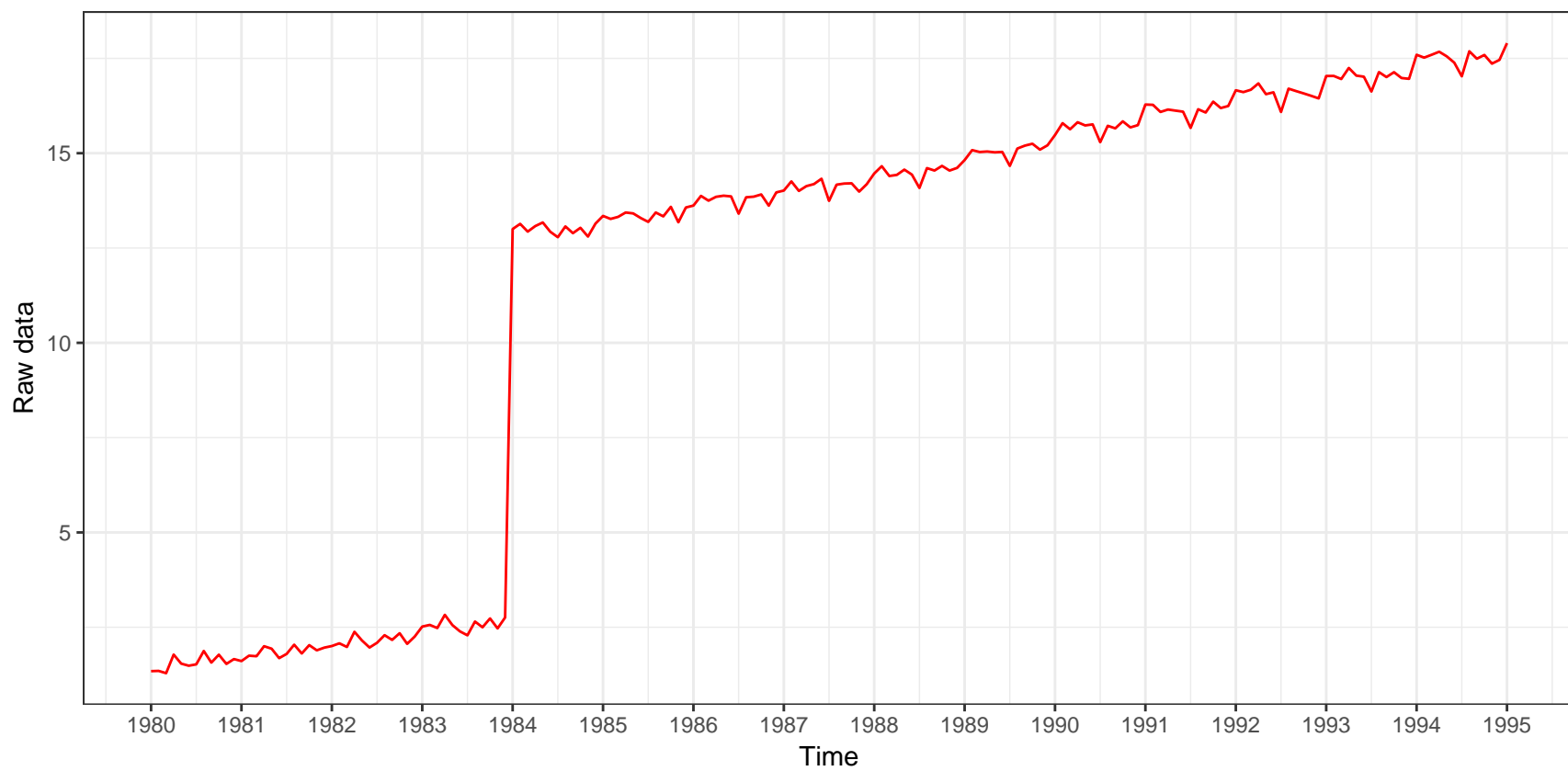


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.6B)(1-0.4B^{12})a_t$

Estimation of the outlier

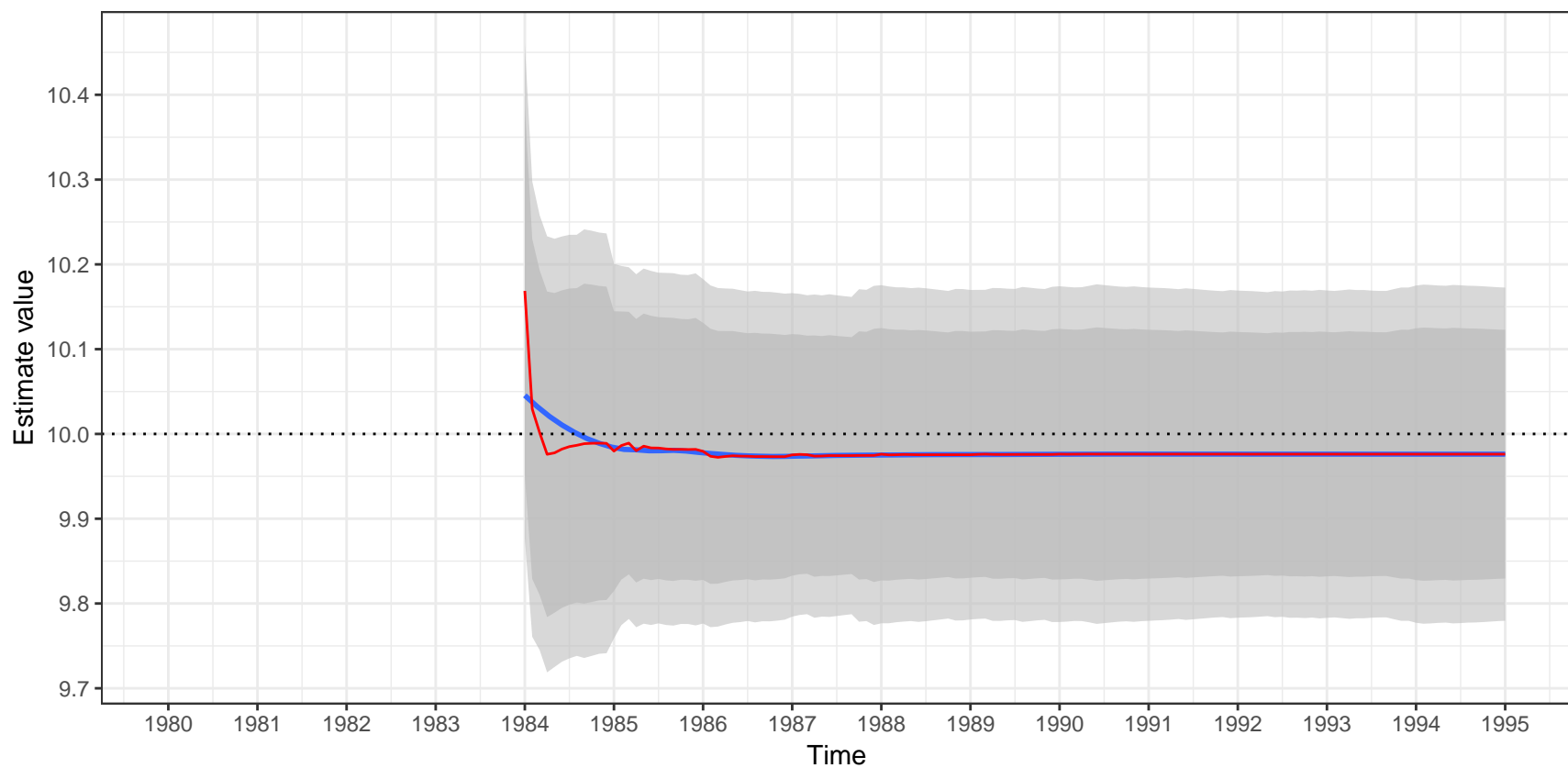


Raw data

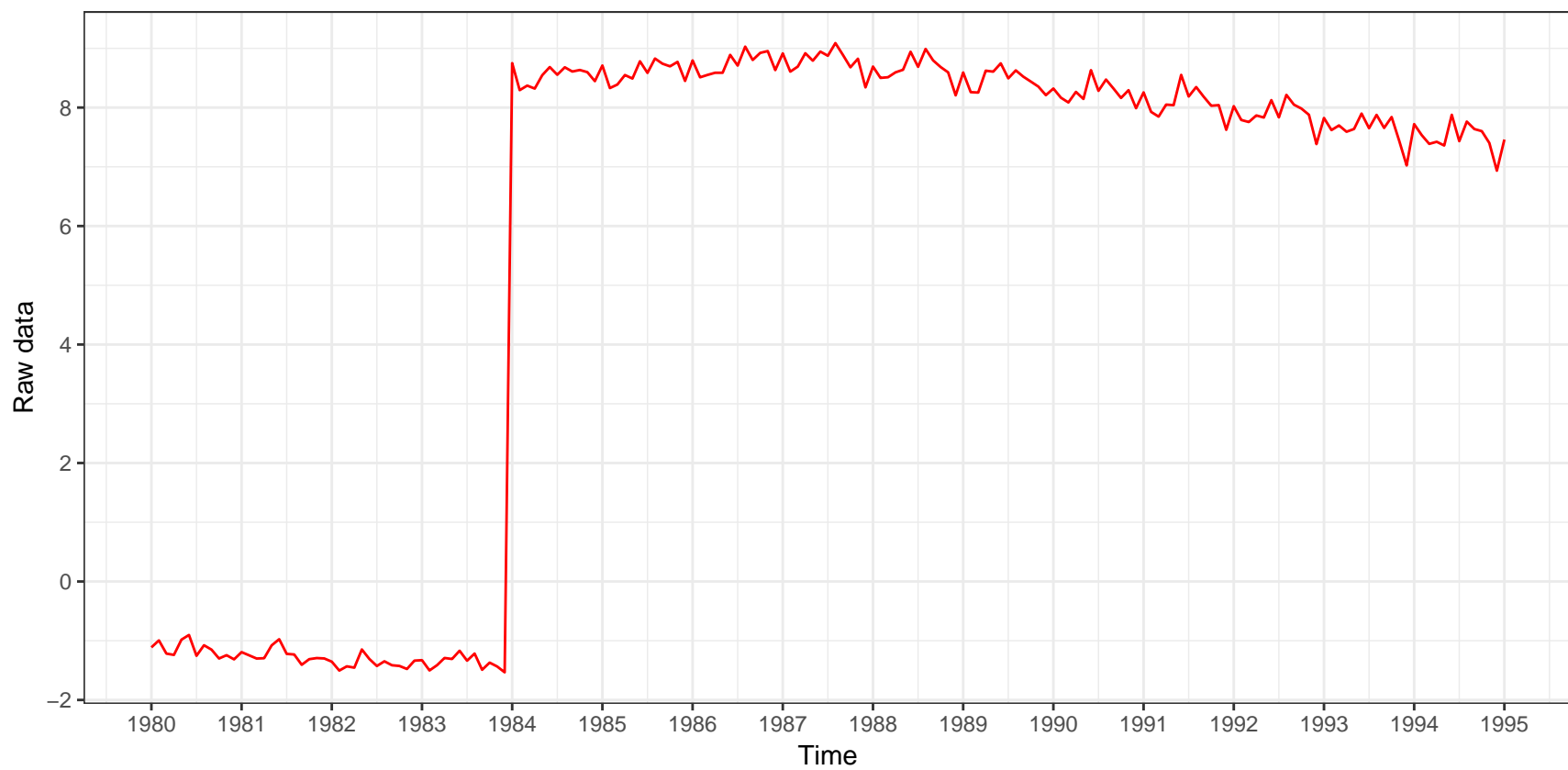


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

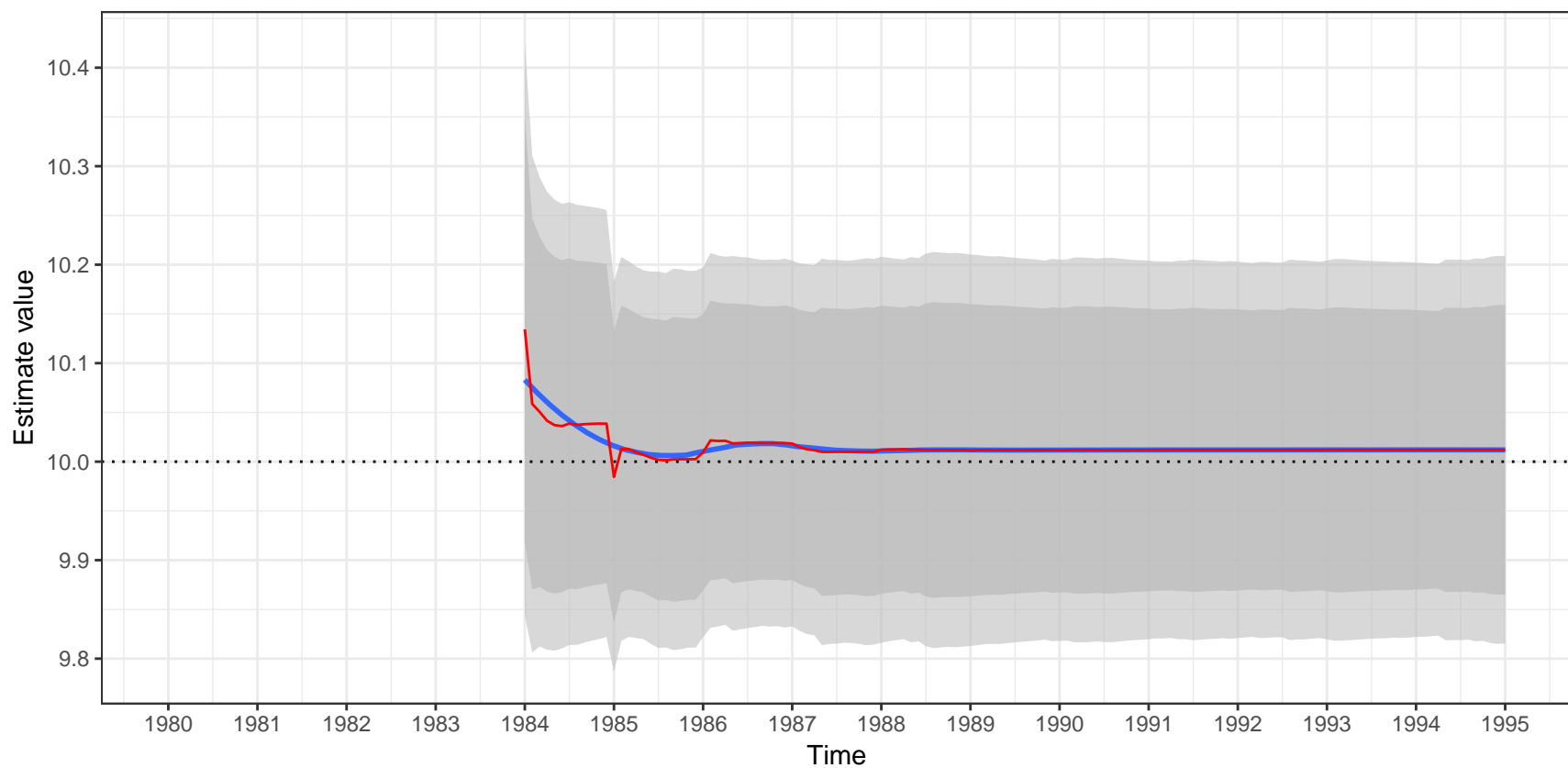


Raw data

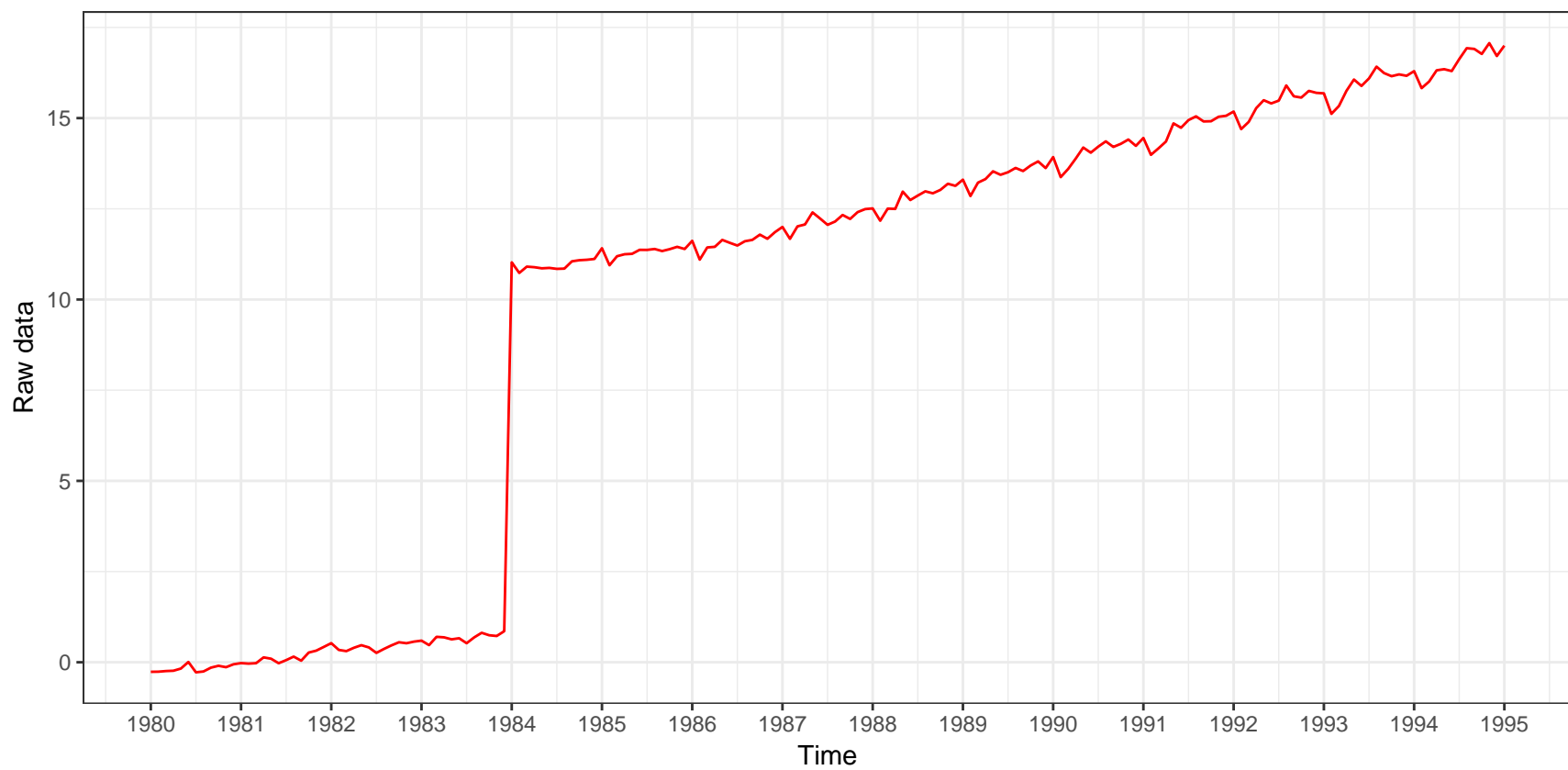


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.6B)(1-0.4B^{12})a_t$

Estimation of the outlier

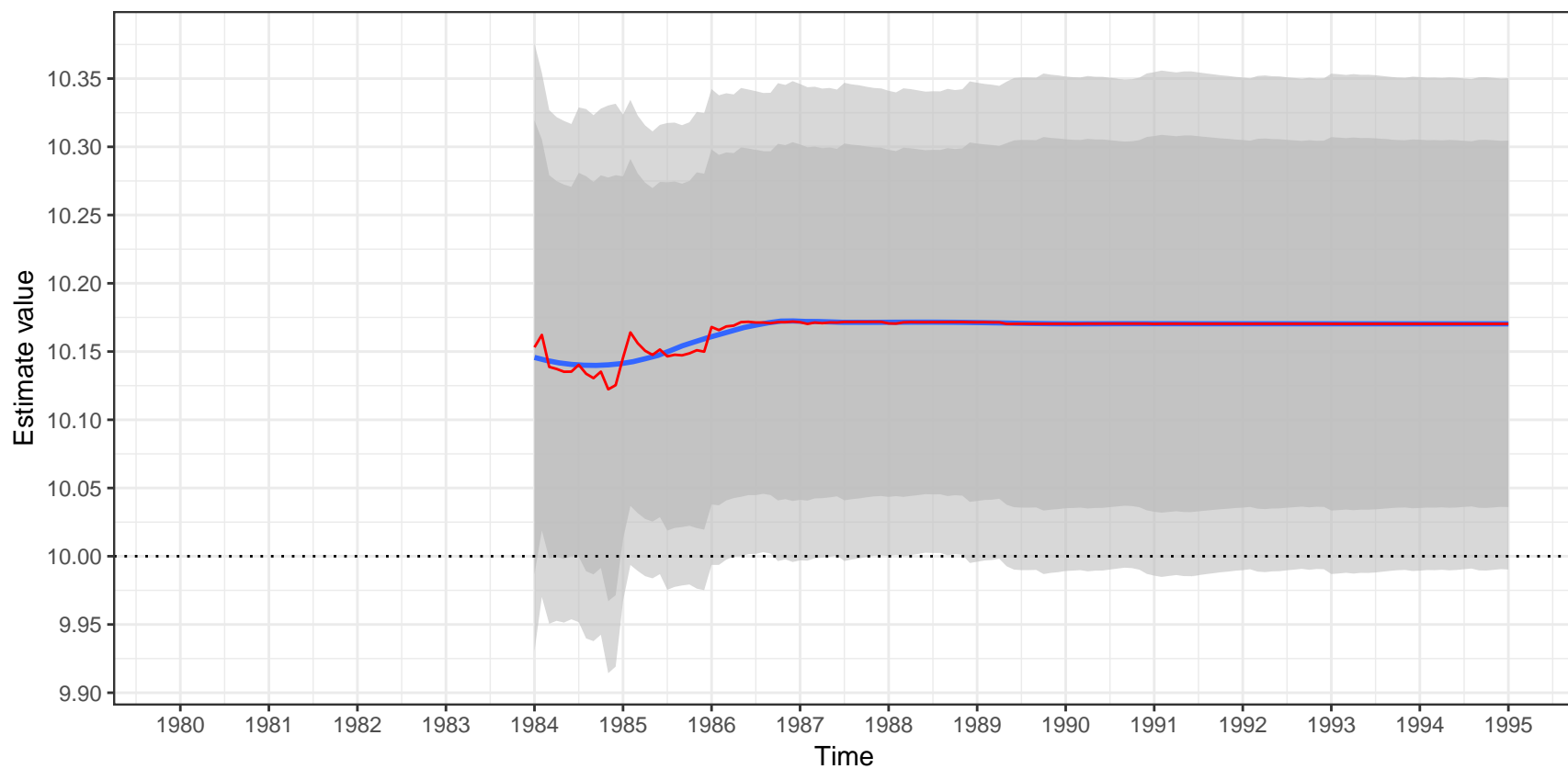


Raw data

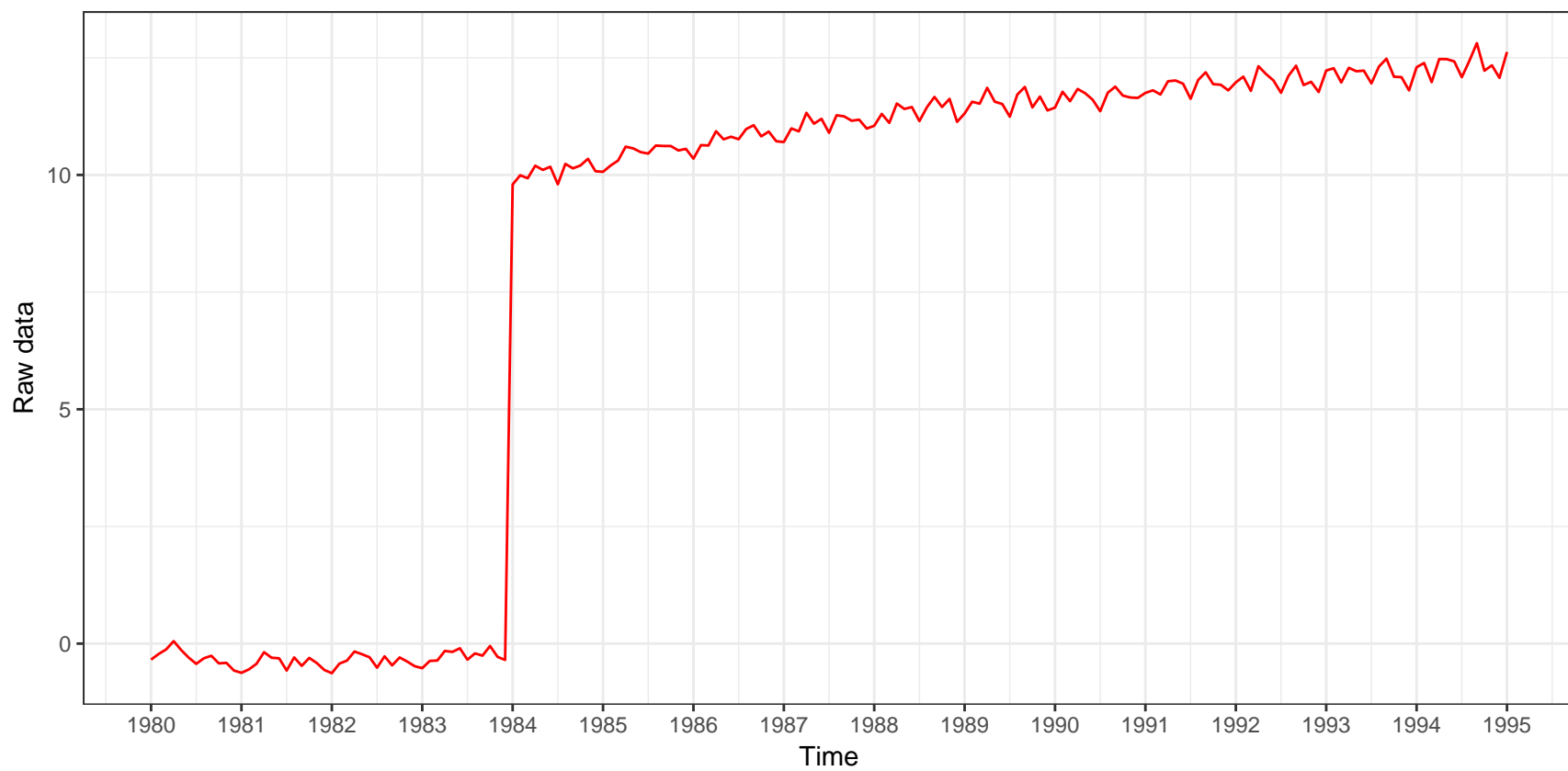


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.6B)(1-0.4B^{12})a_t$

Estimation of the outlier

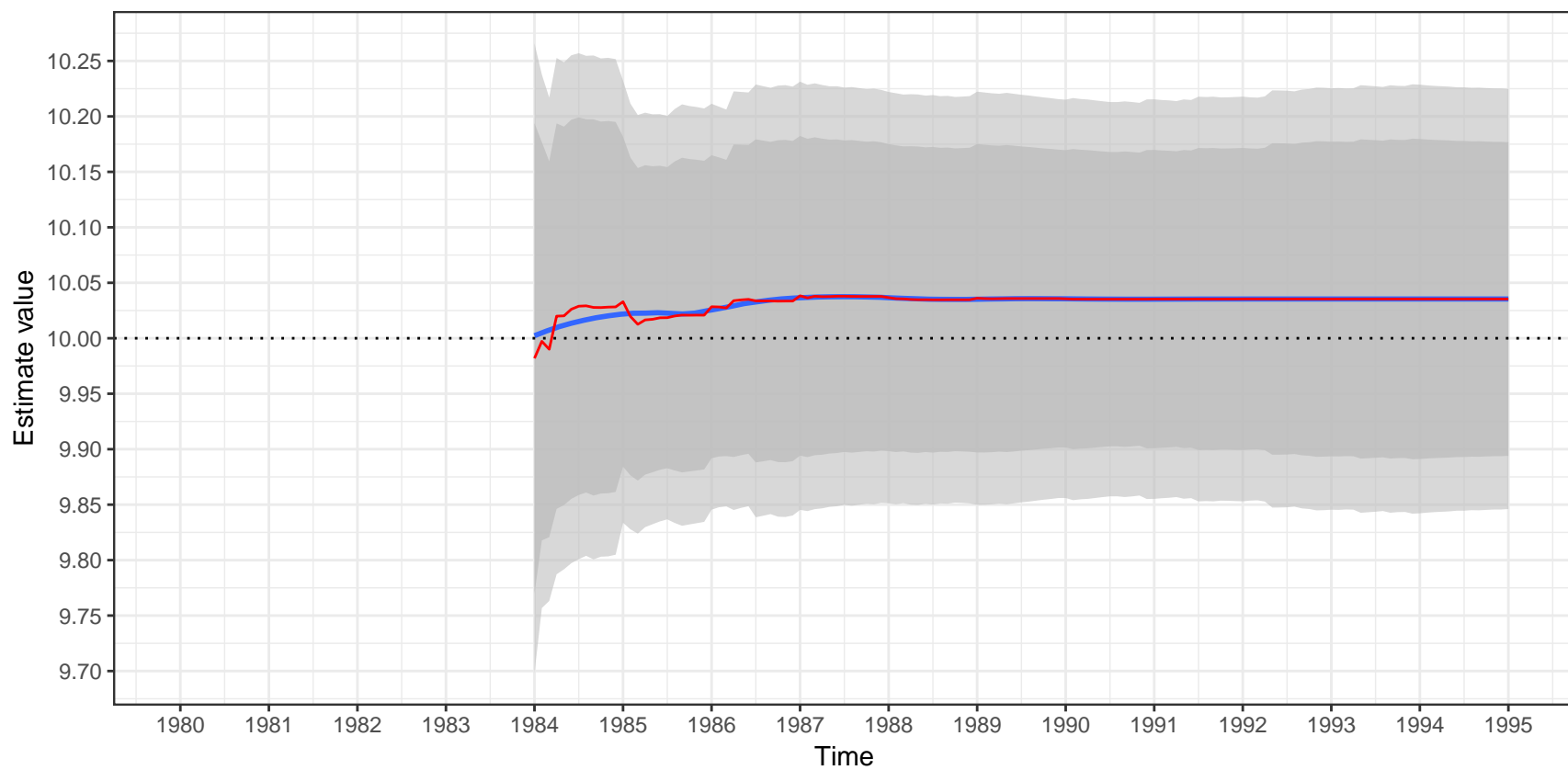


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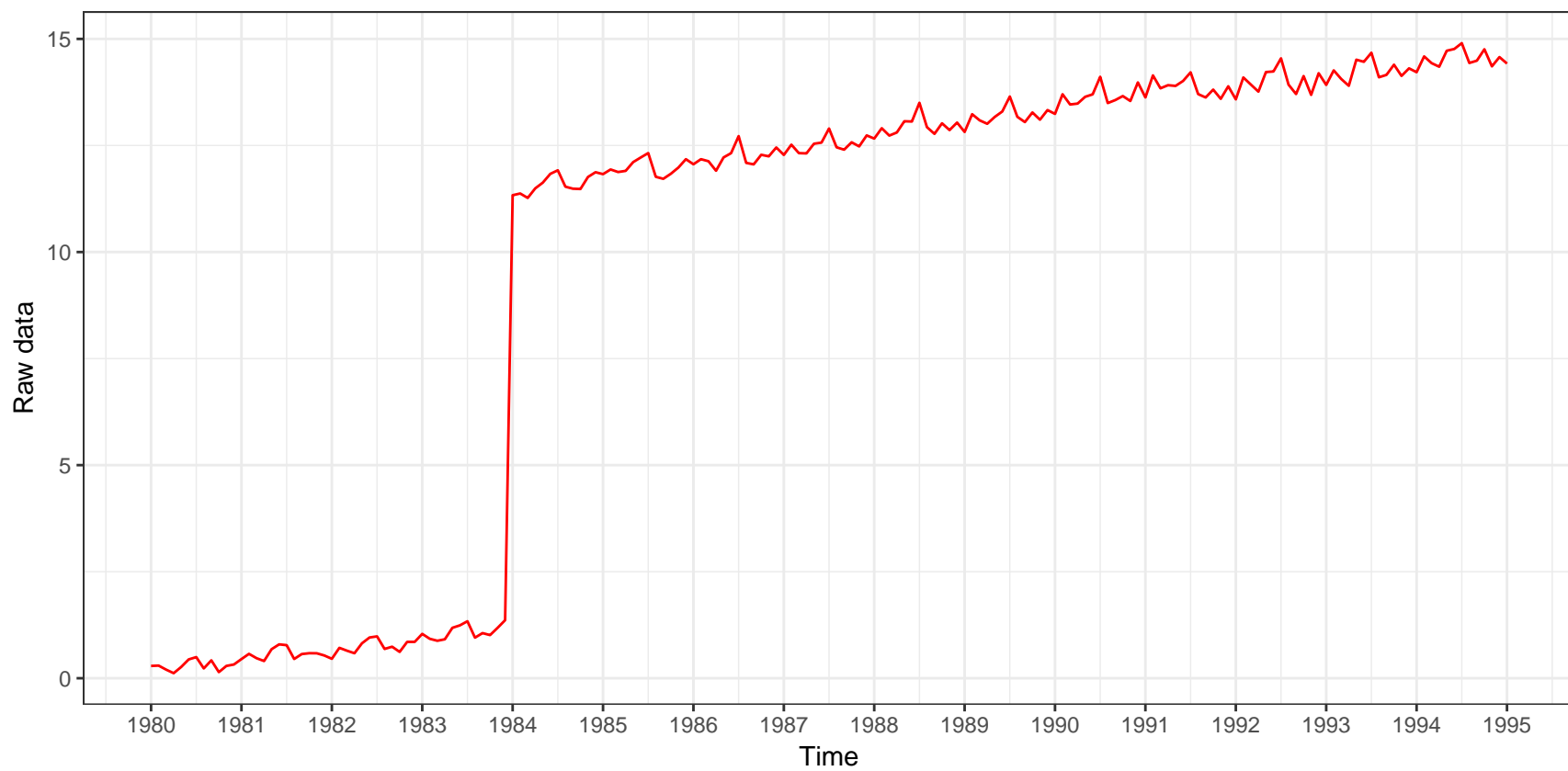


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.6B)(1-0.4B^{12})a_t$

Estimation of the outlier

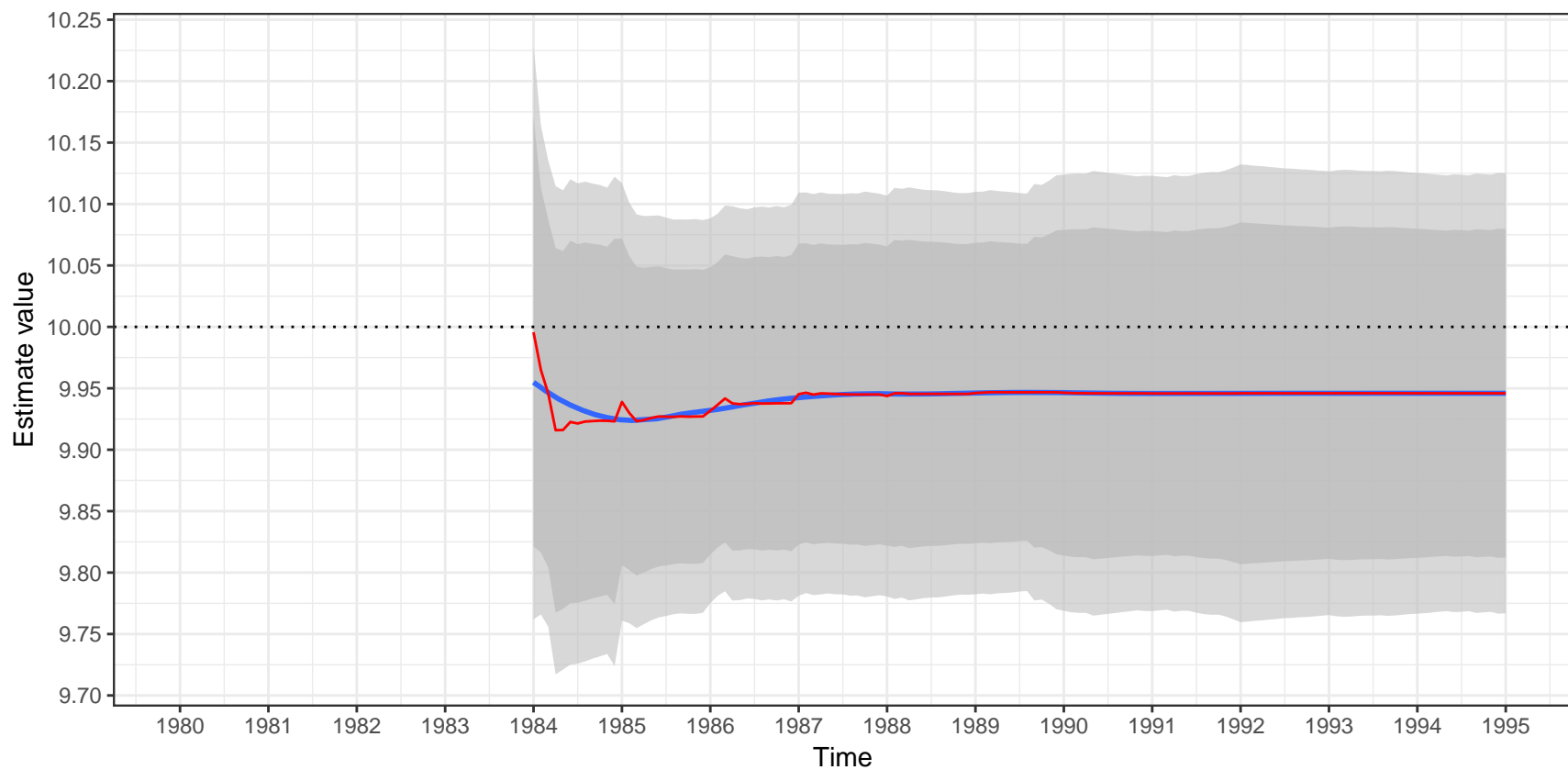


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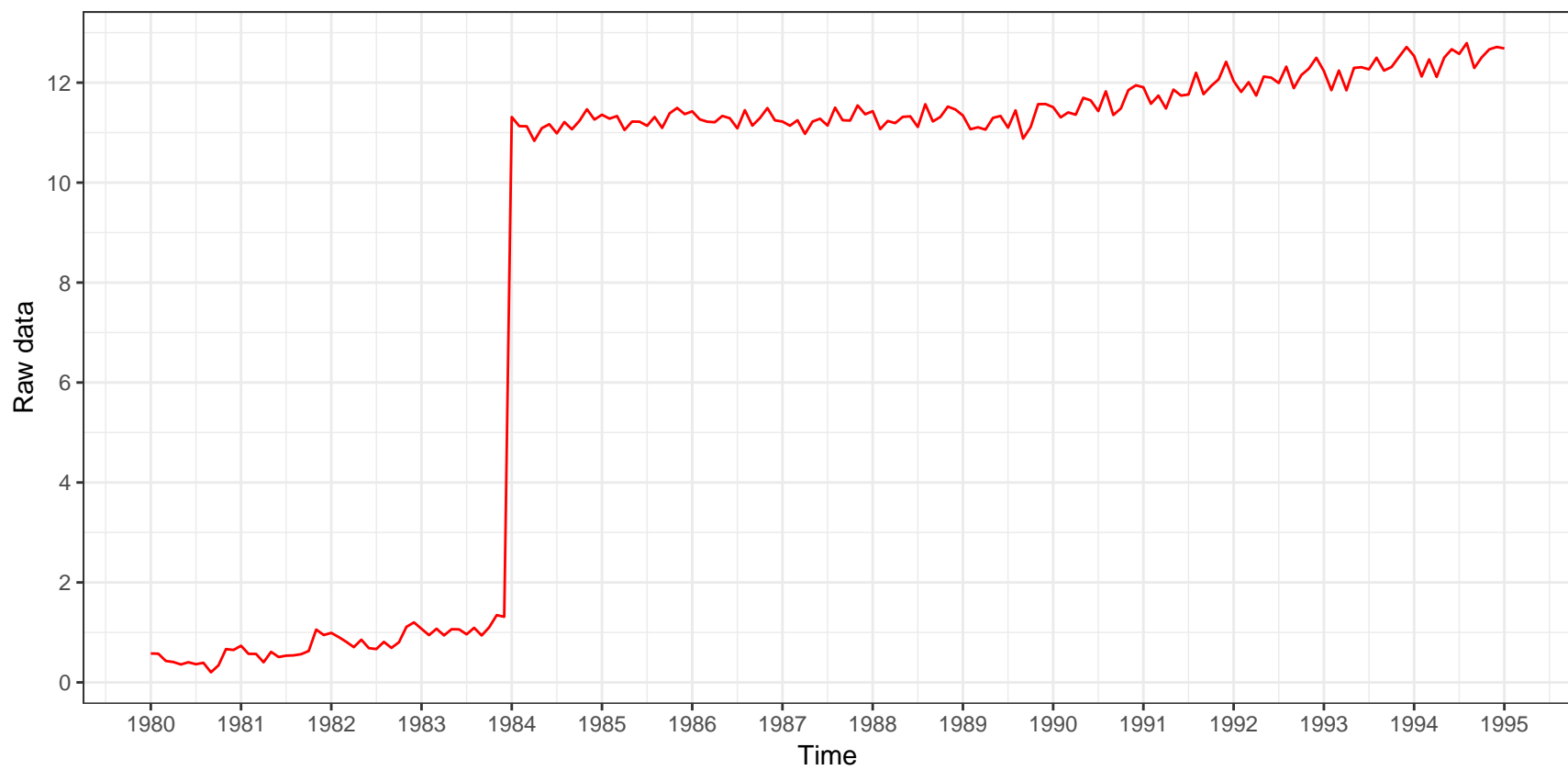


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

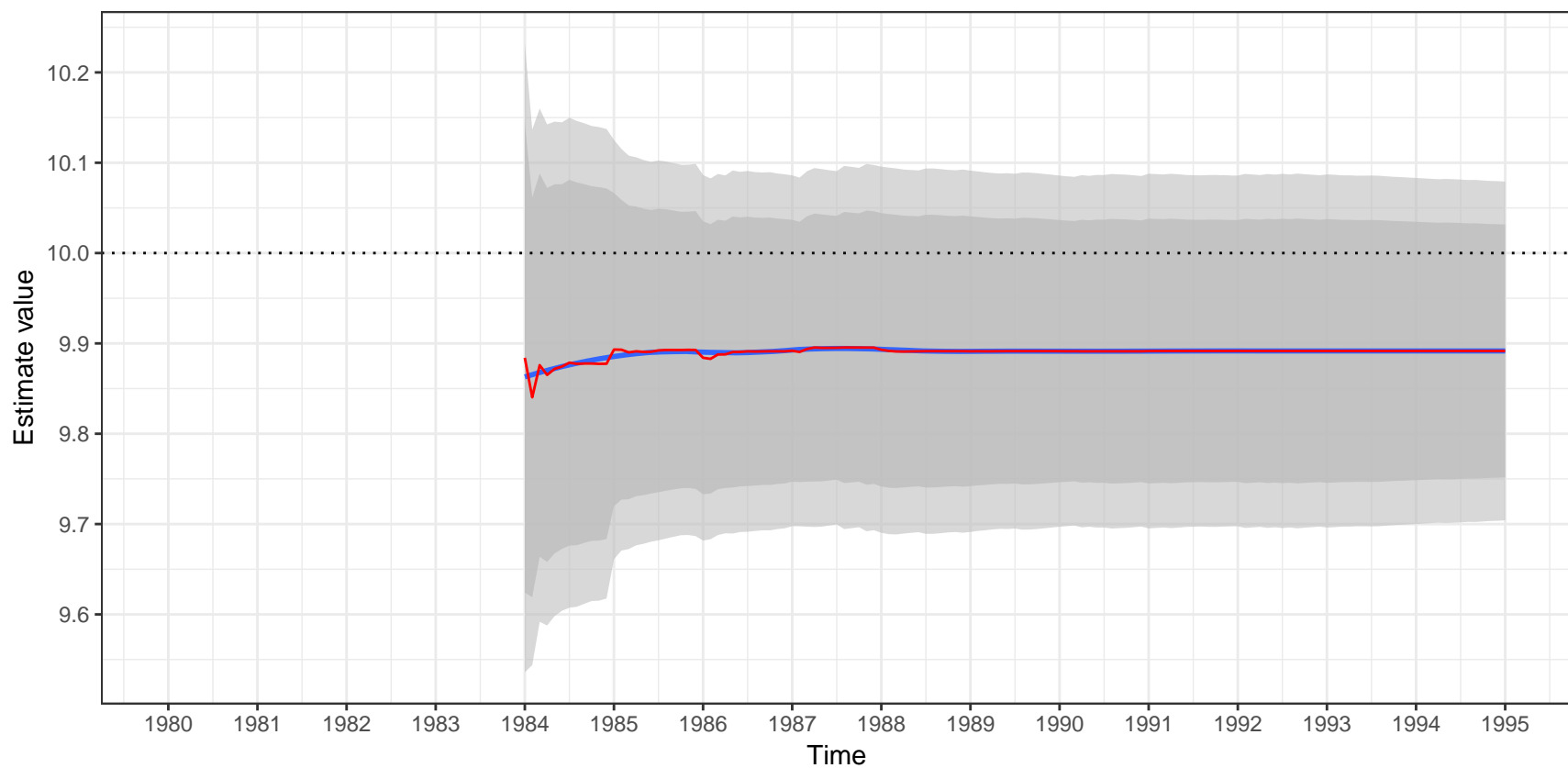


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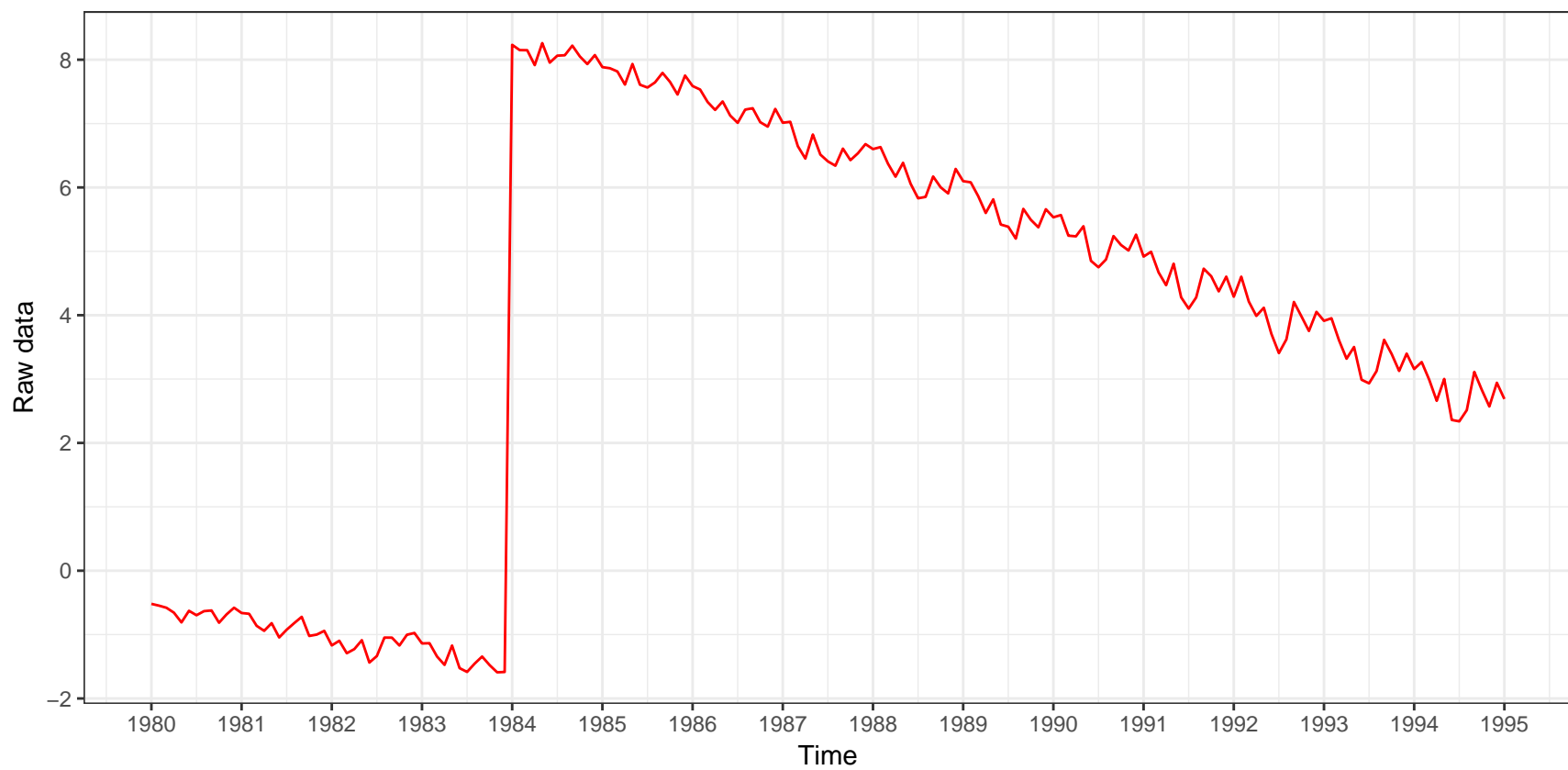


Estimate value of a LS(1984-01)
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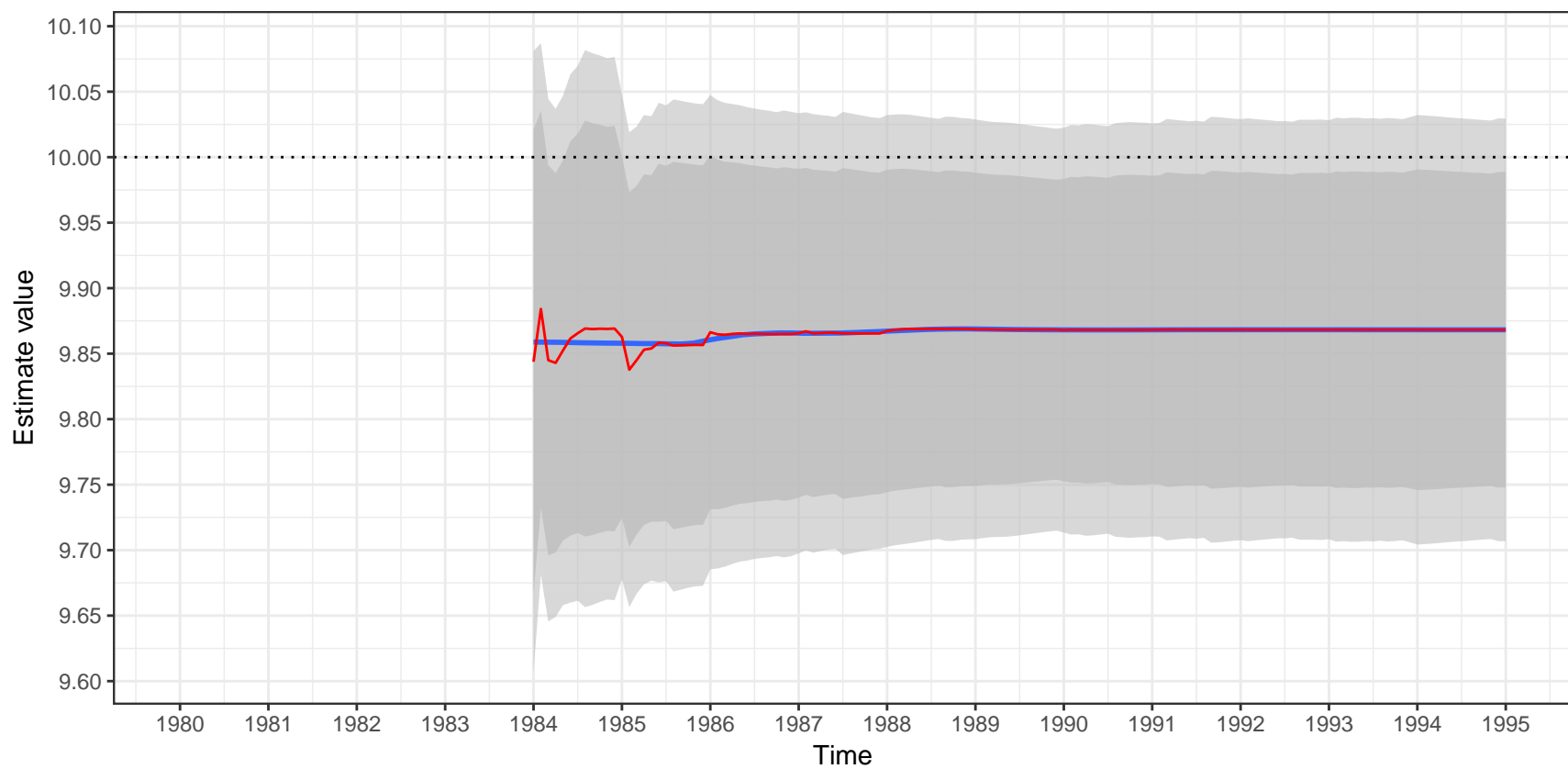


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Estimate value of a LS(1984-01)
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Estimation of the outlier

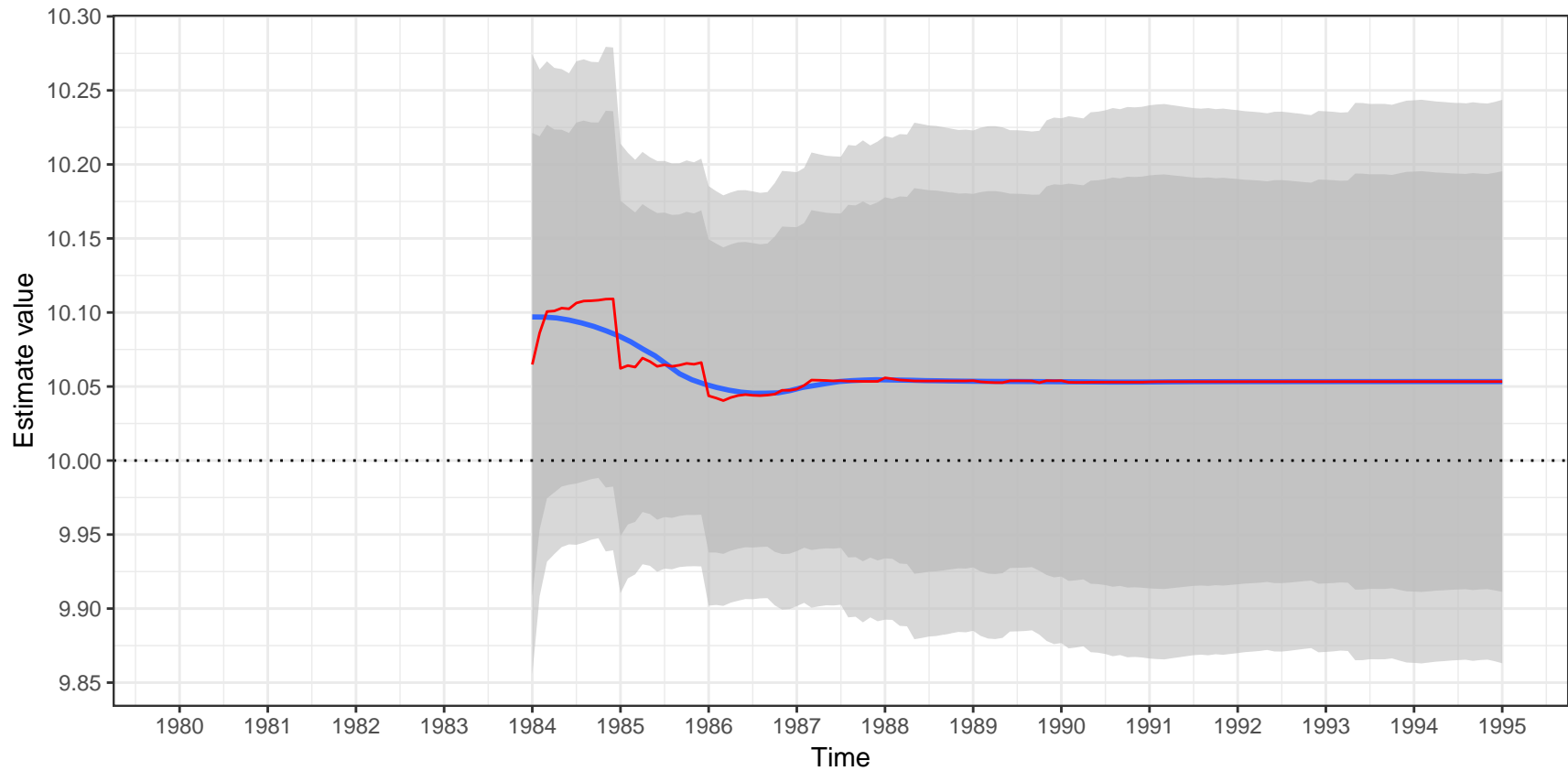


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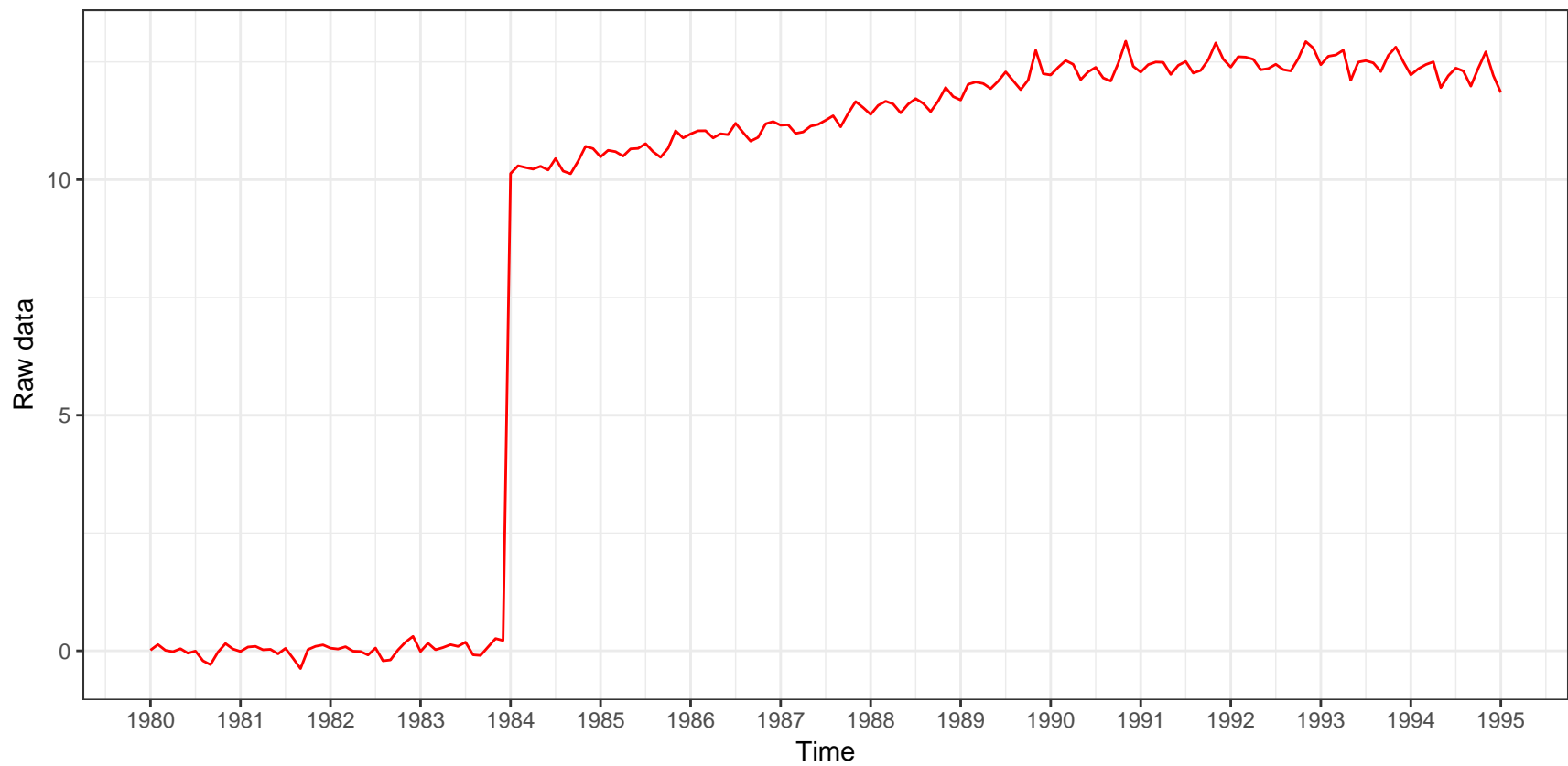


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Estimation of the outlier

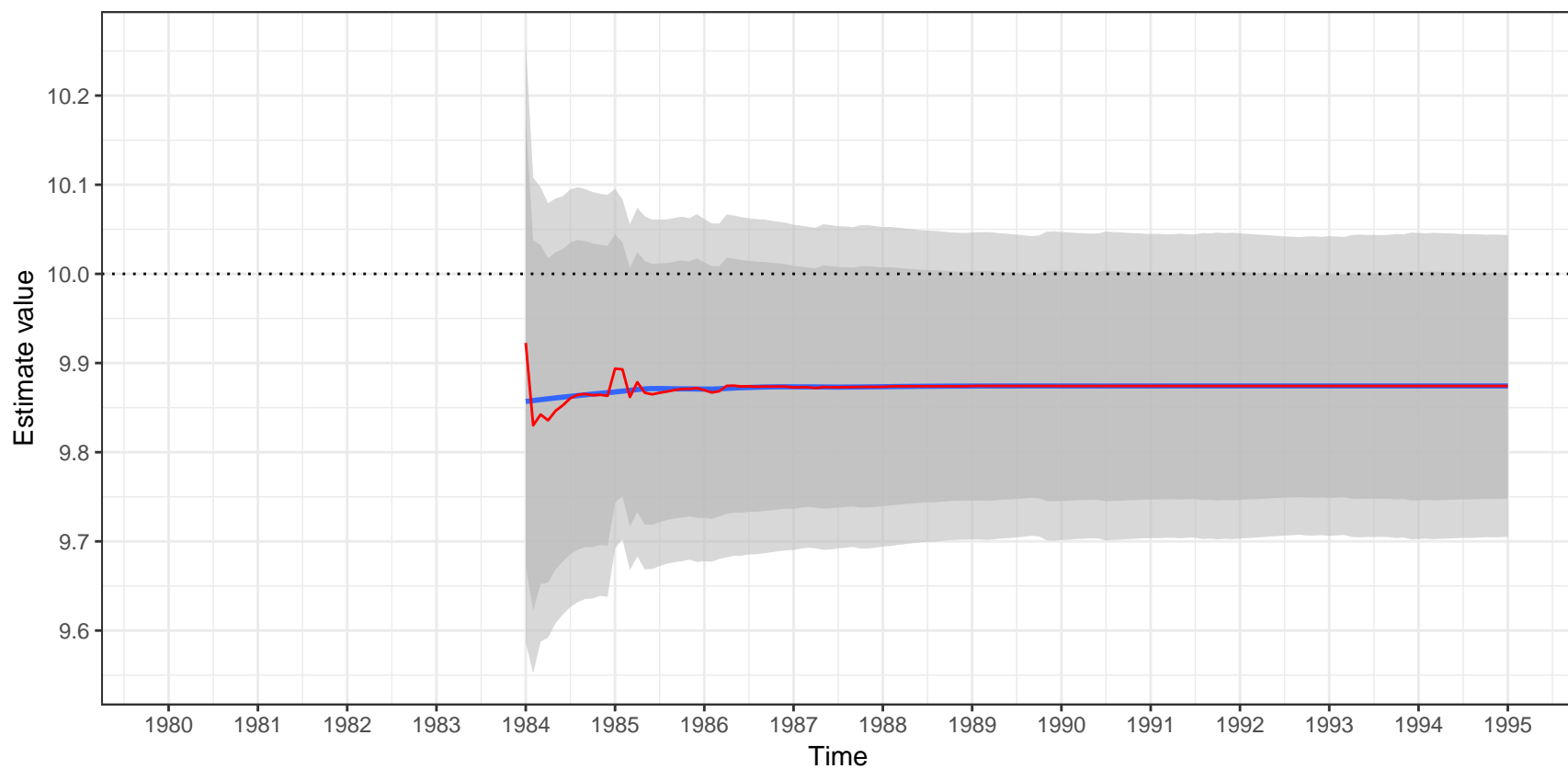


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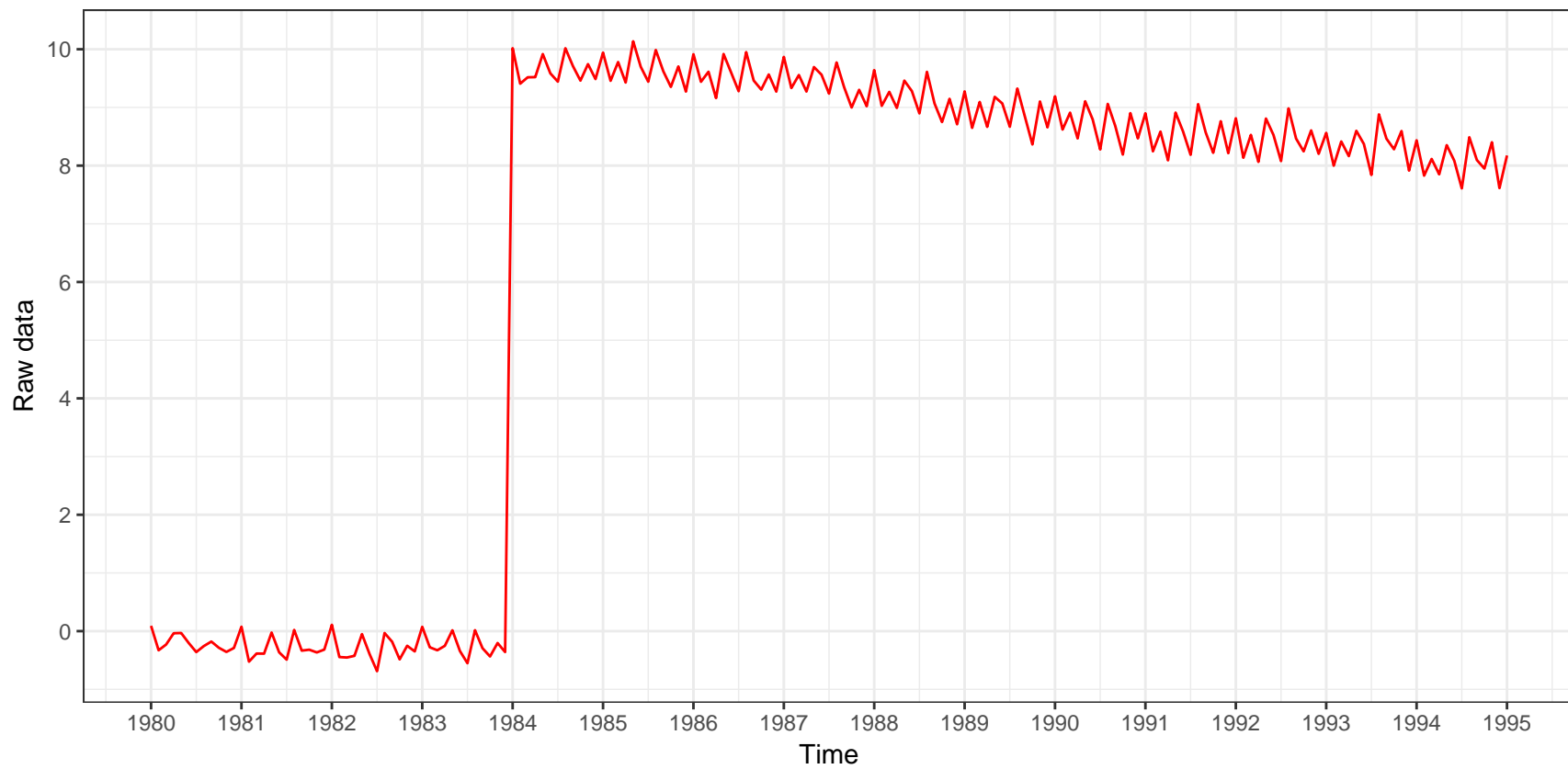


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

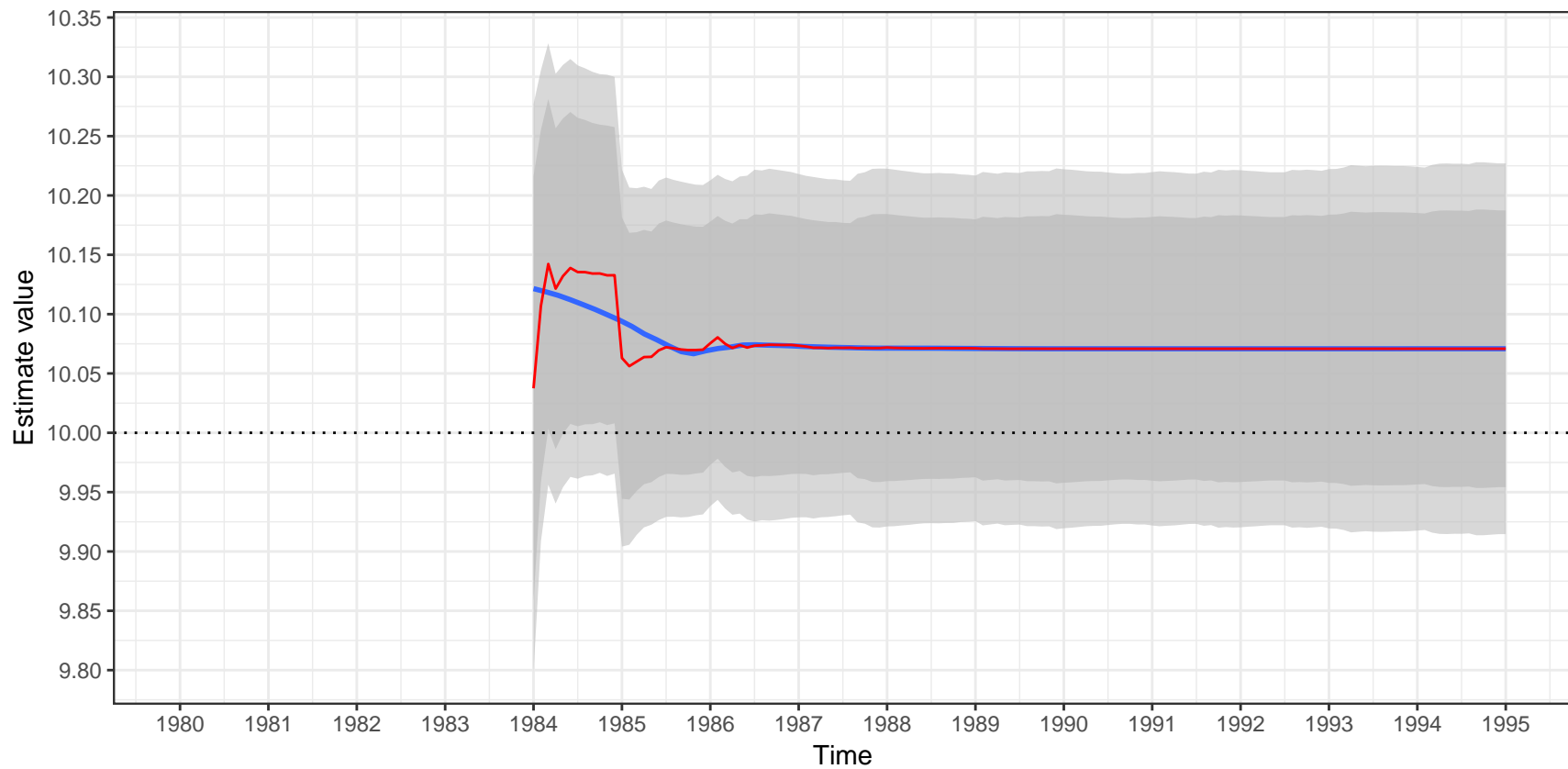


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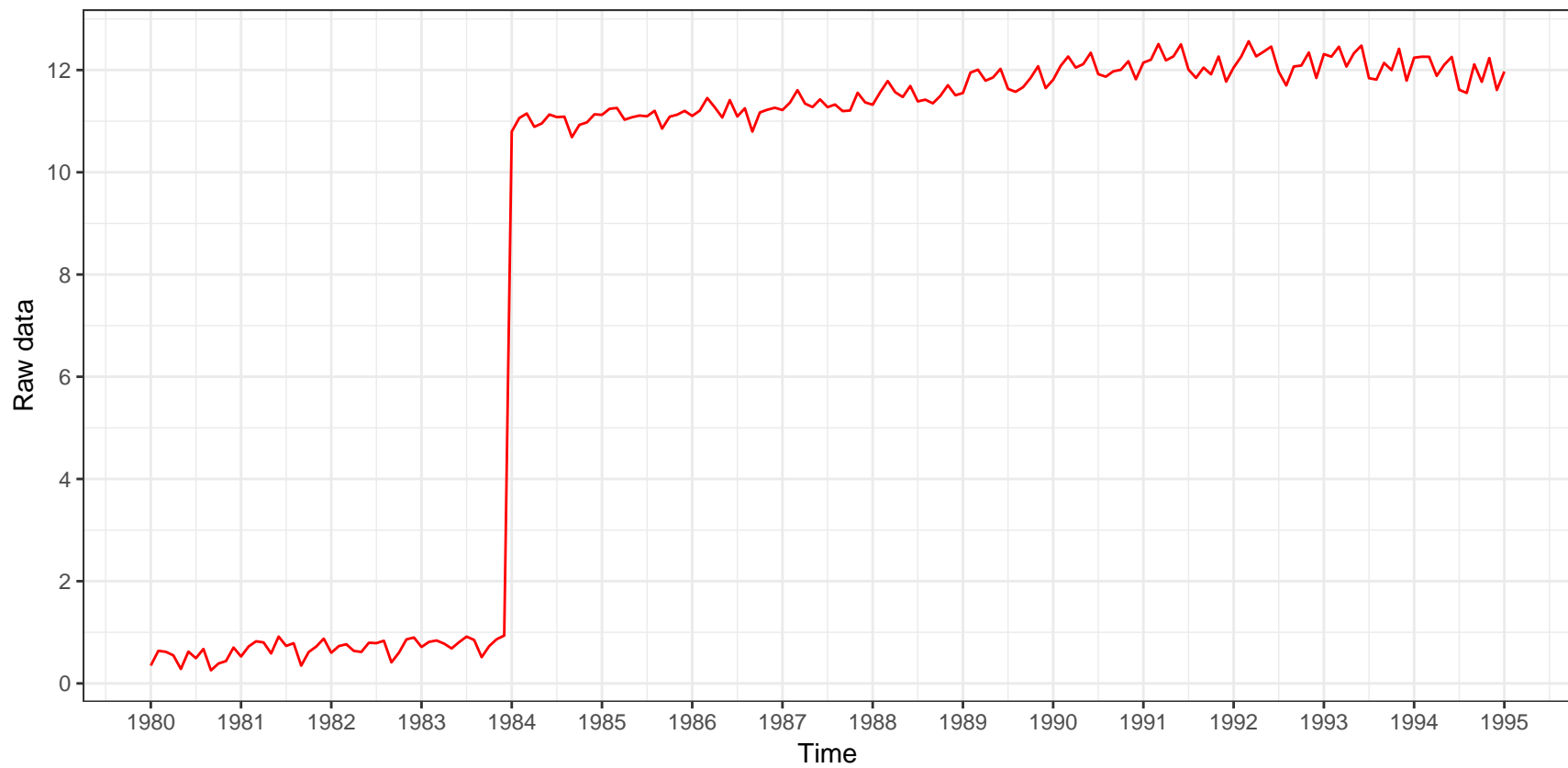


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.7B)(1-0.3B^{12})a_t$

Estimation of the outlier

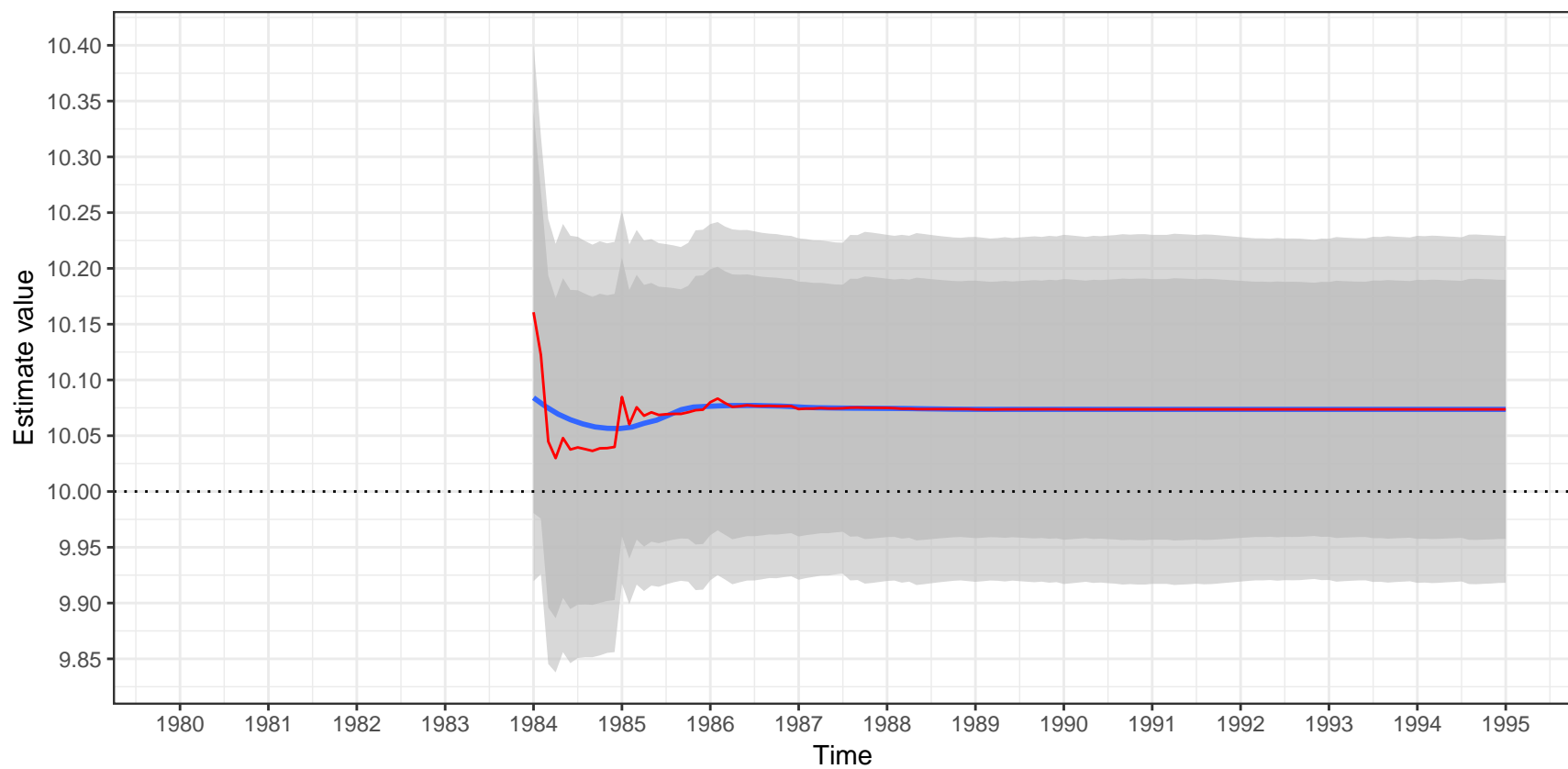


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Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.7B)(1-0.3B^{12})a_t$

Estimation of the outlier

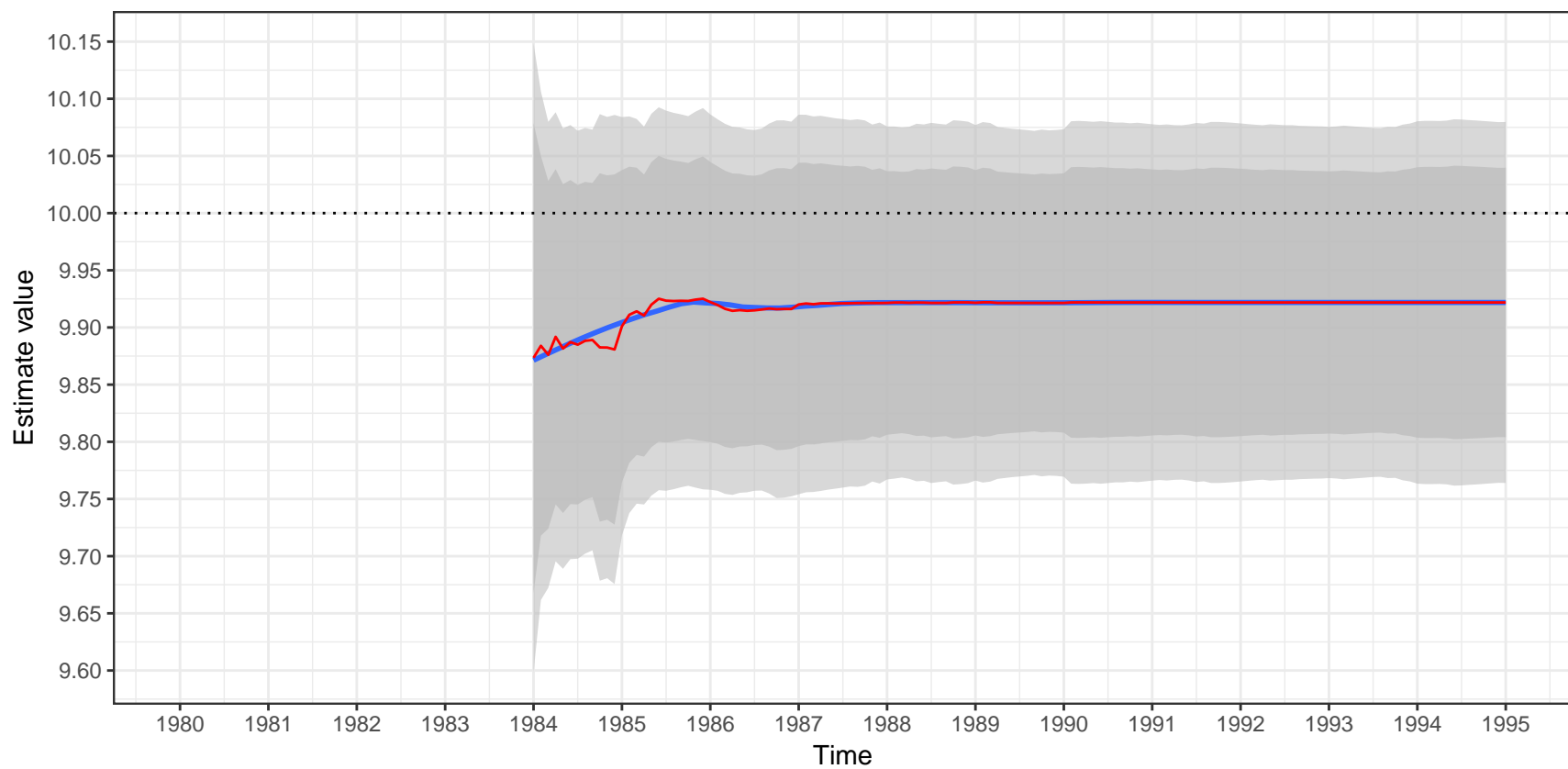


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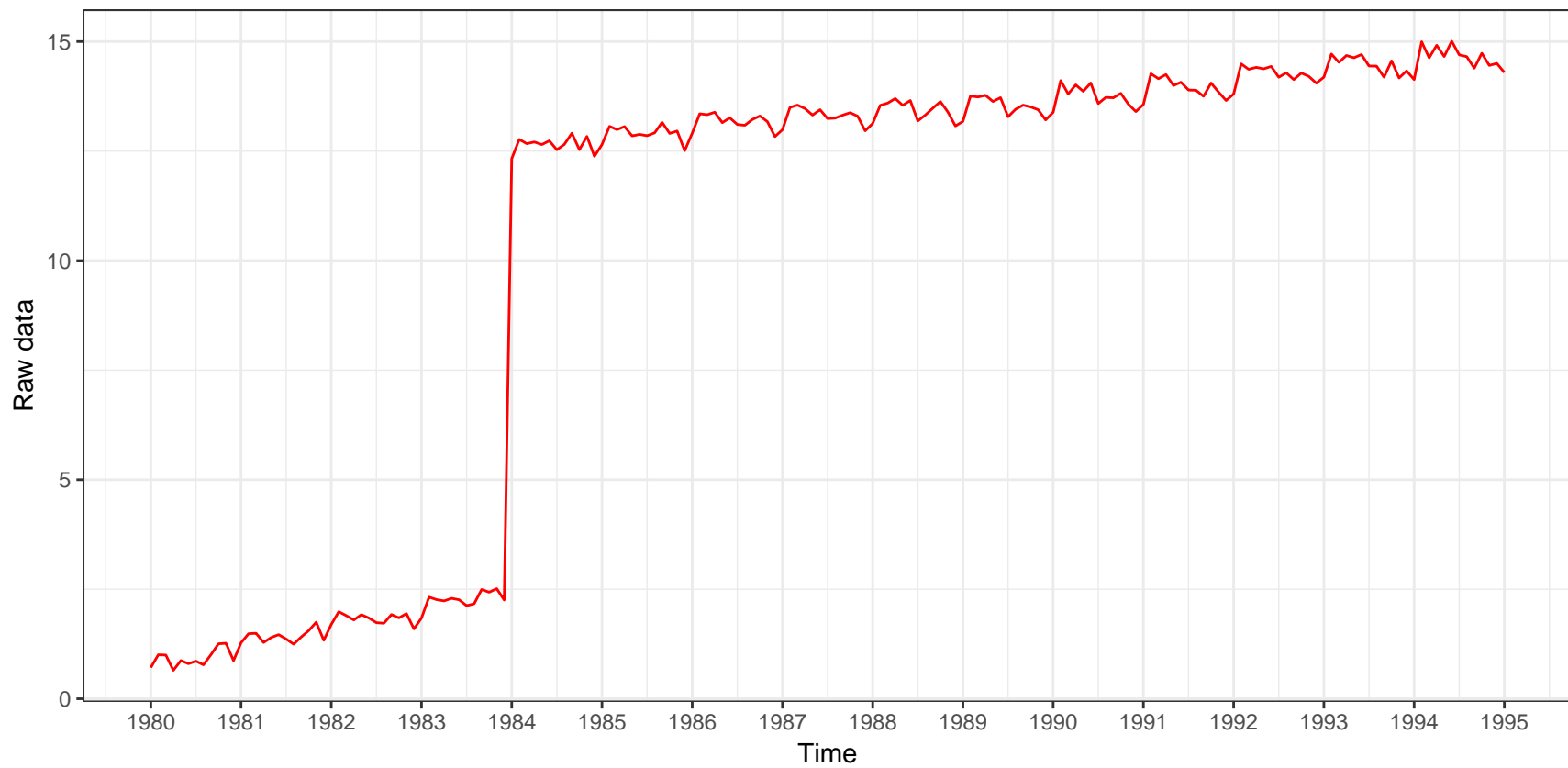


Estimate value of a LS(1984-01)
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 $(1-B)(1-B^{12})X_t=(1-0.7B)(1-0.3B^{12})a_t$

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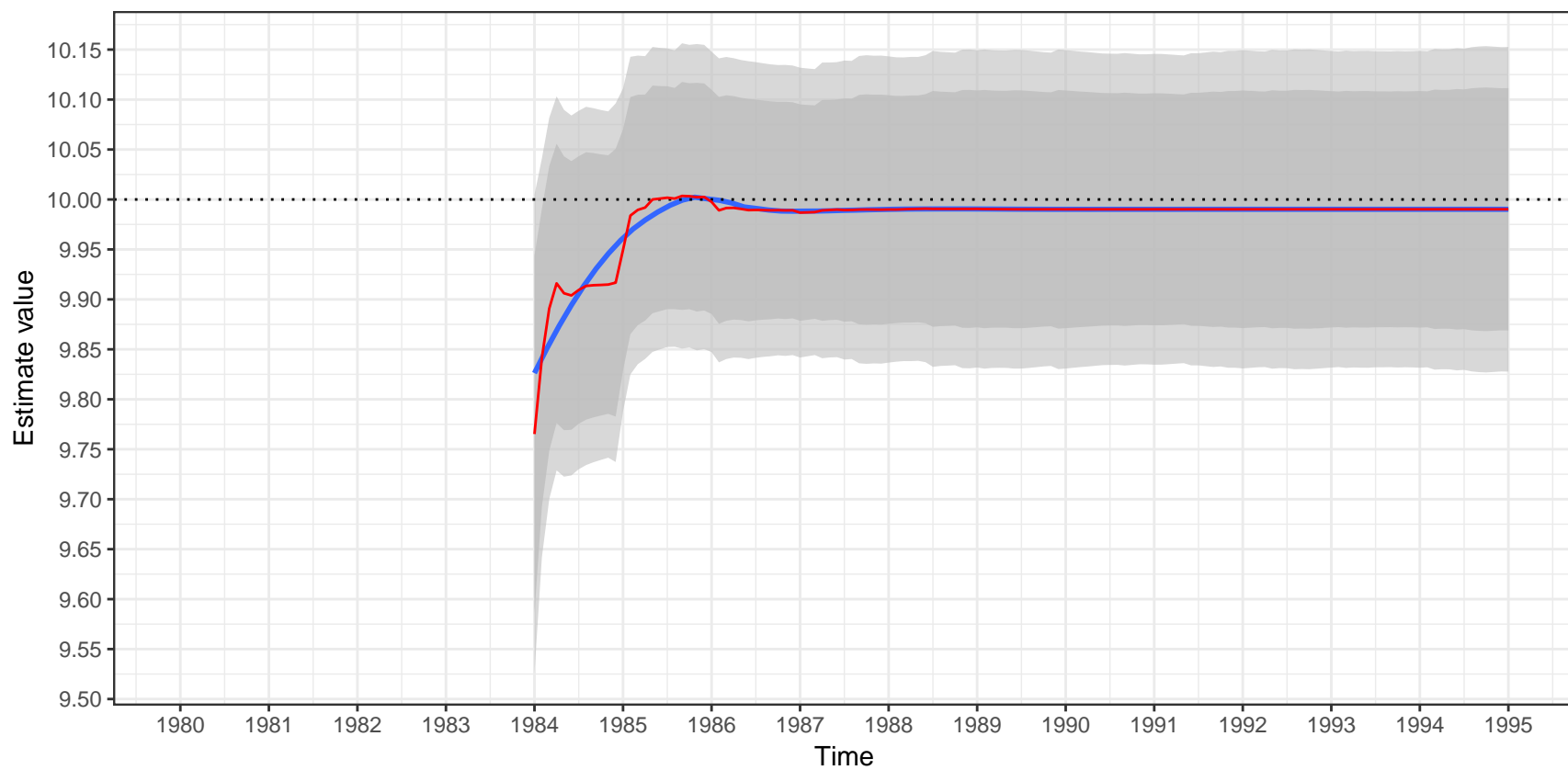


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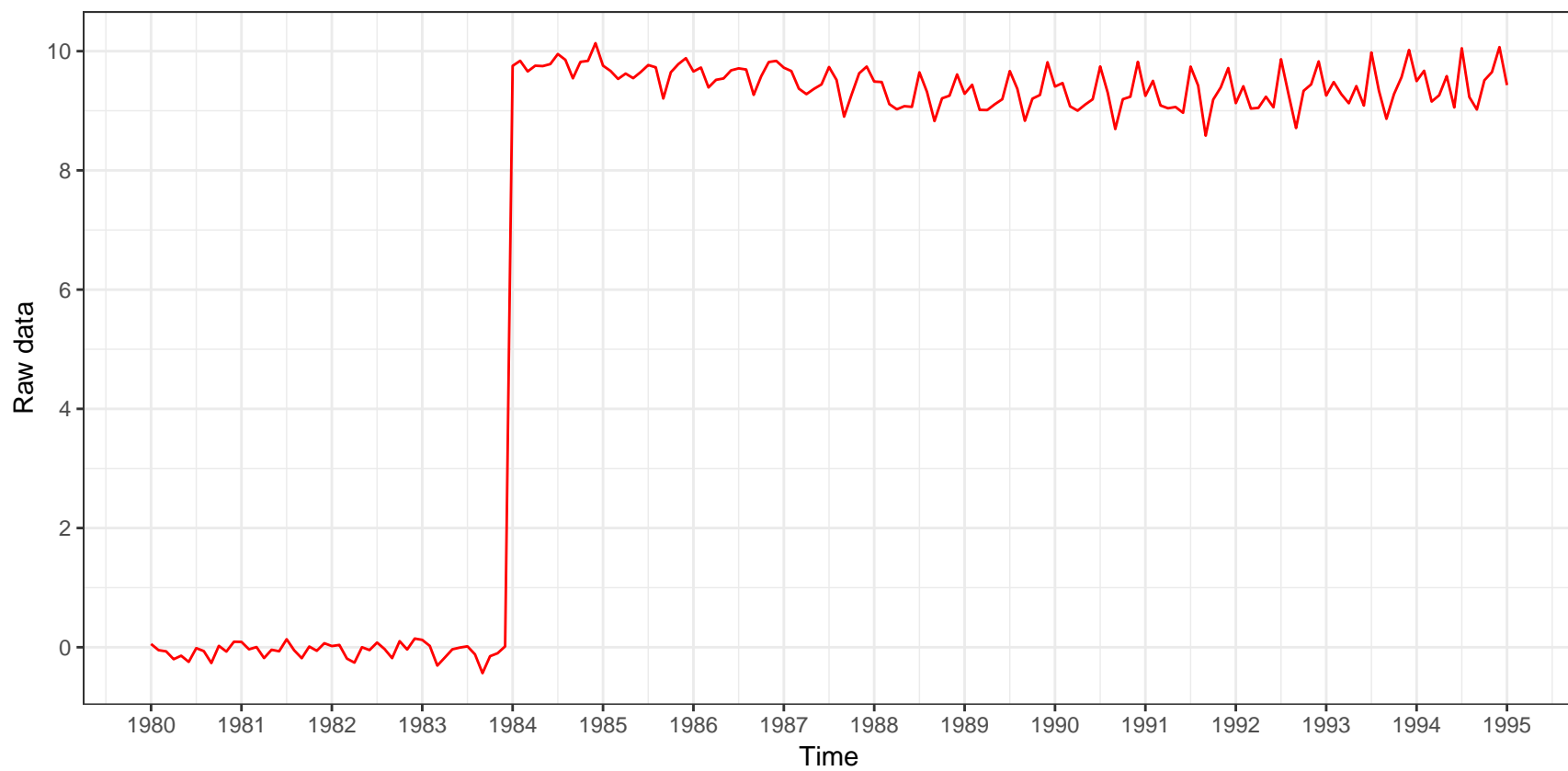


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.7B)(1-0.3B^{12})a_t$

Estimation of the outlier

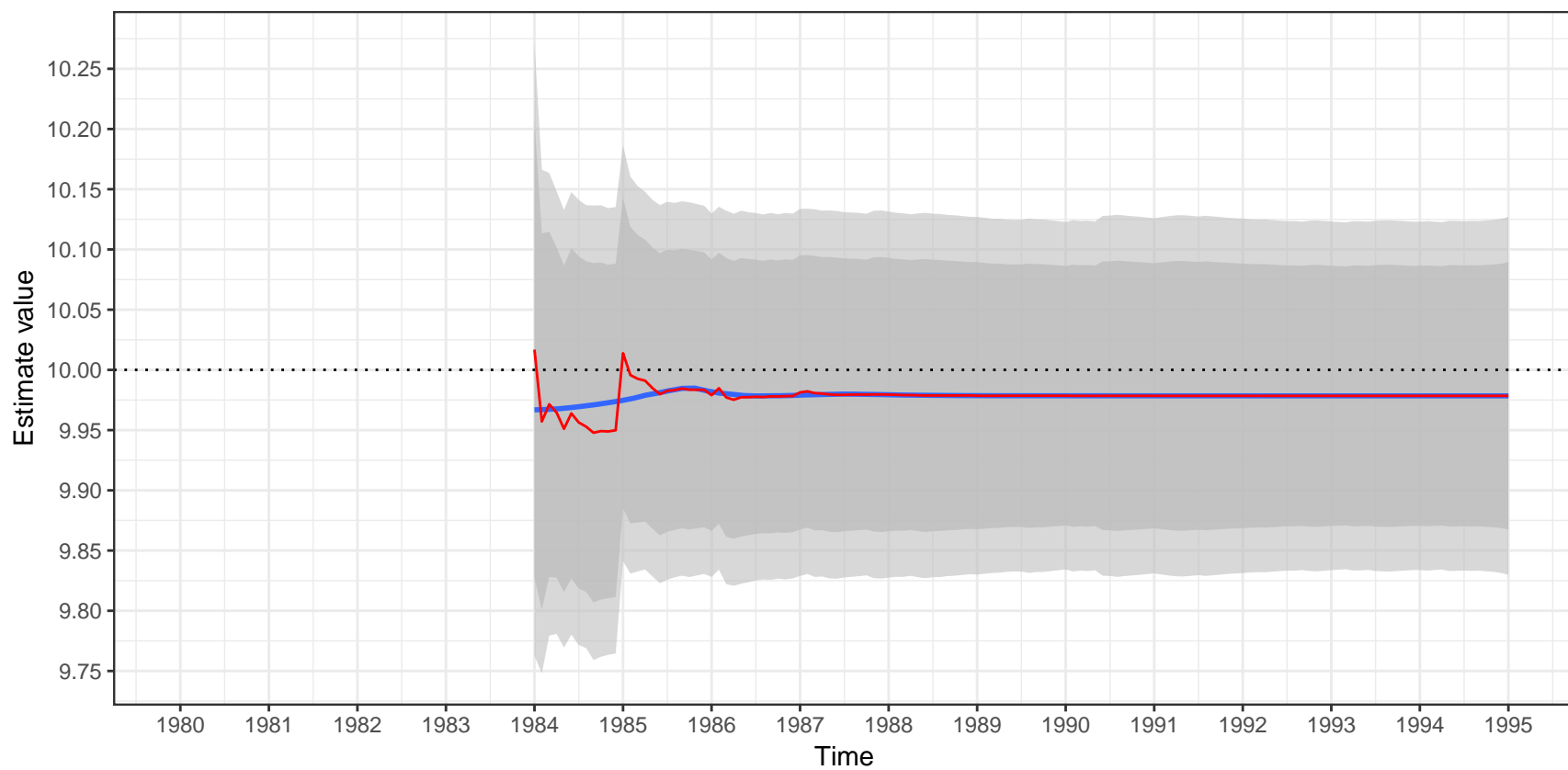


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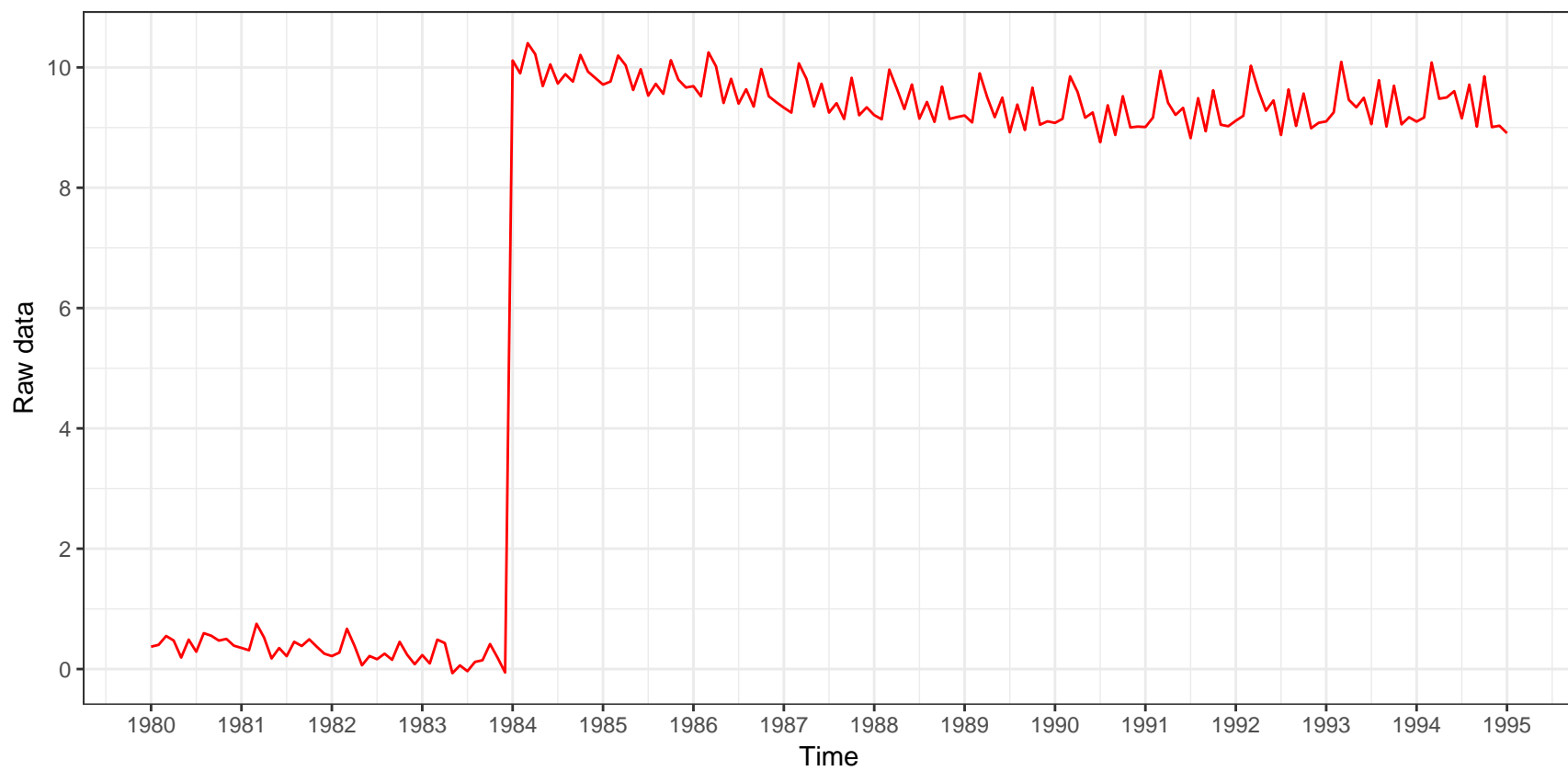


Estimate value of a LS(1984-01)
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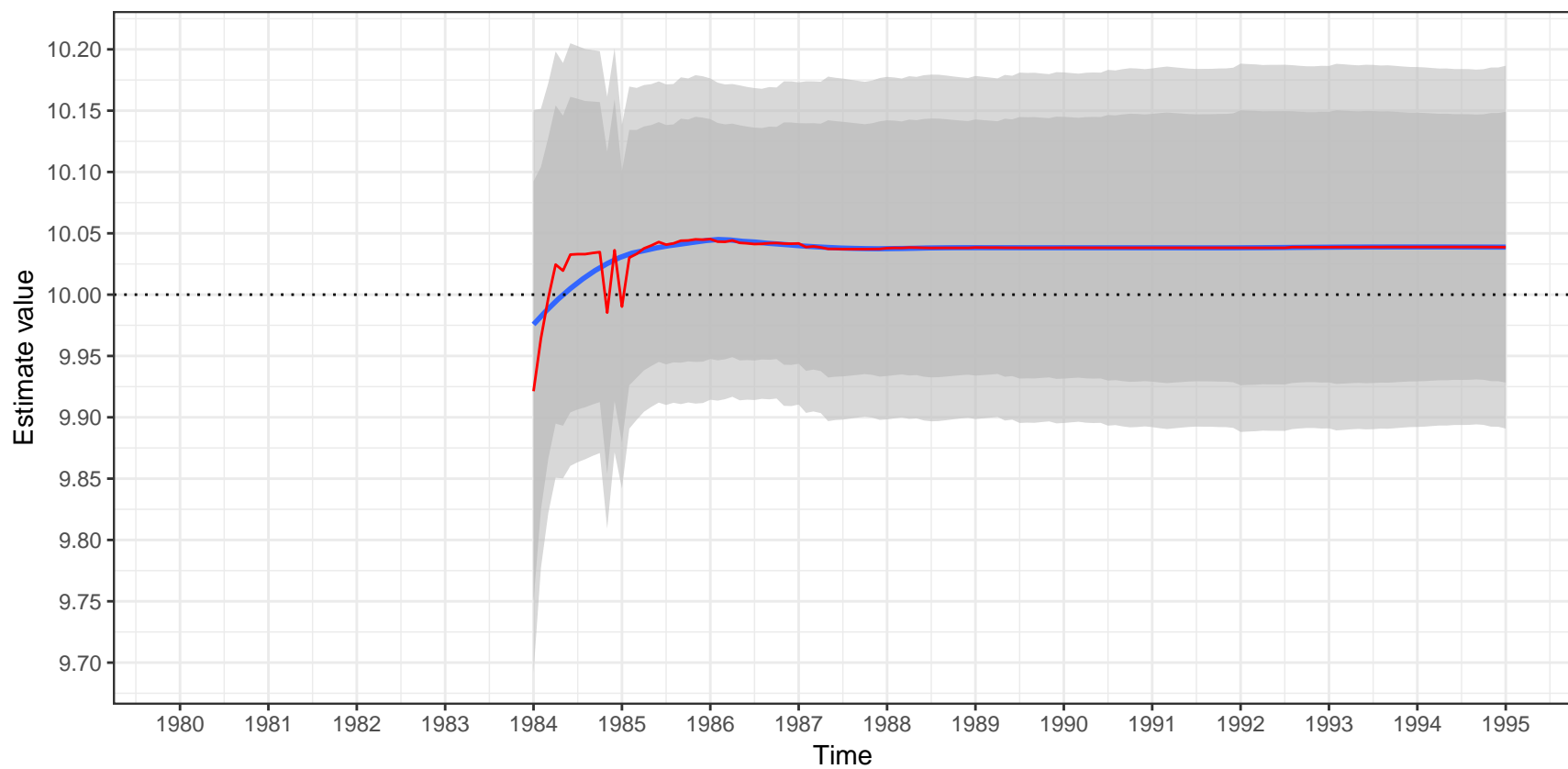


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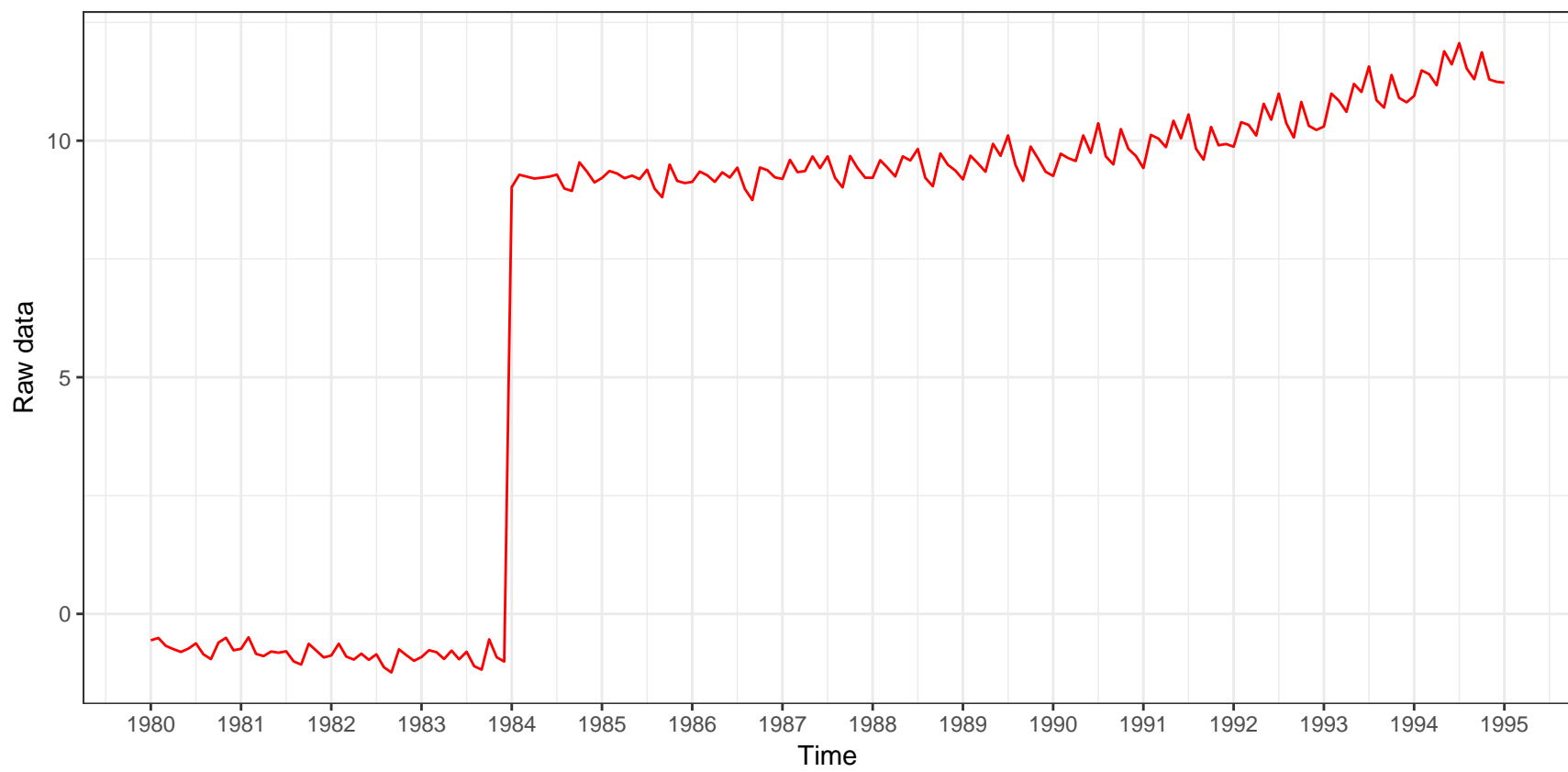


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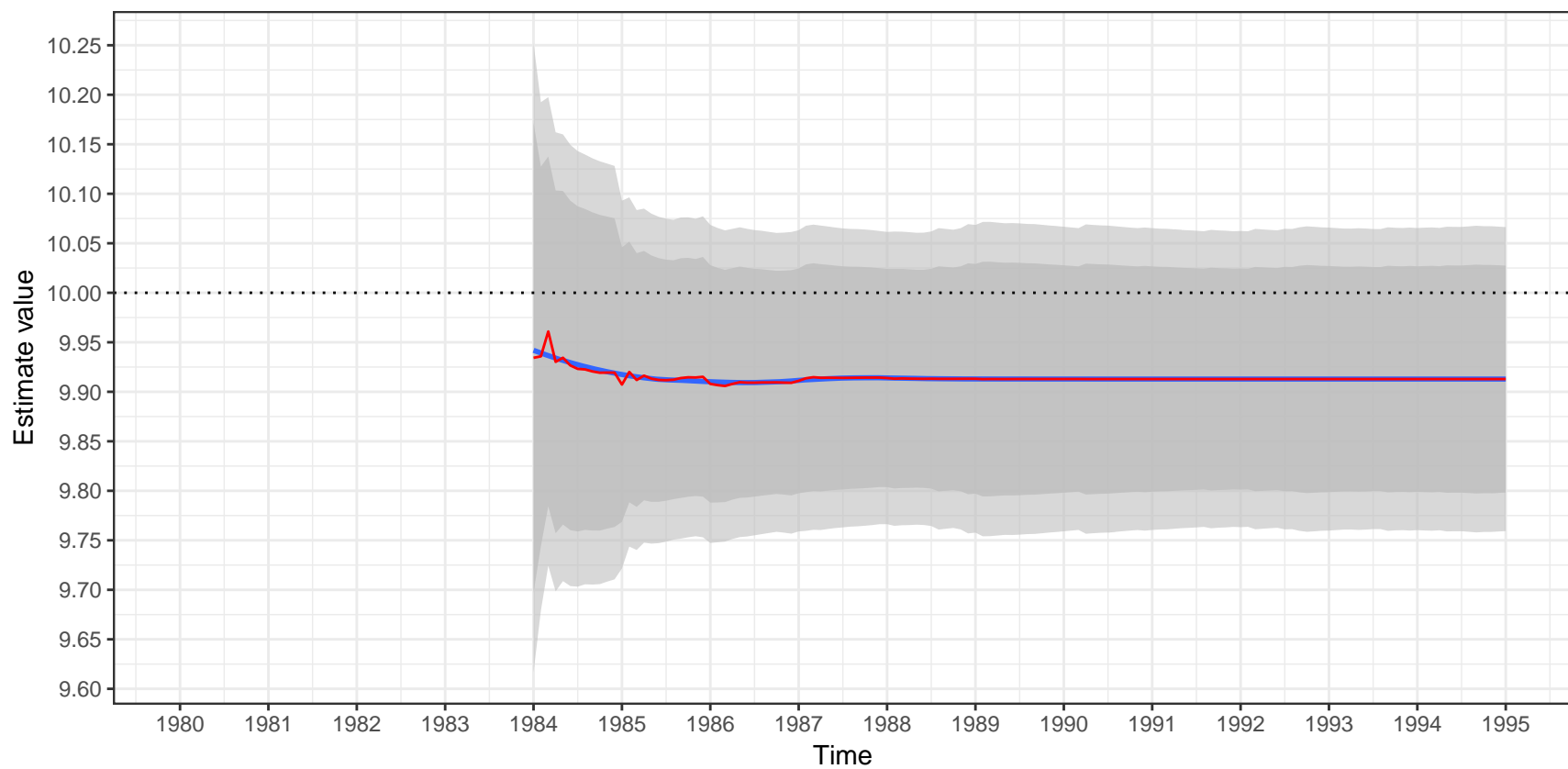


Raw data

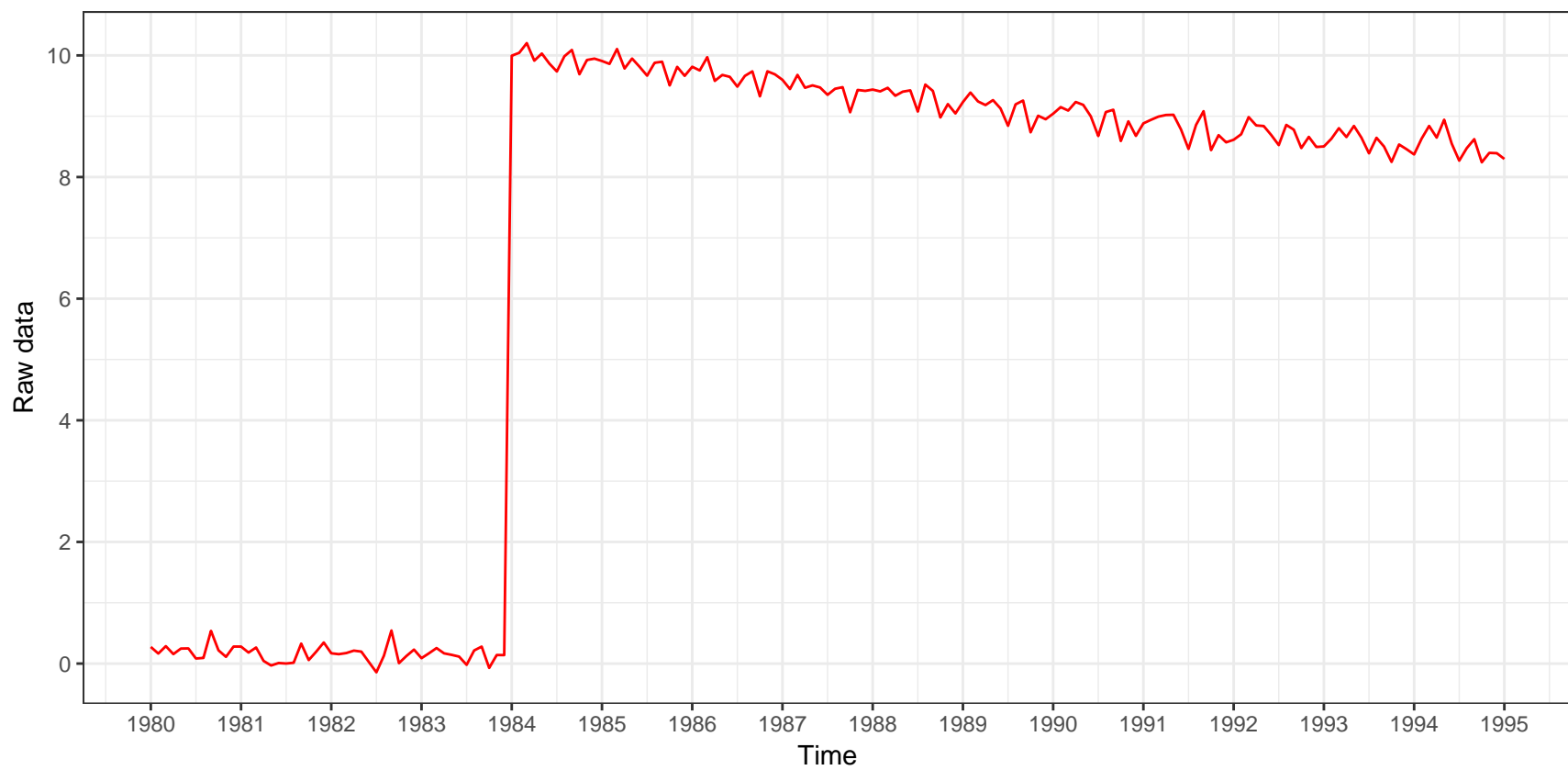


Estimate value of a LS(1984-01)
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Estimation of the outlier

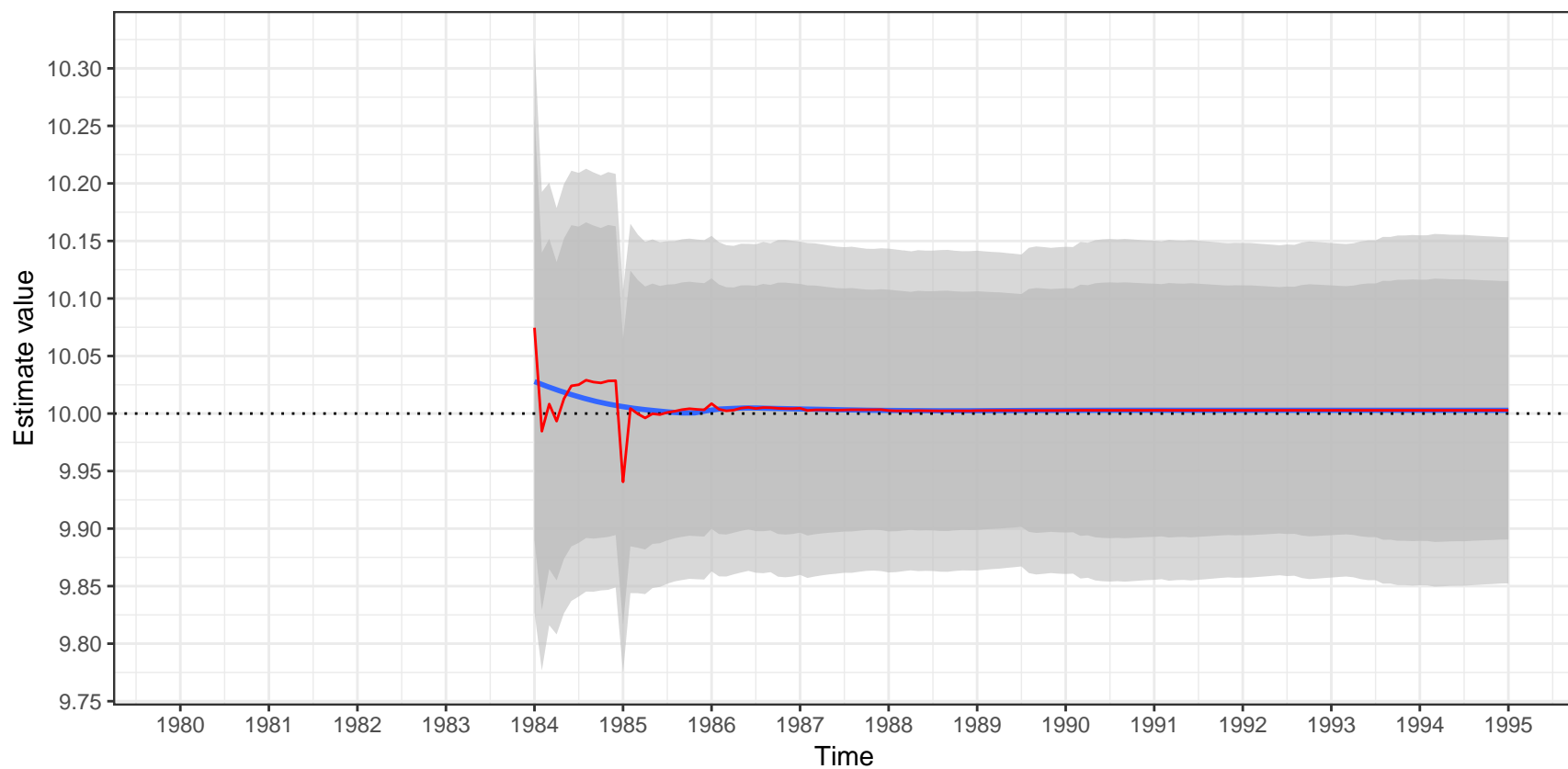


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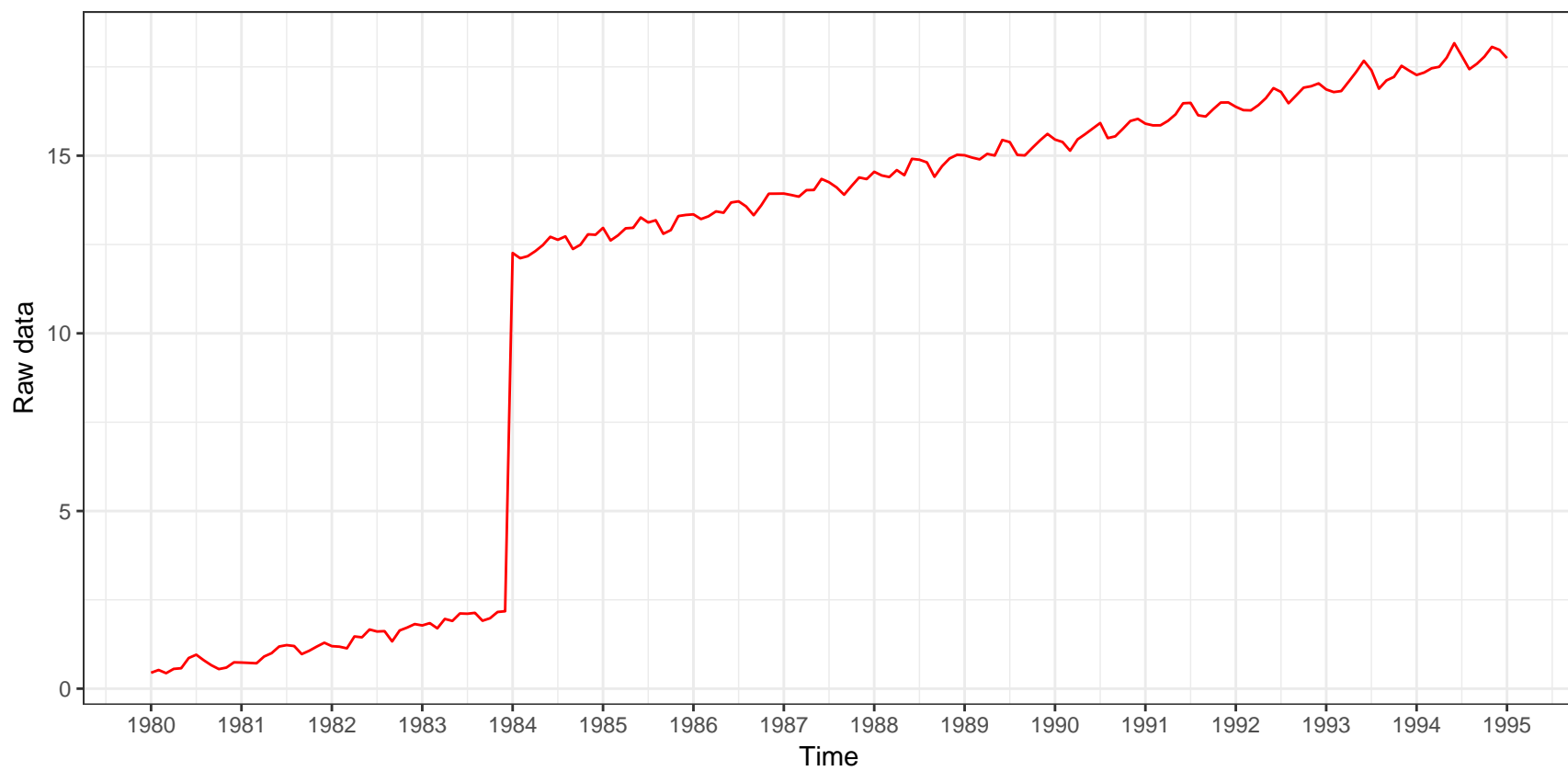


Estimate value of a LS(1984-01)
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Estimation of the outlier

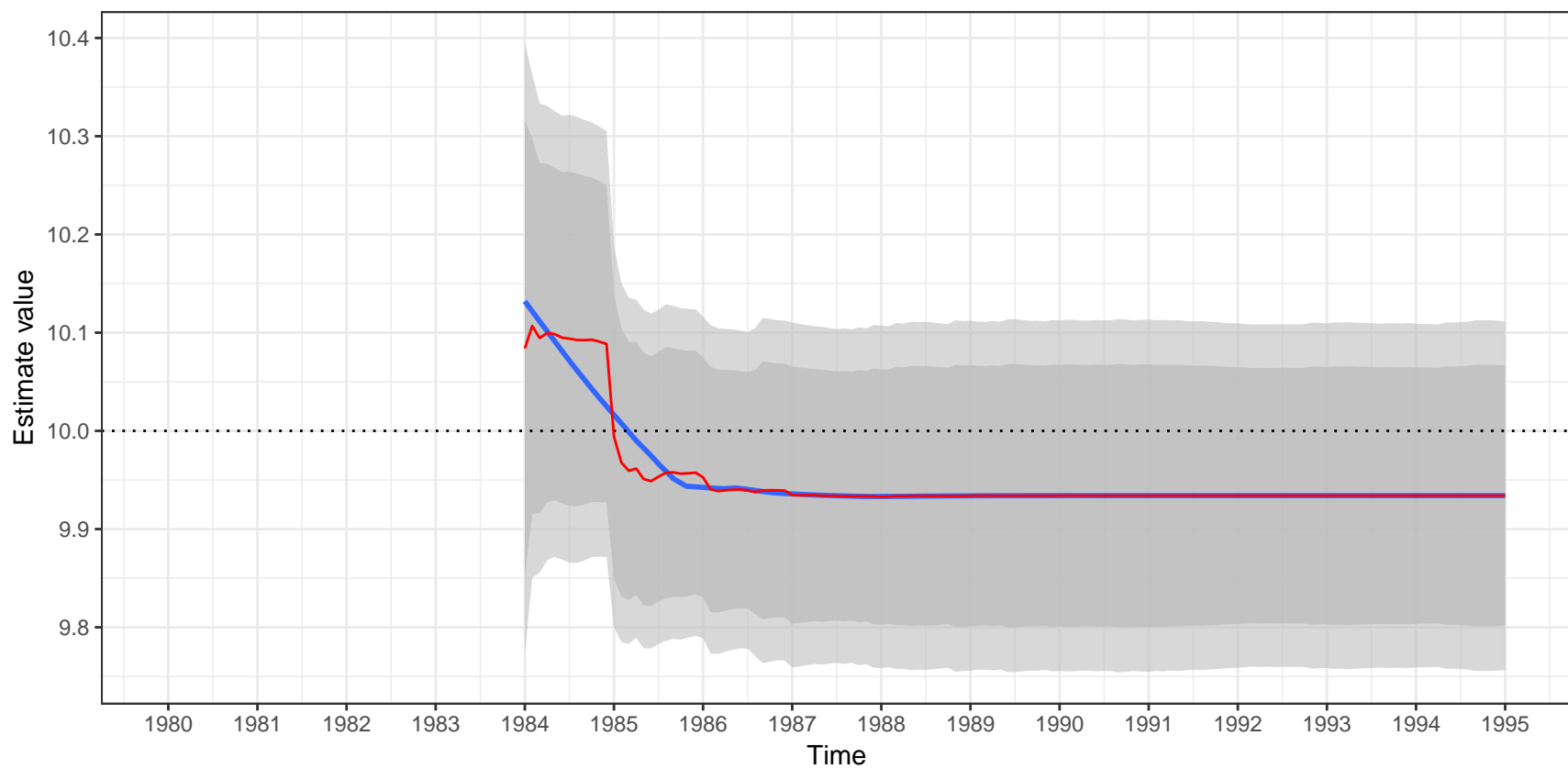


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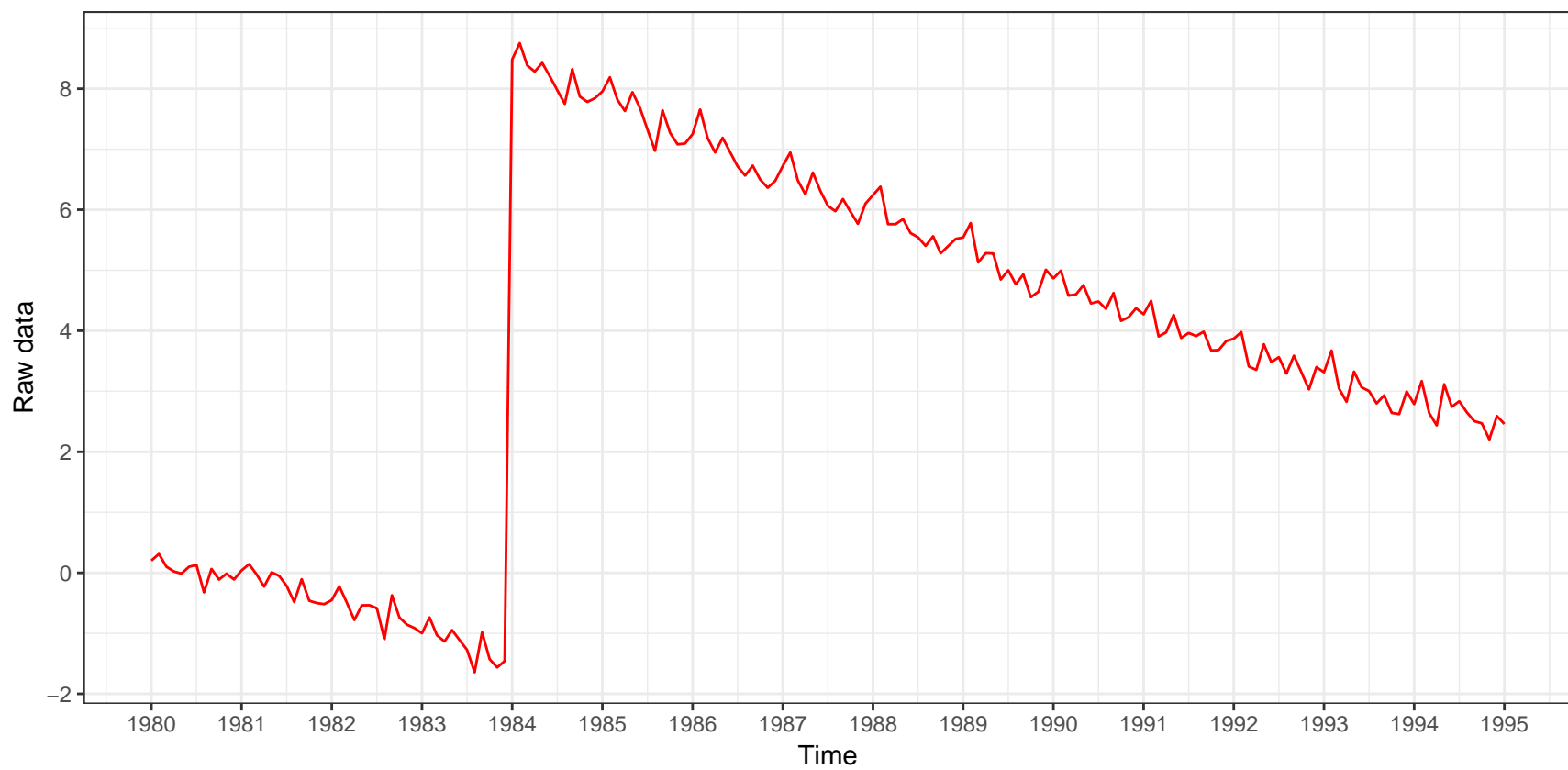


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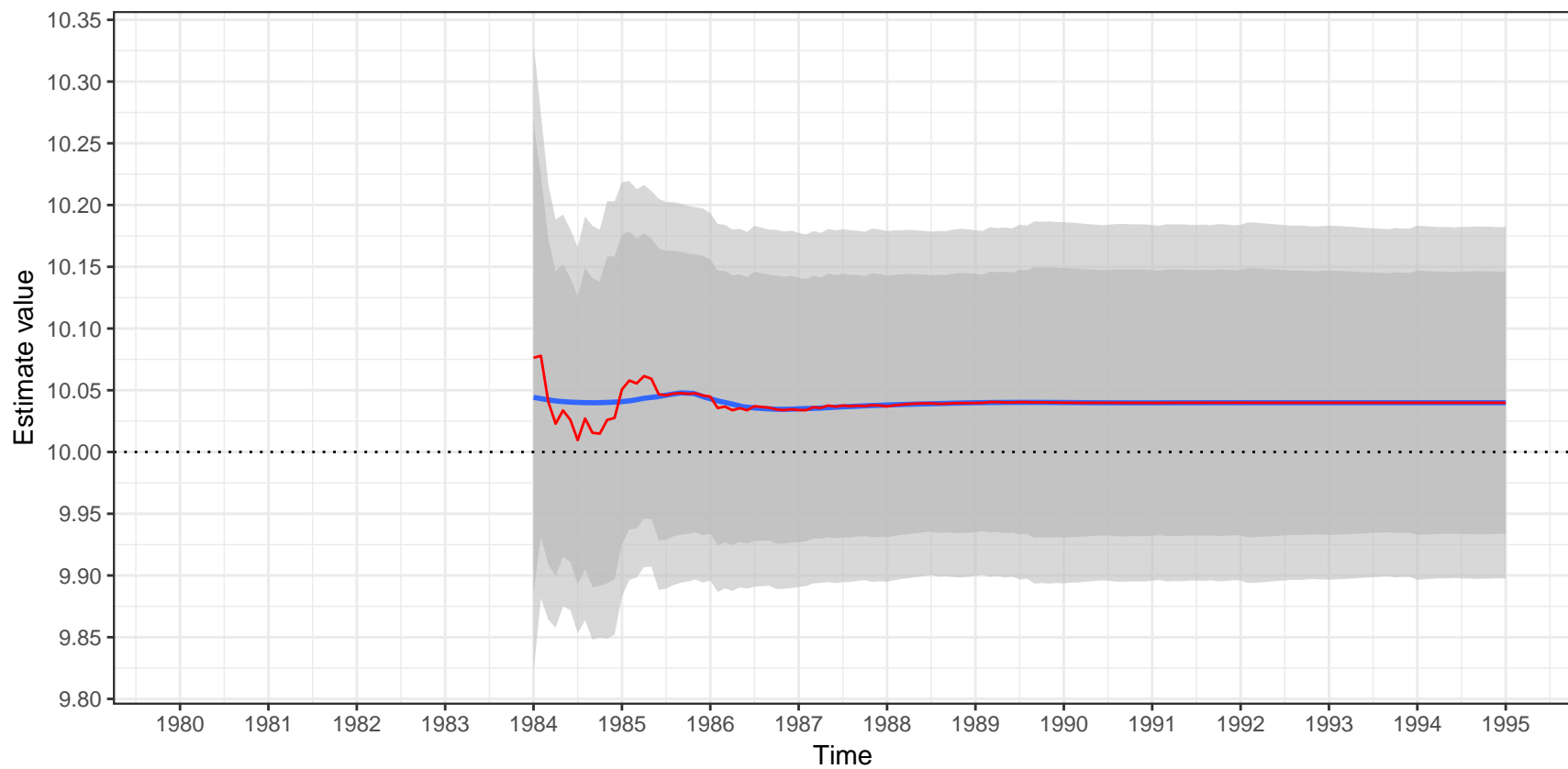


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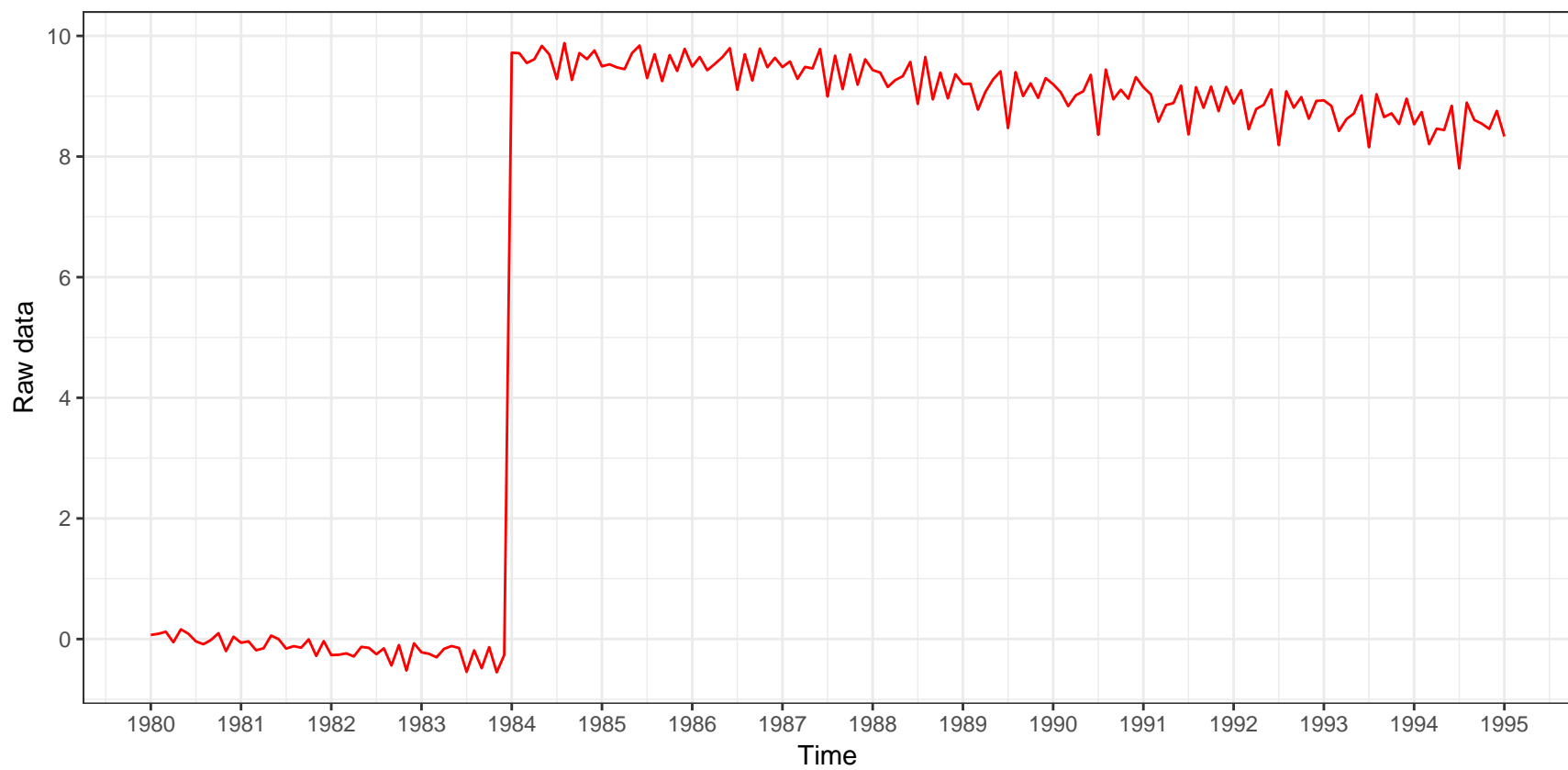


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

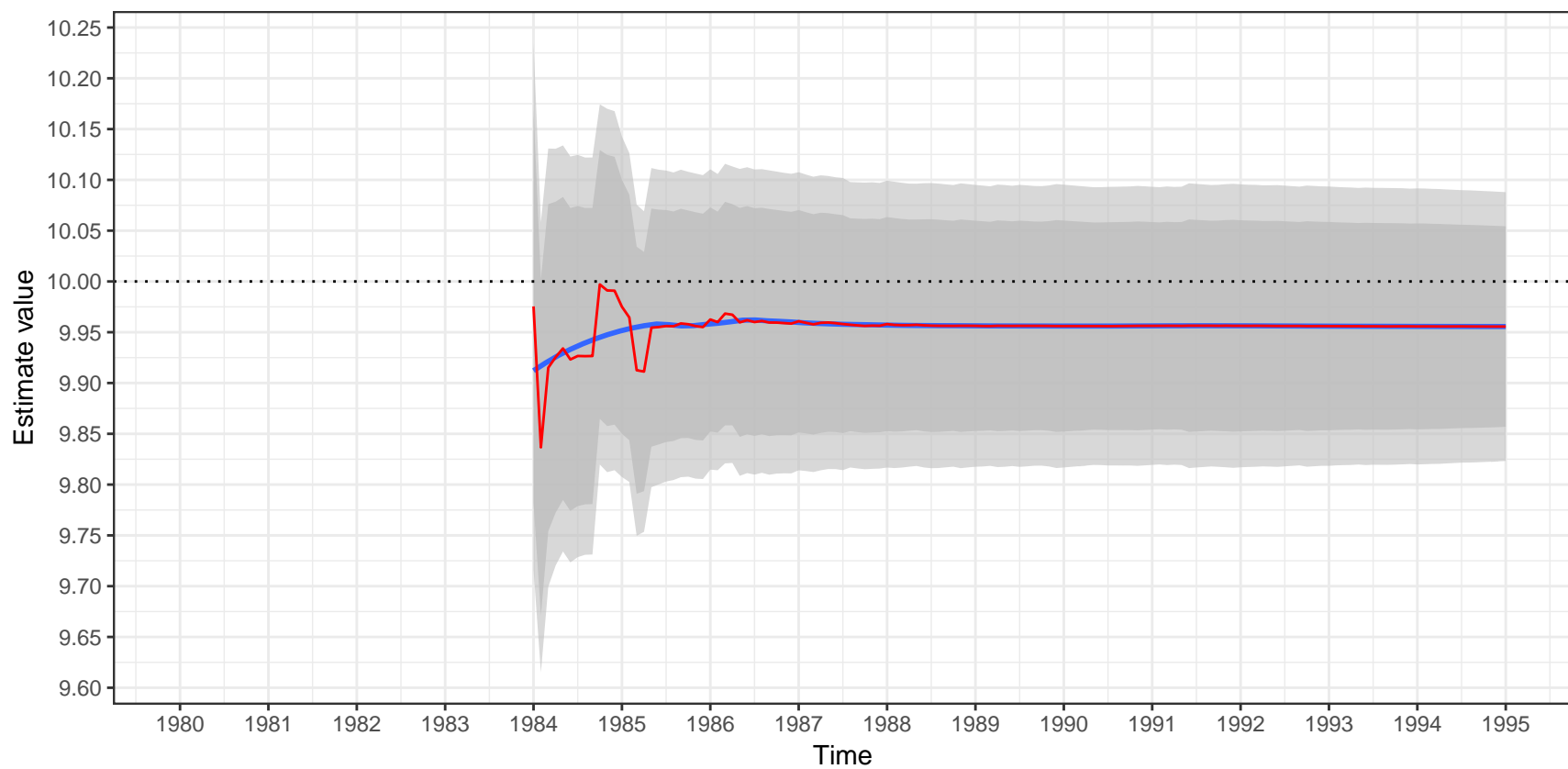


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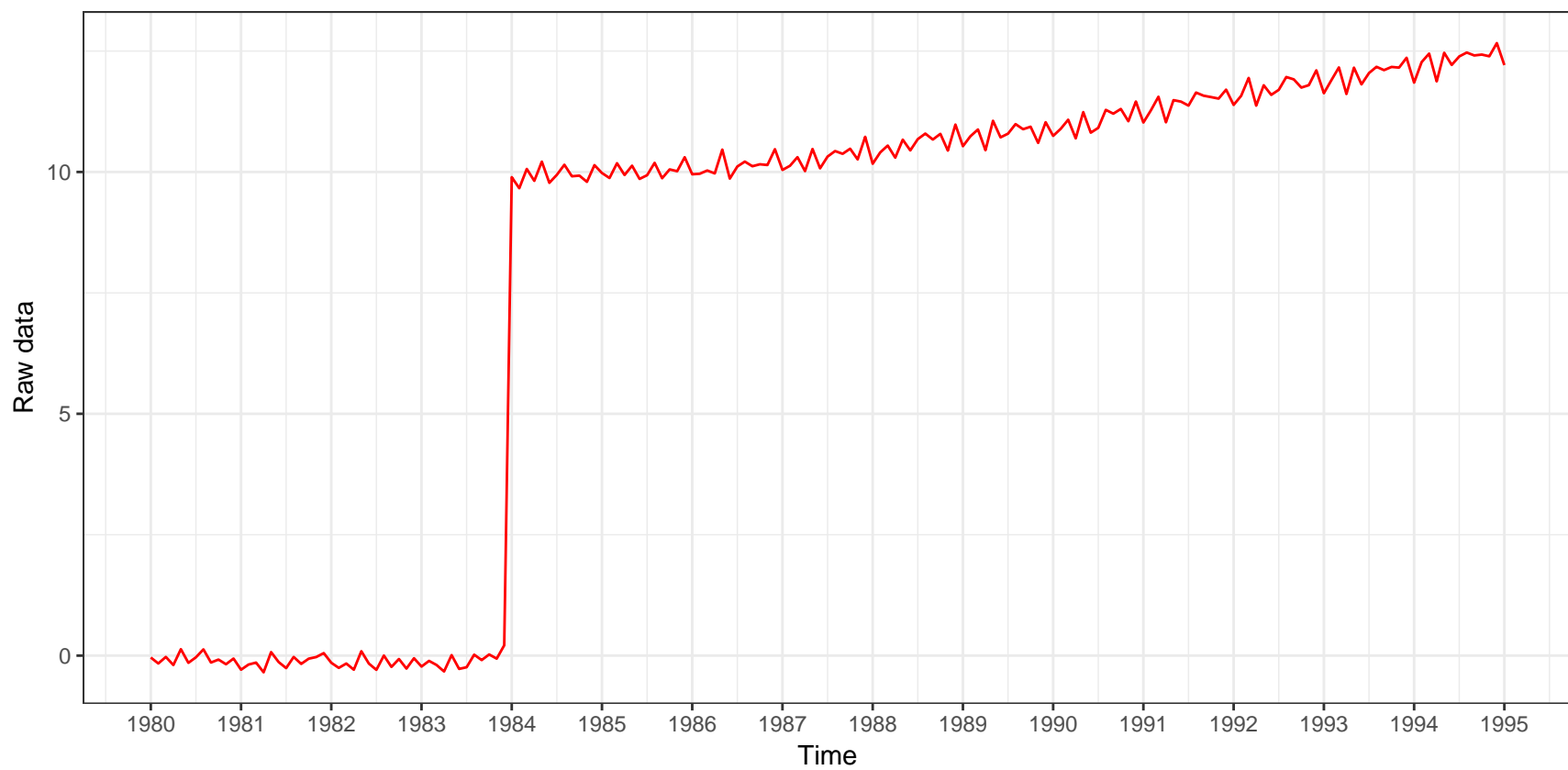


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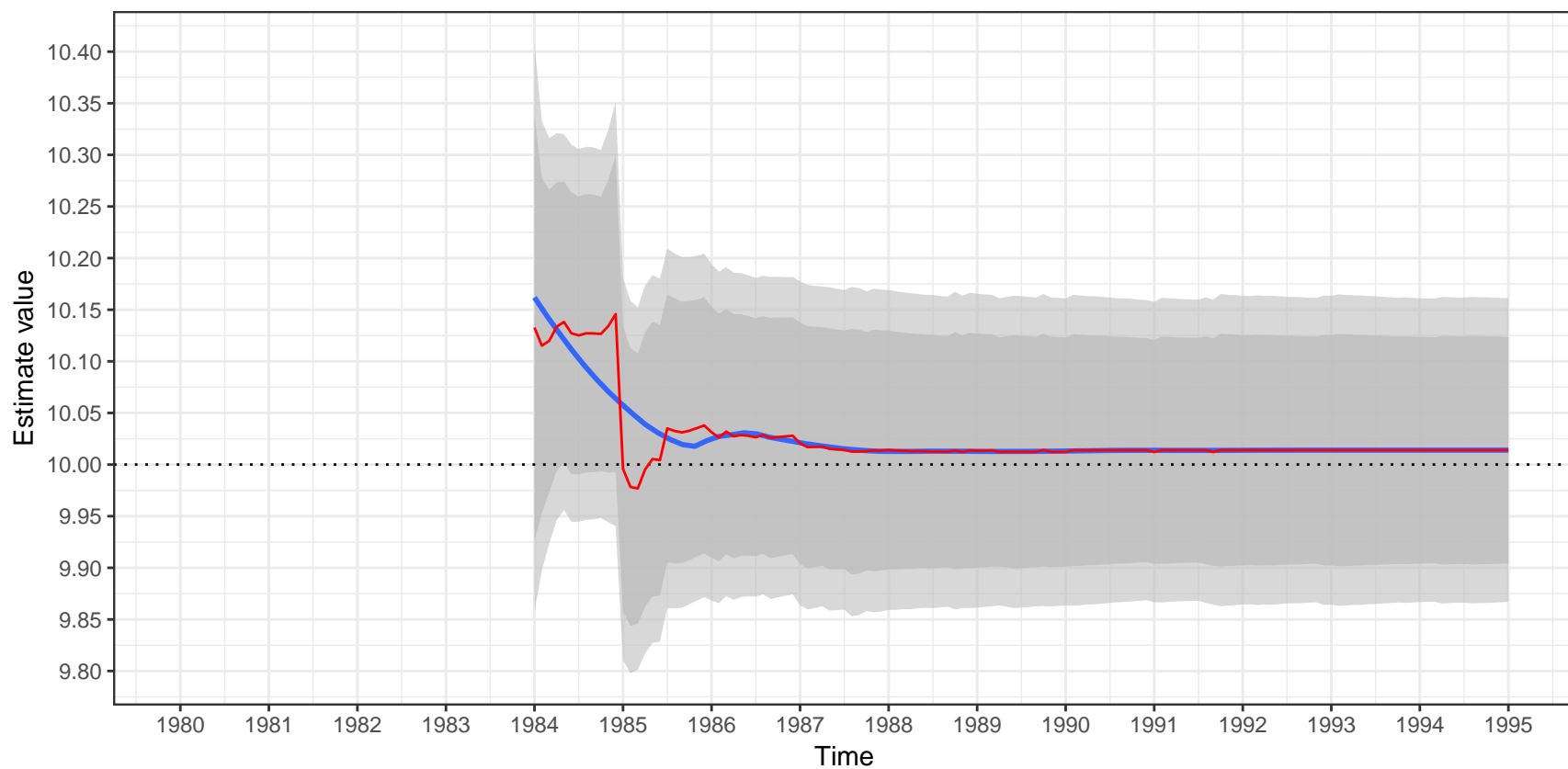


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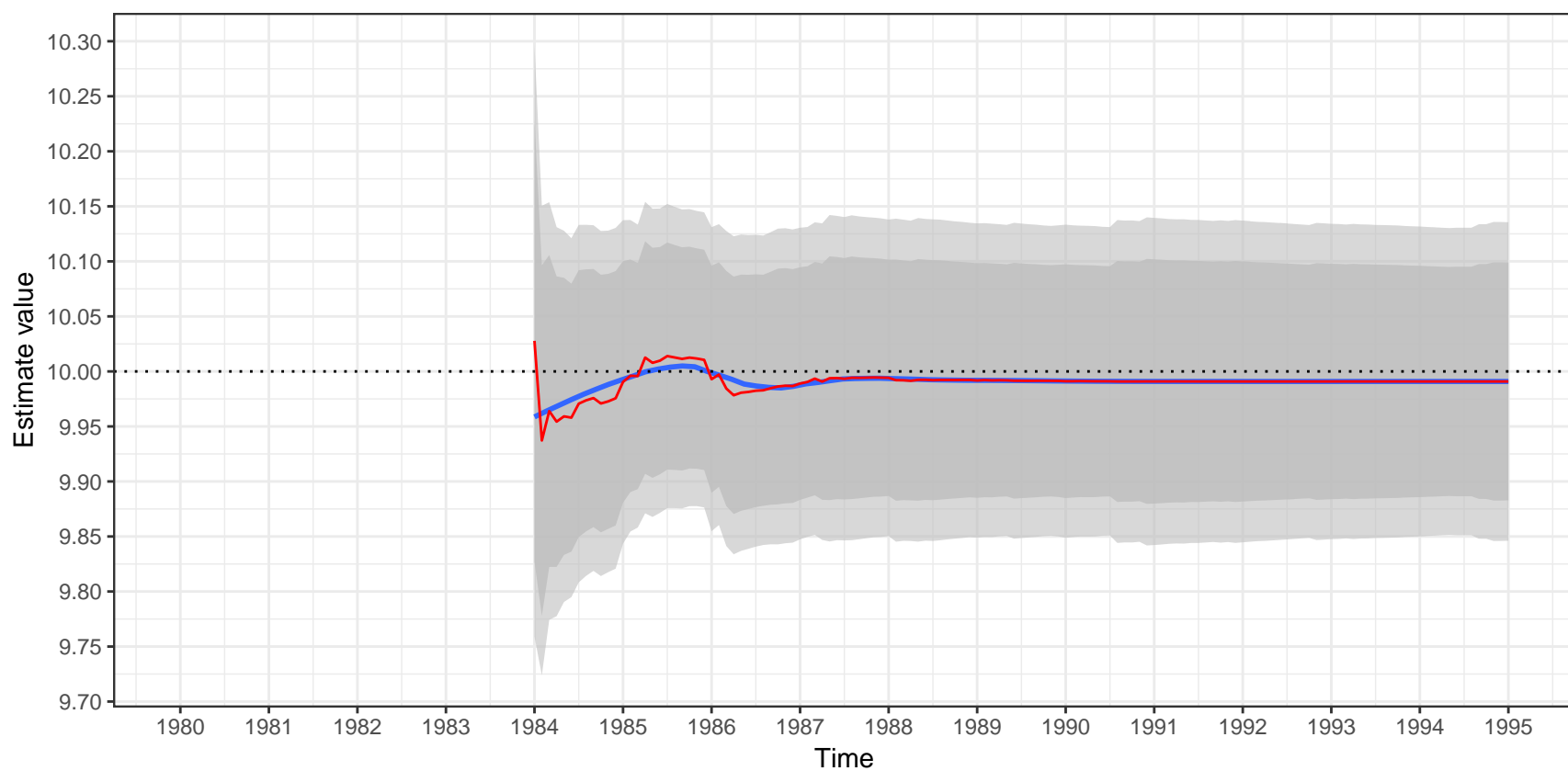


Raw data



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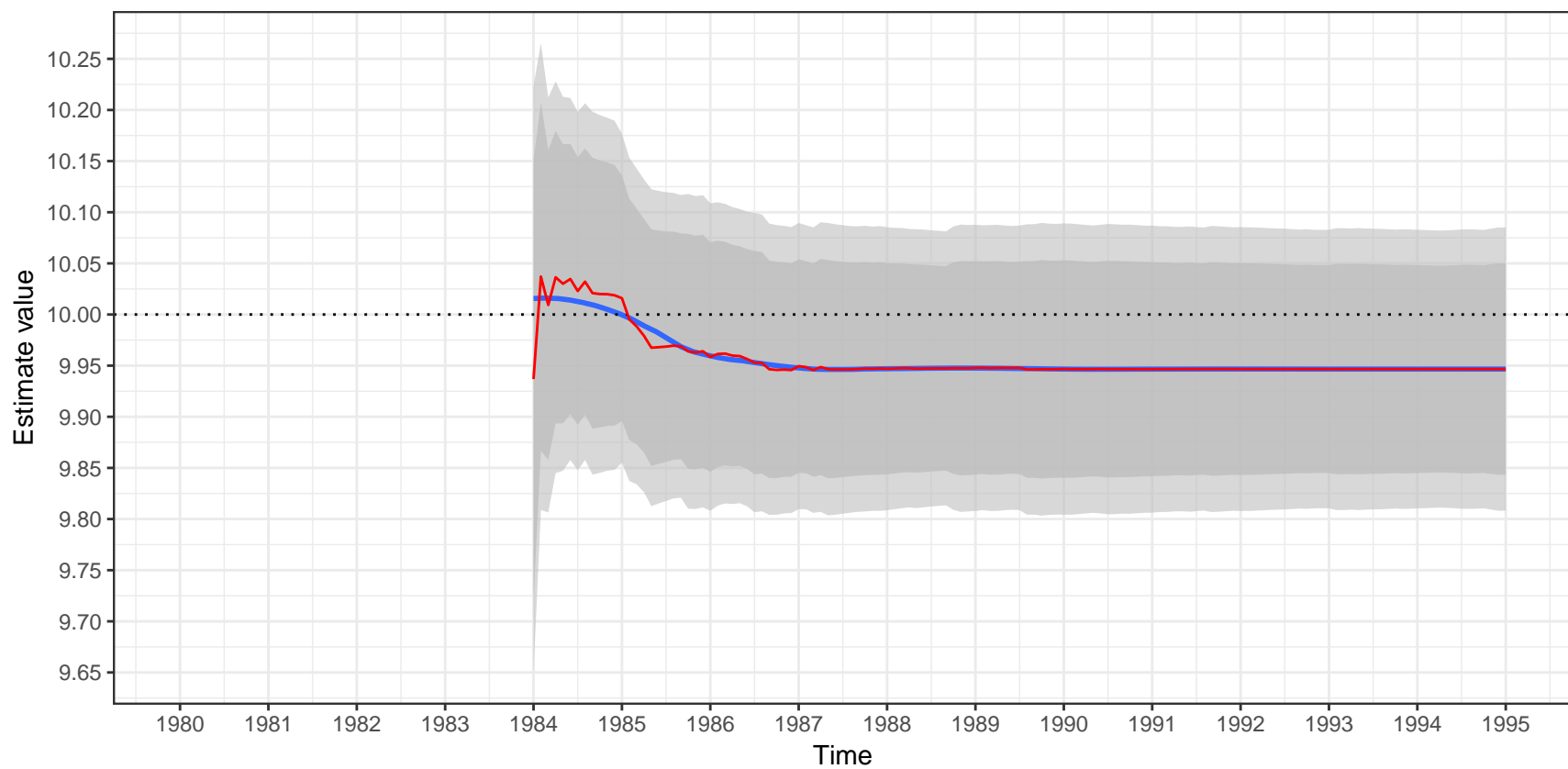


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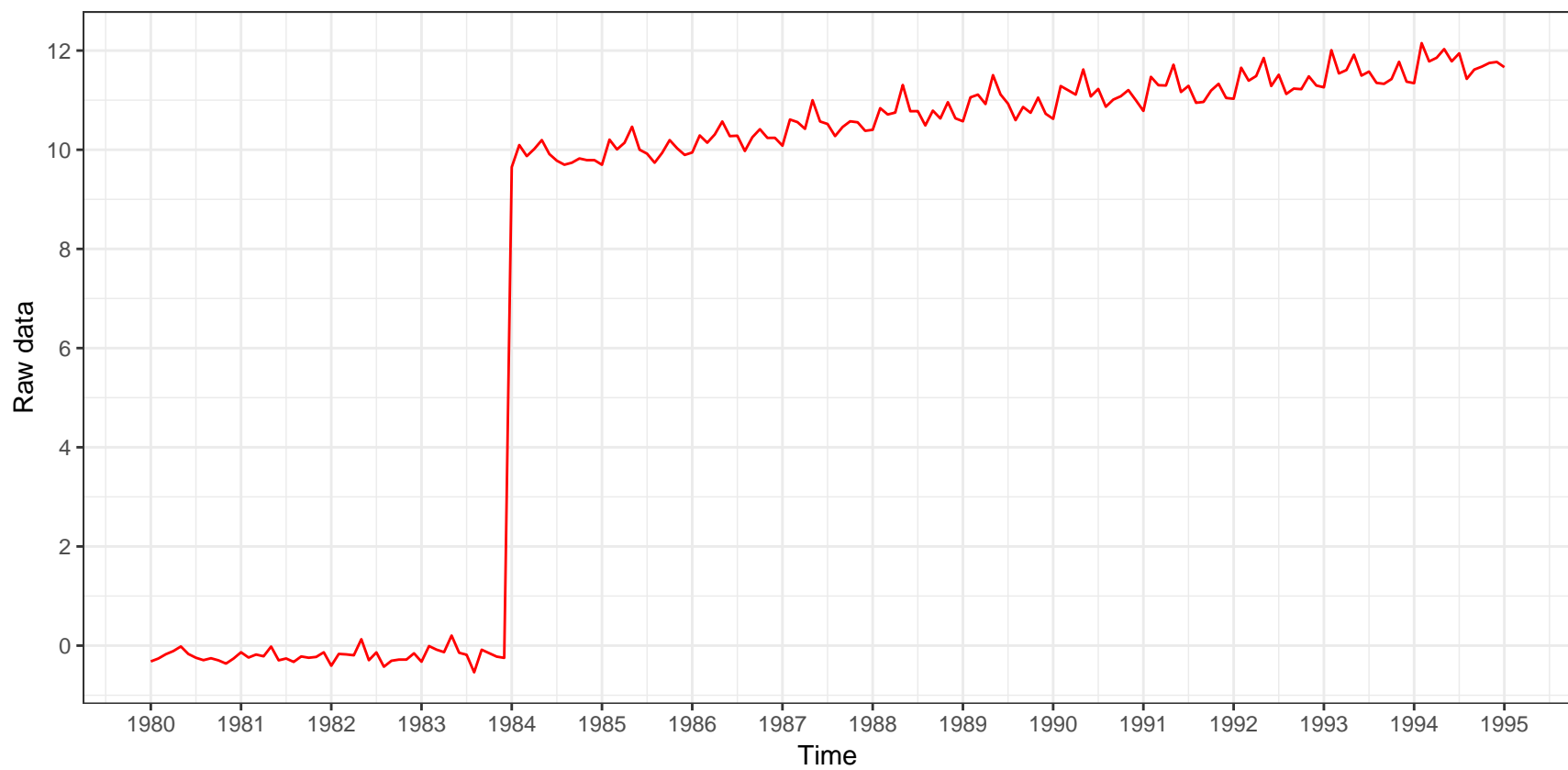


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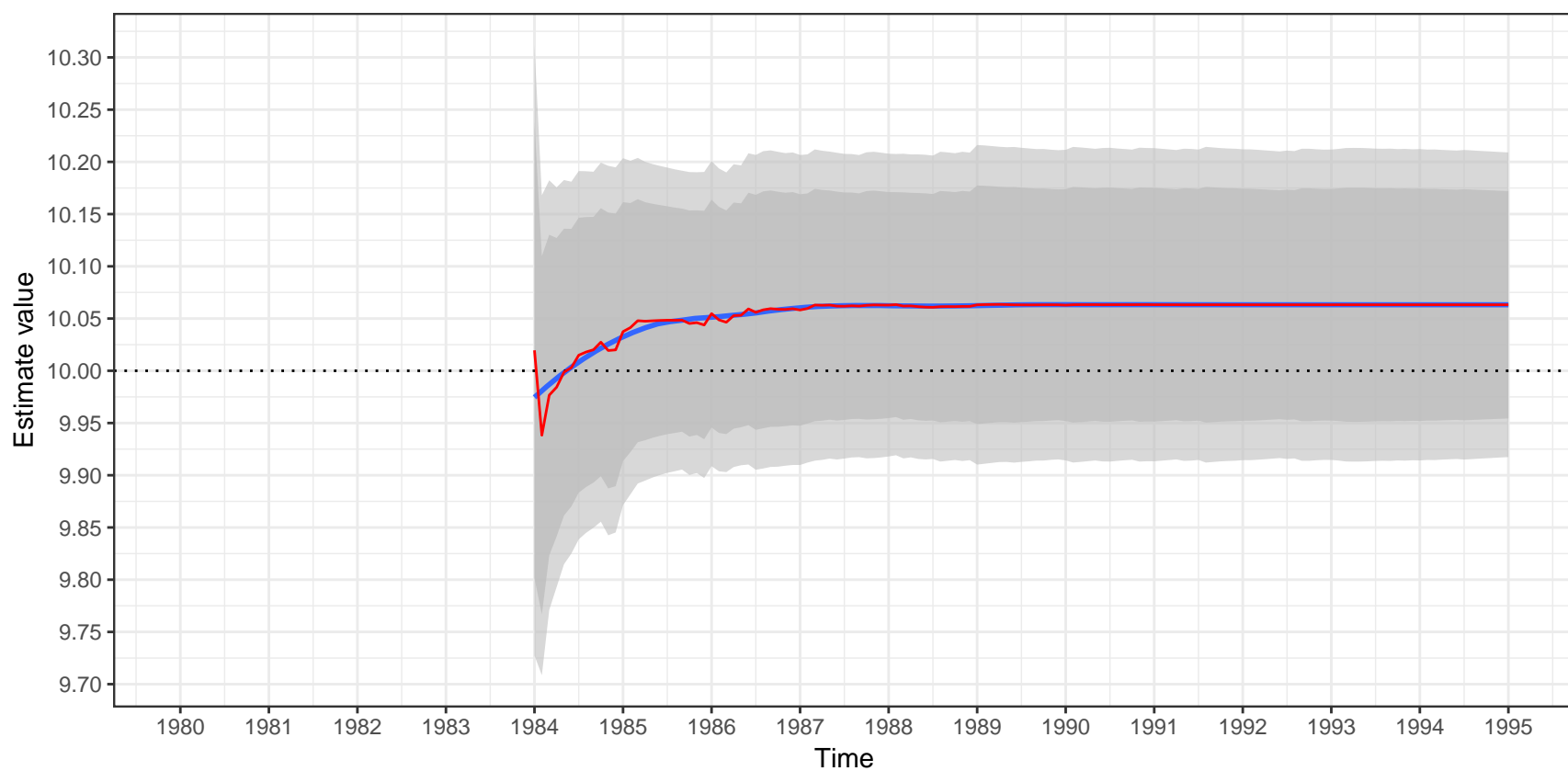


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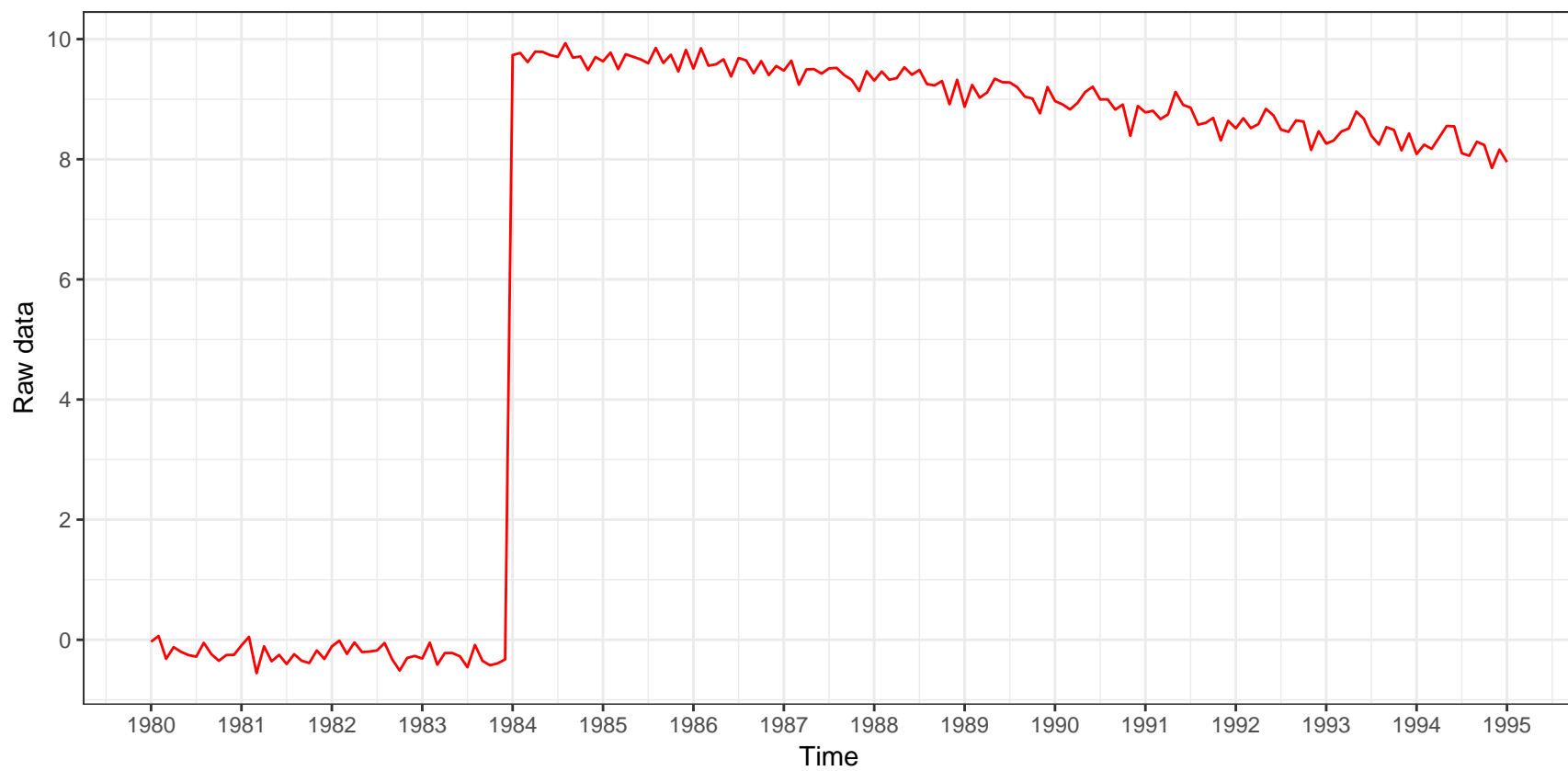


Estimate value of a LS(1984-01)
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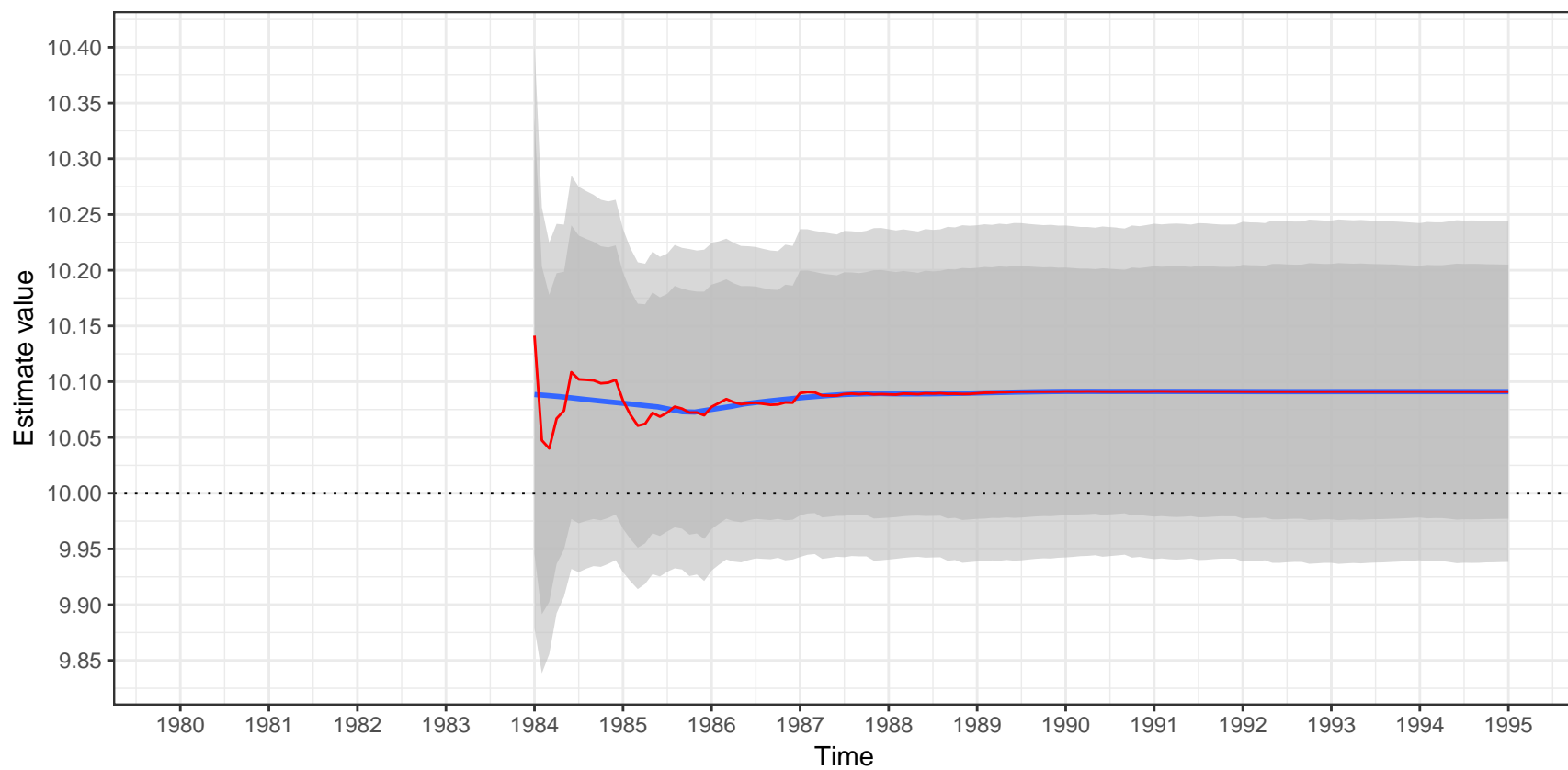


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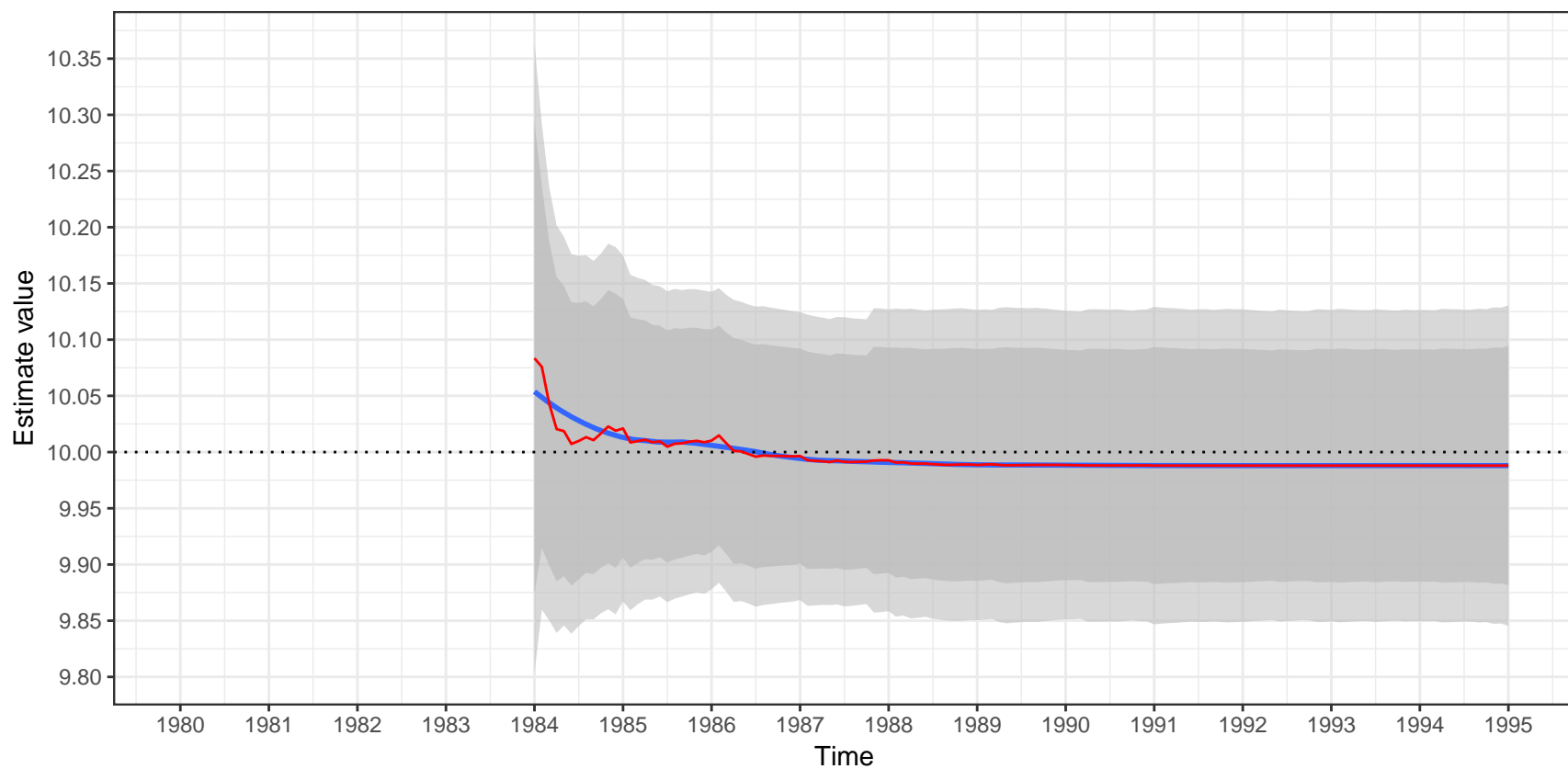


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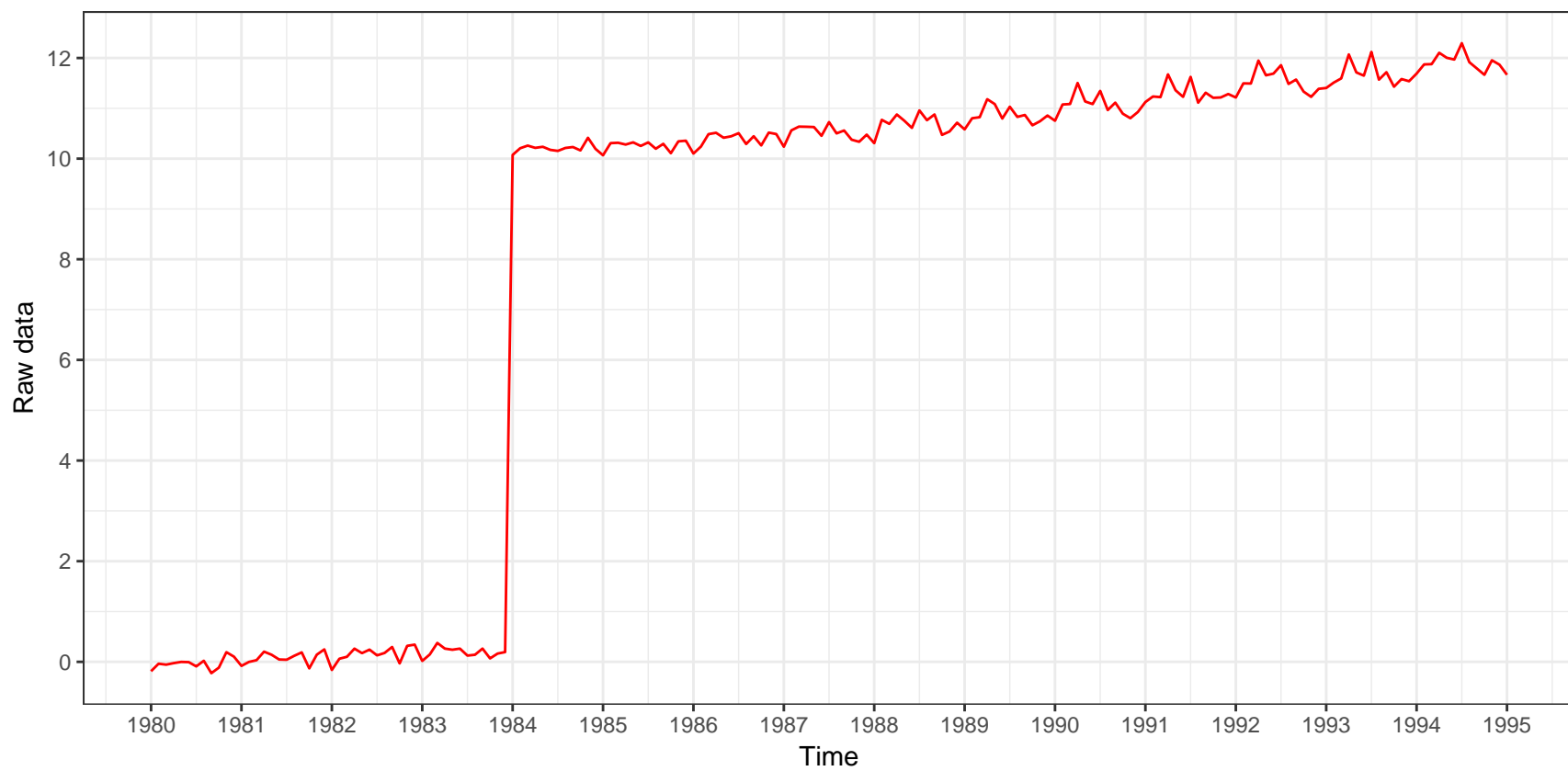


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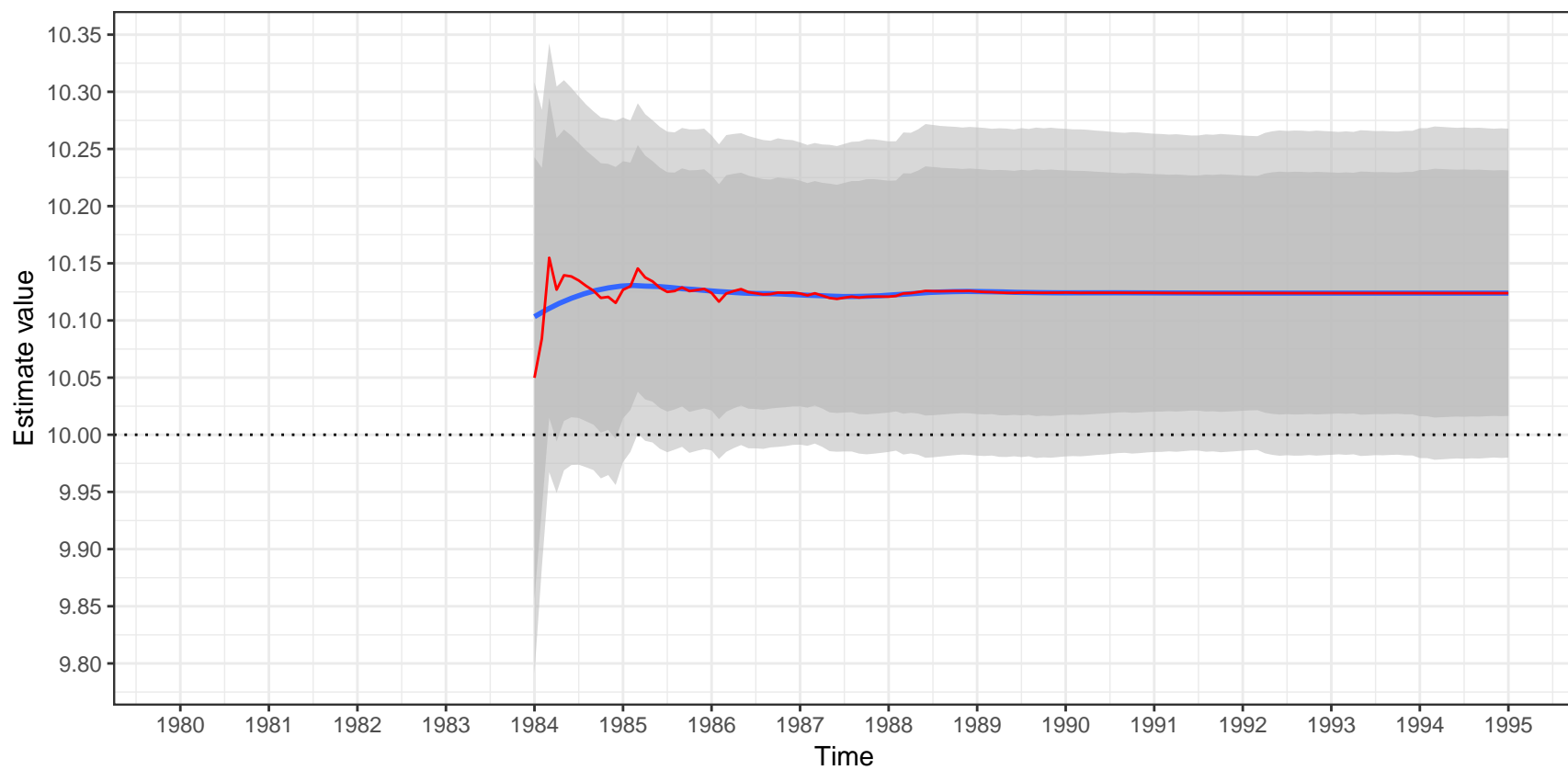


Raw data



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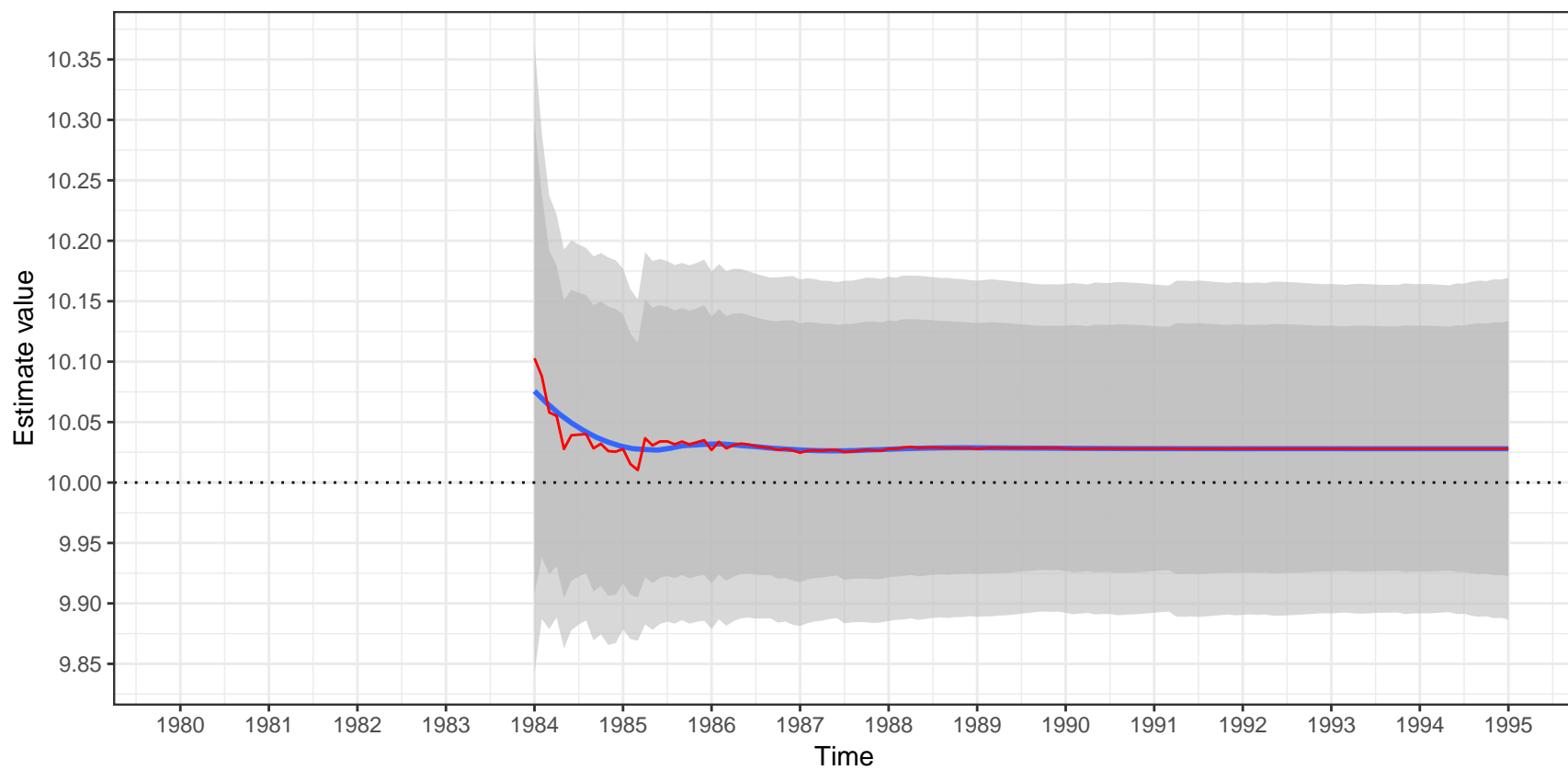


Raw data



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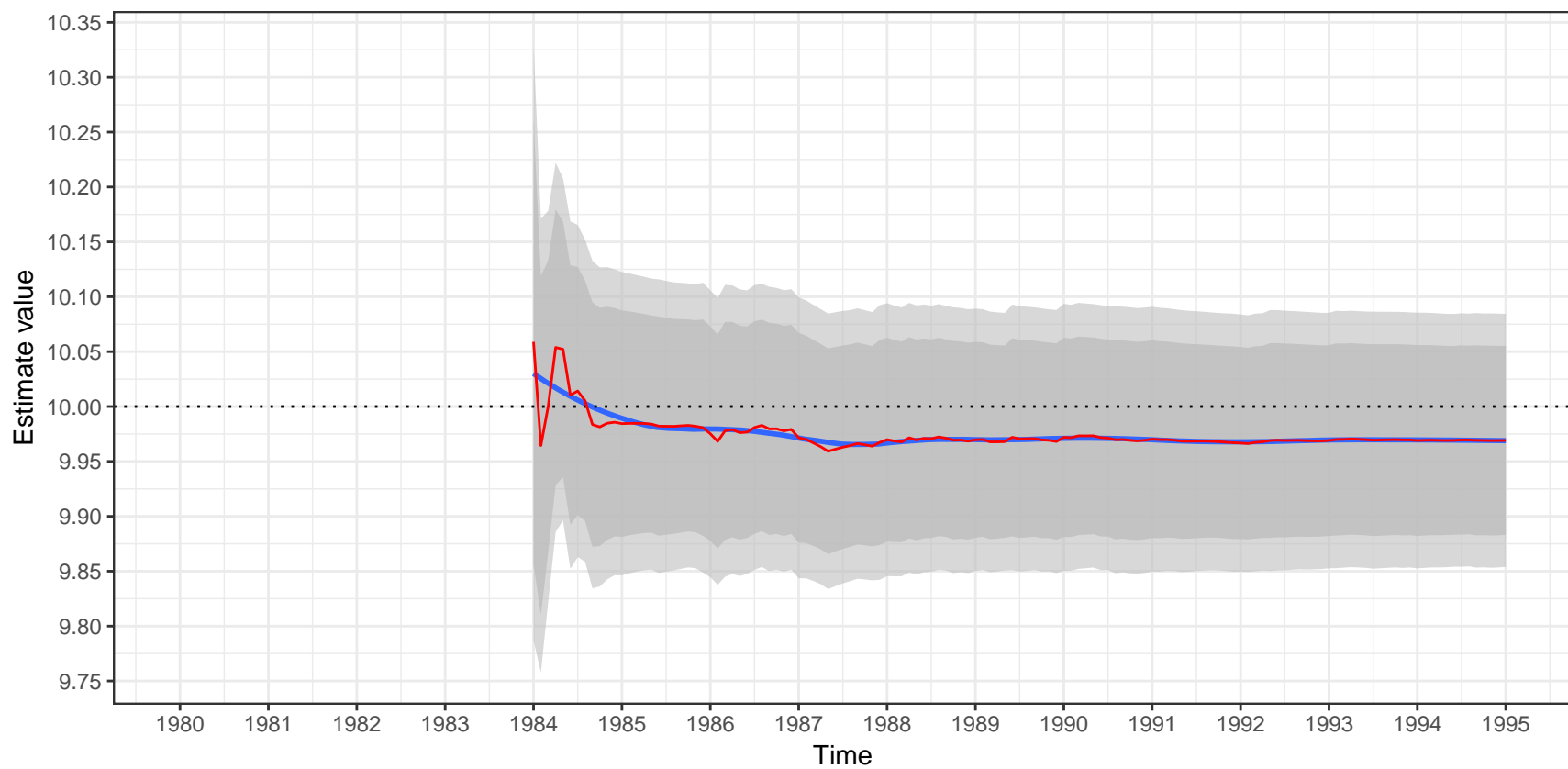


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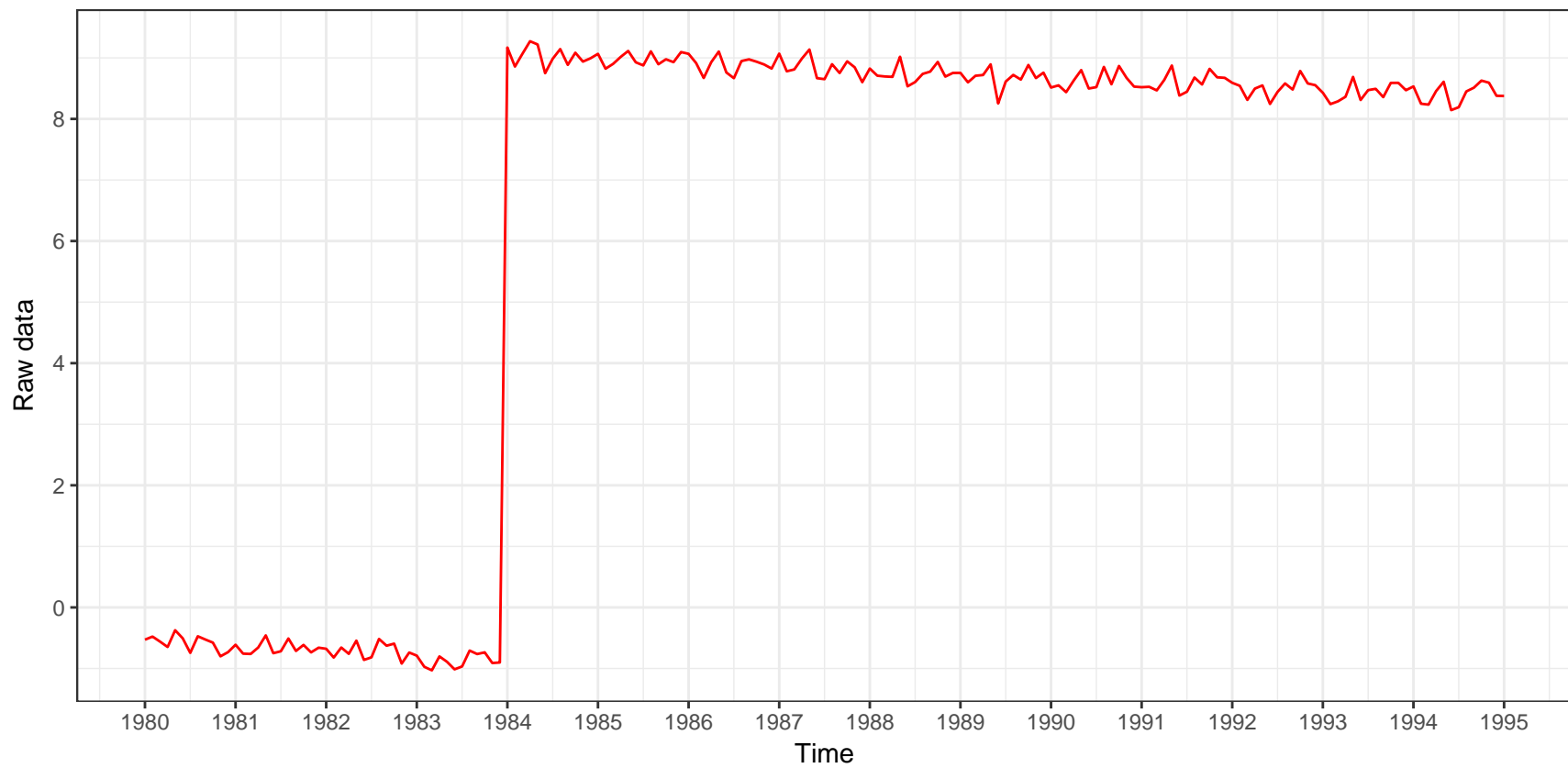


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.90B)(1-0.7B^{12})a_t$

Estimation of the outlier

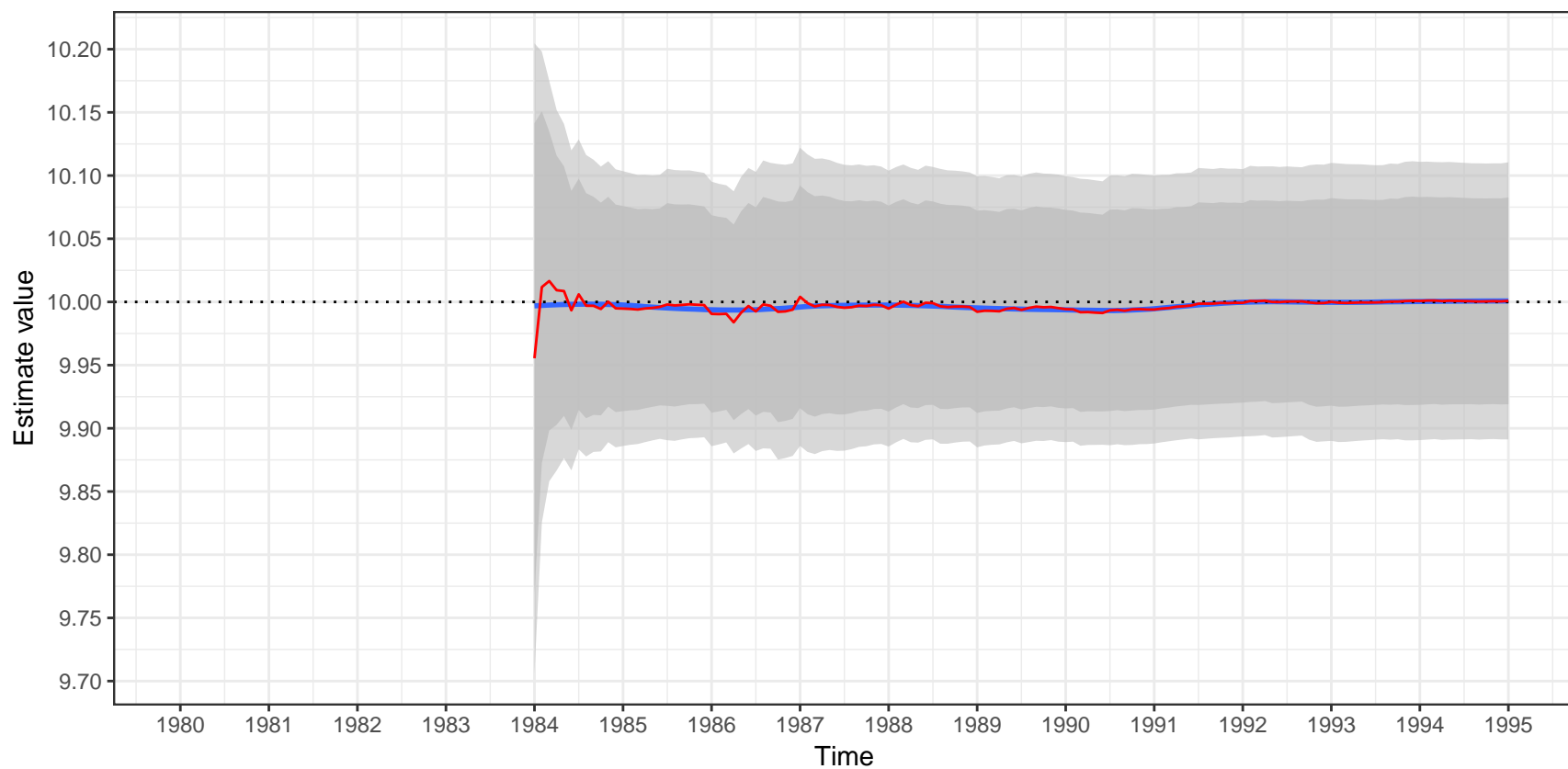


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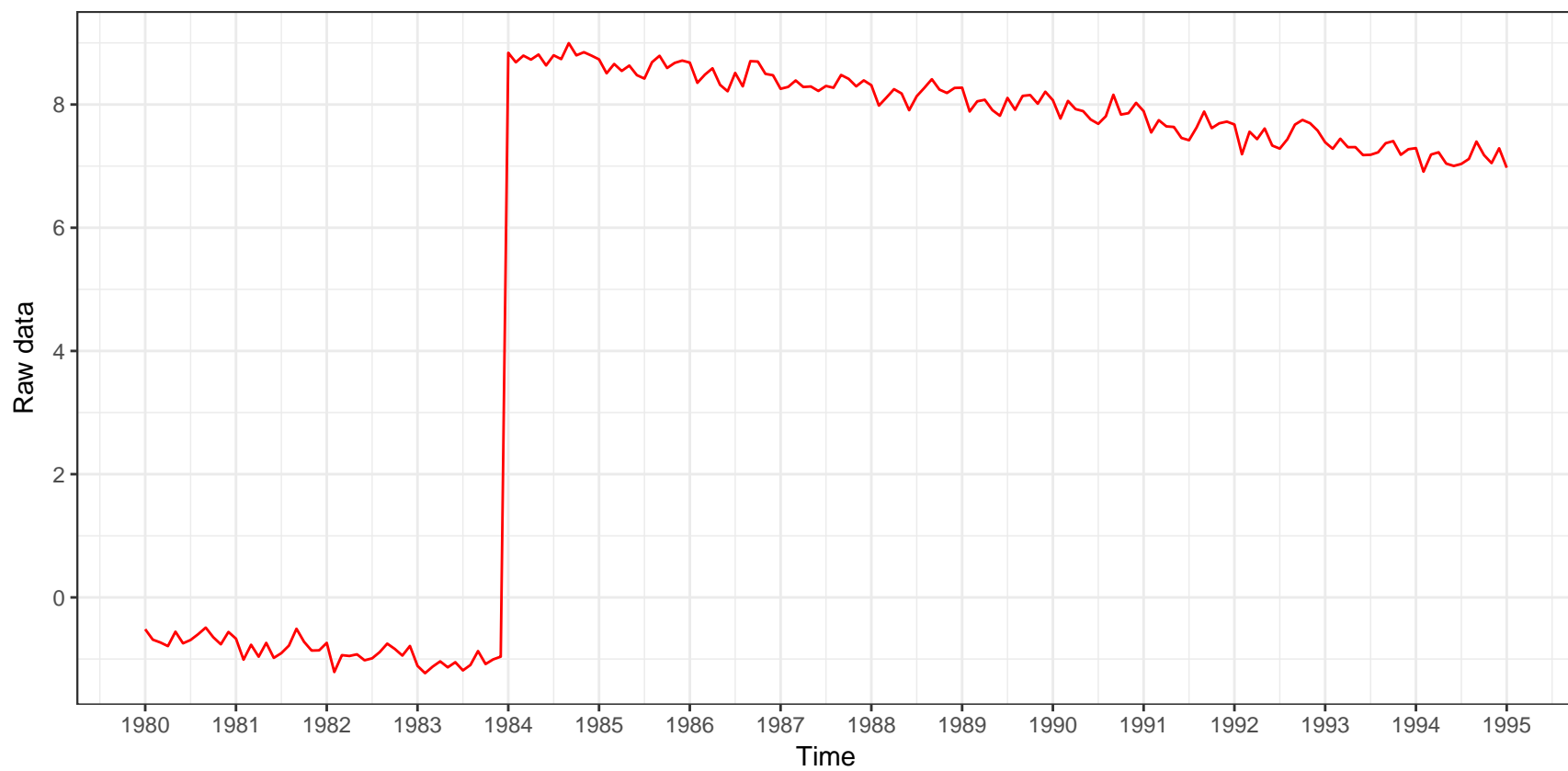


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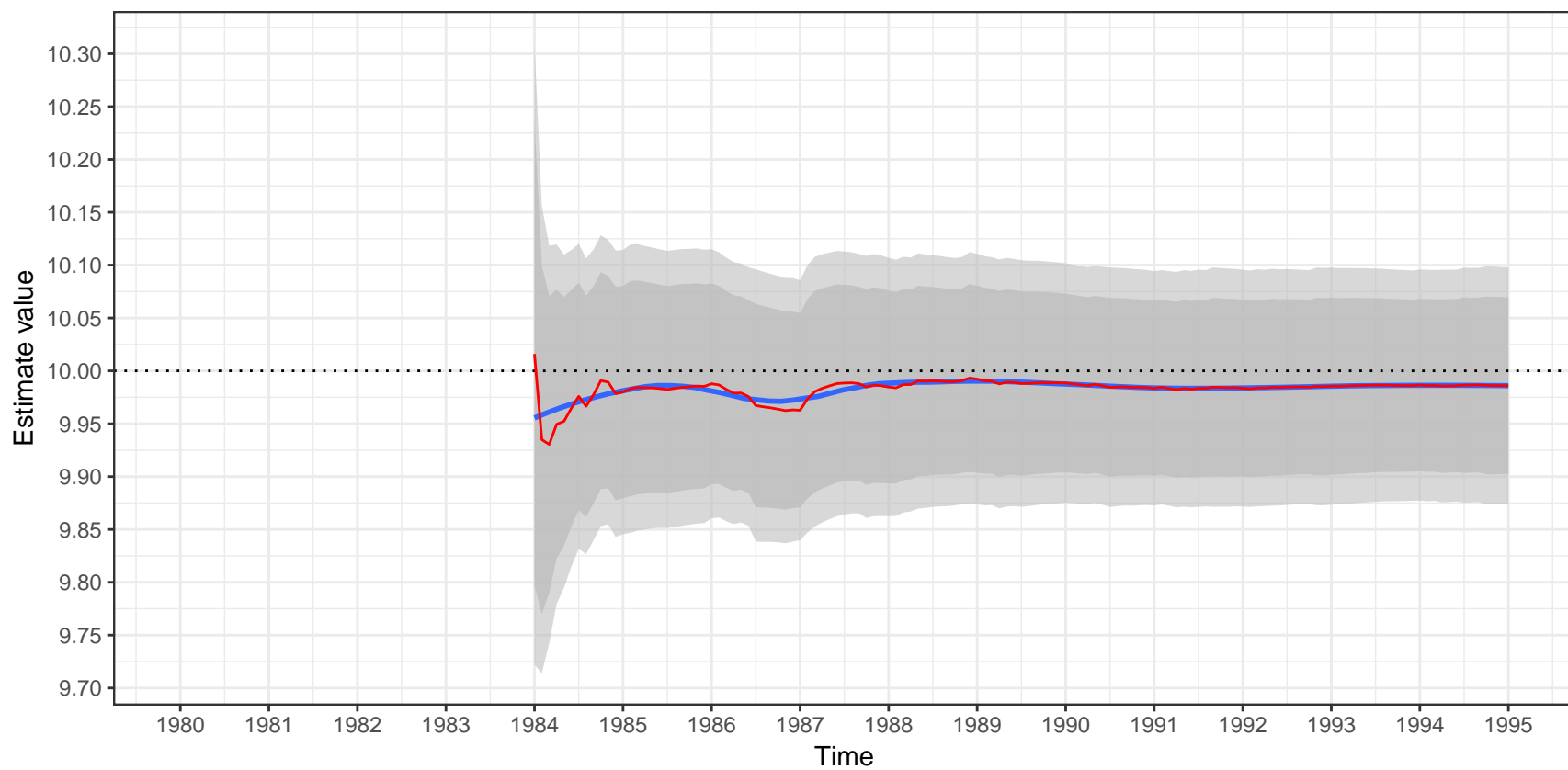


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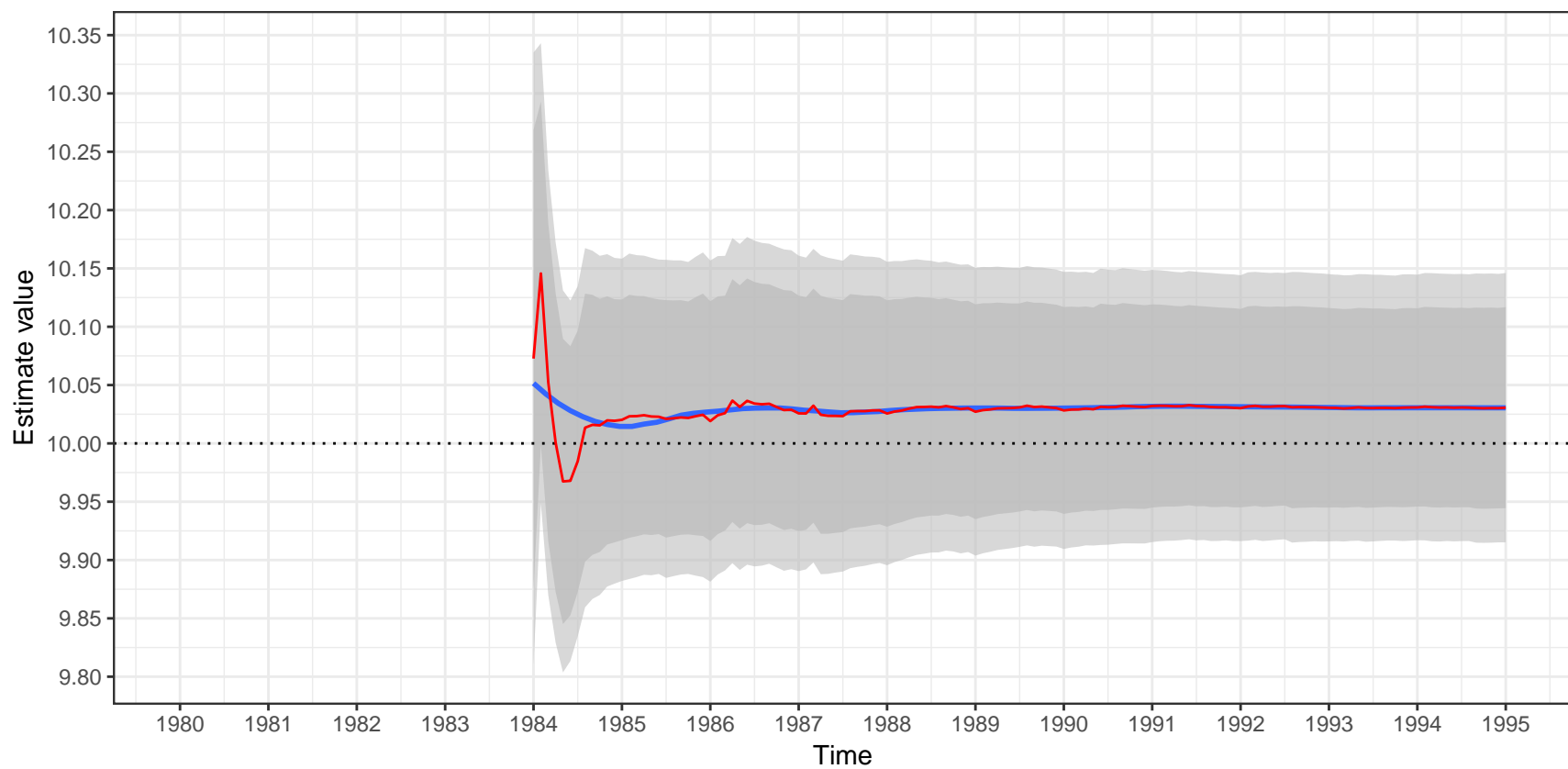


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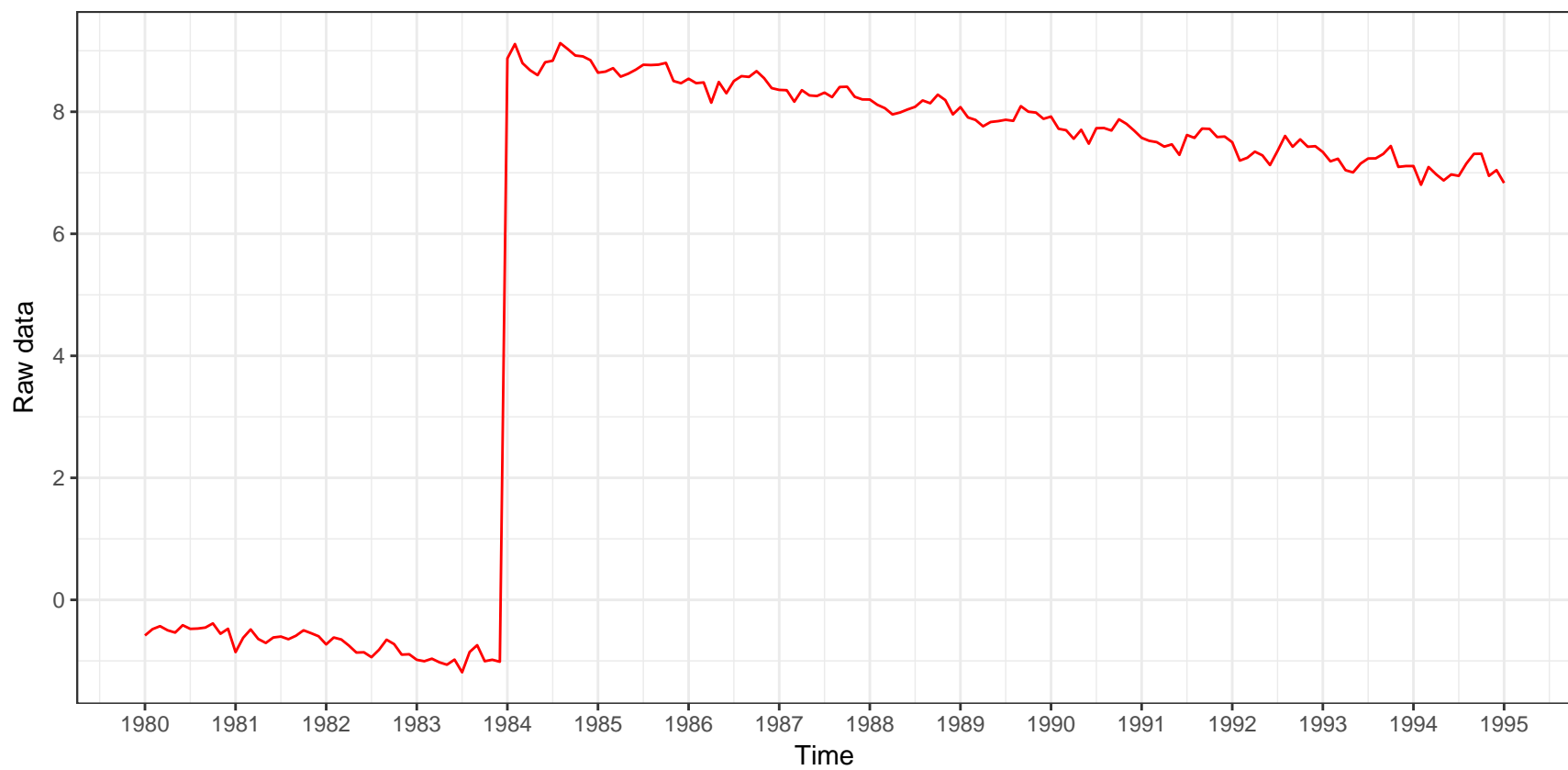


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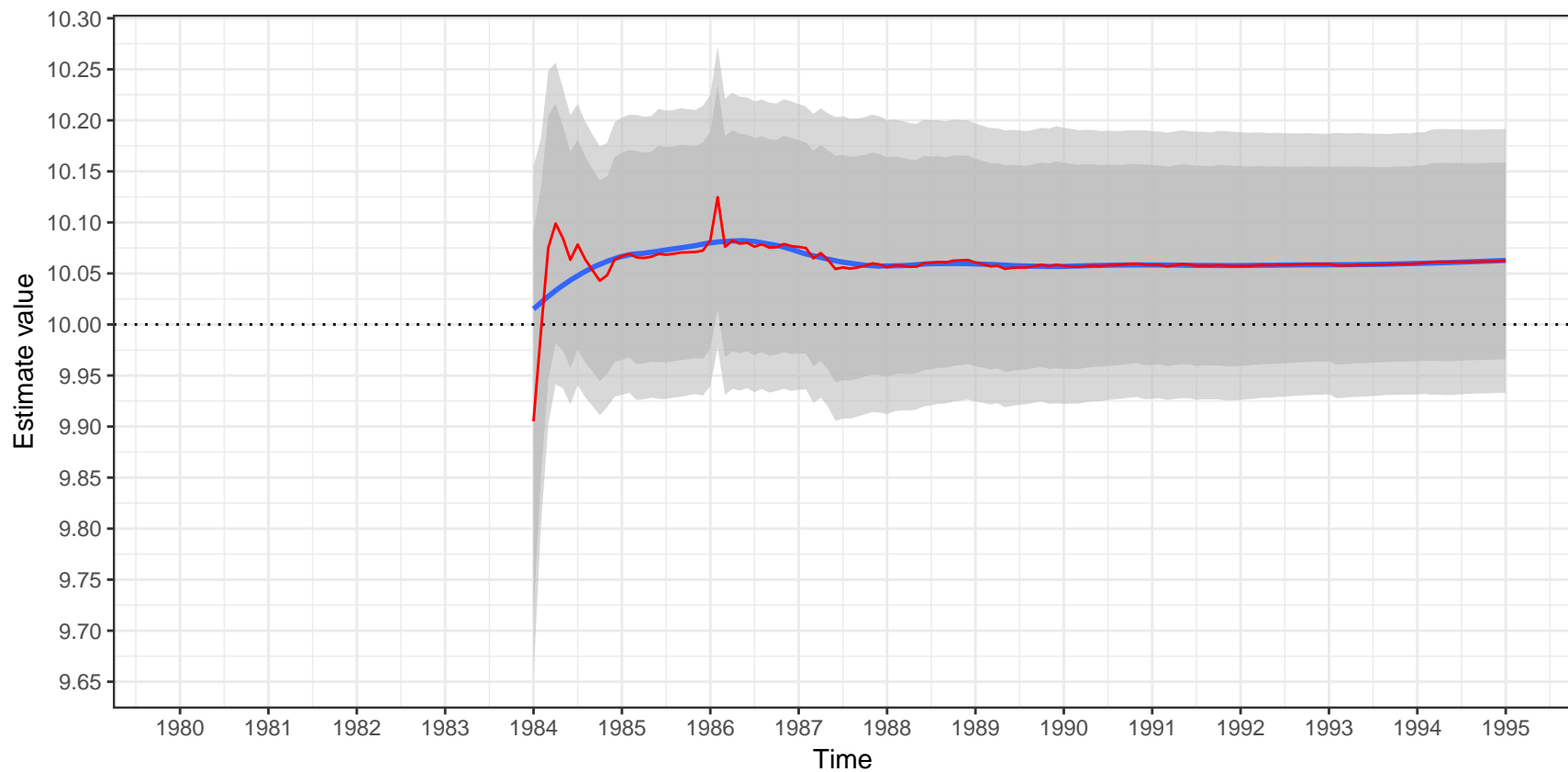


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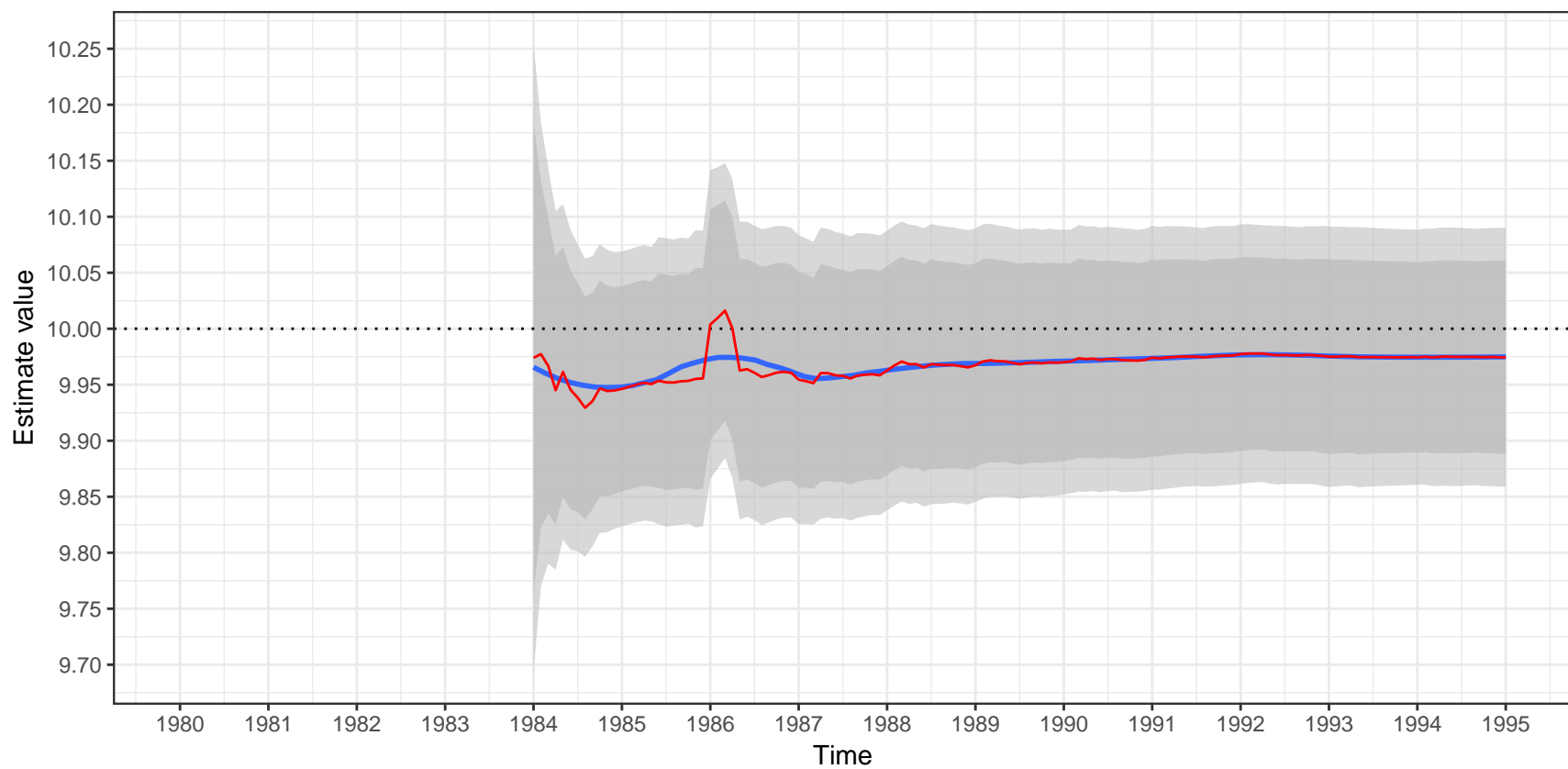


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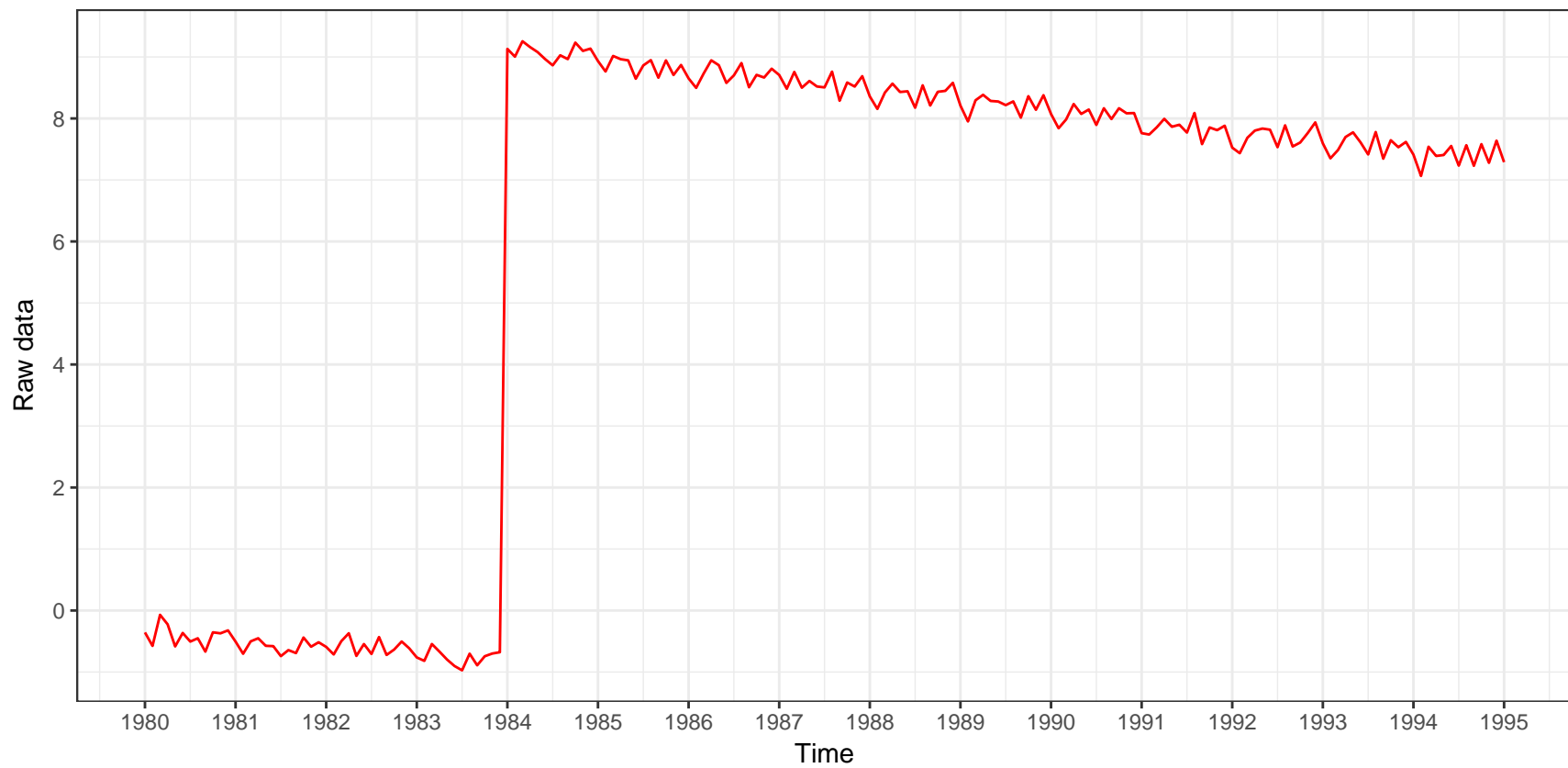


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
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Estimation of the outlier

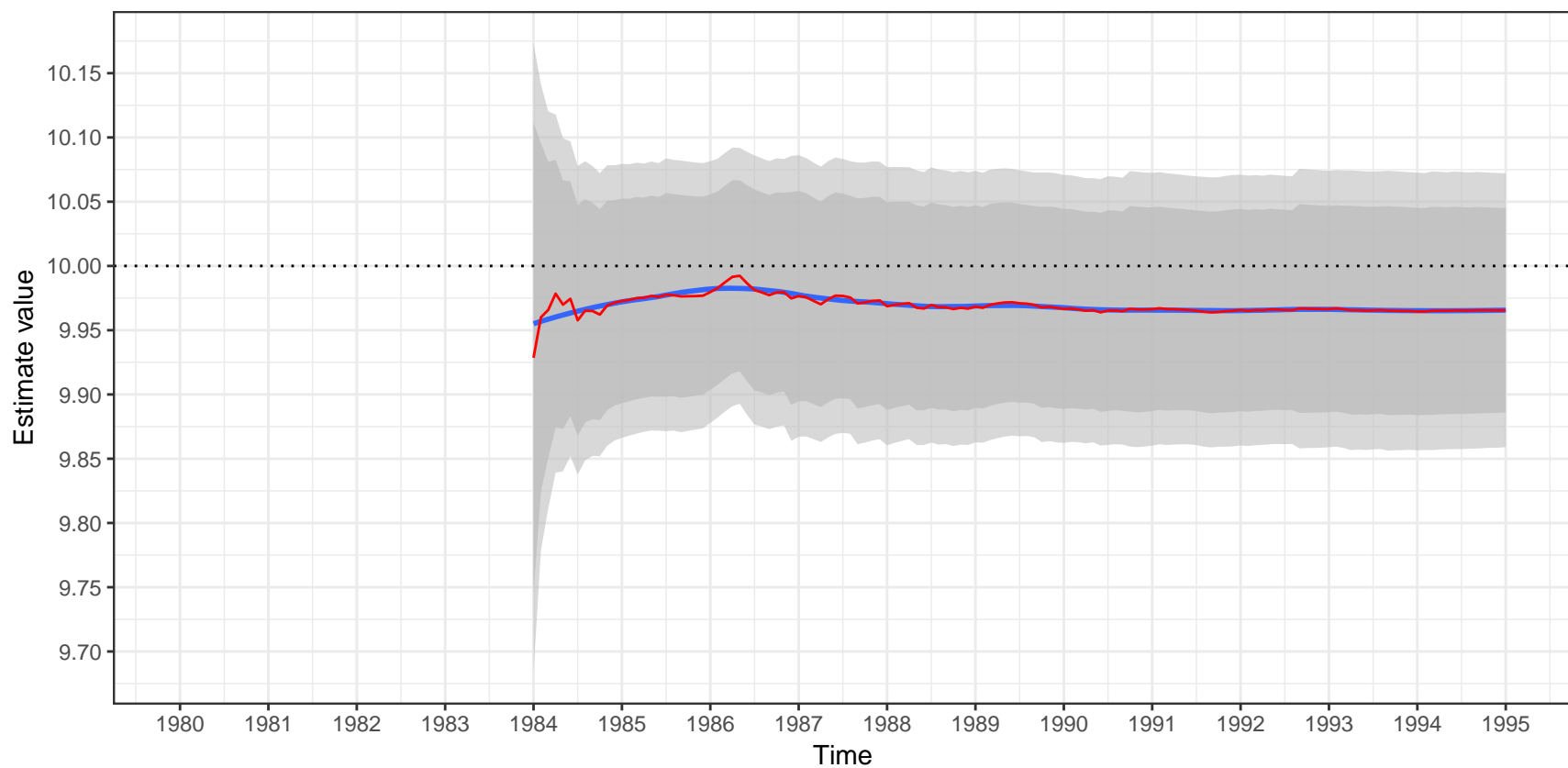


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.90B)(1-0.7B^{12})a_t$

Estimation of the outlier

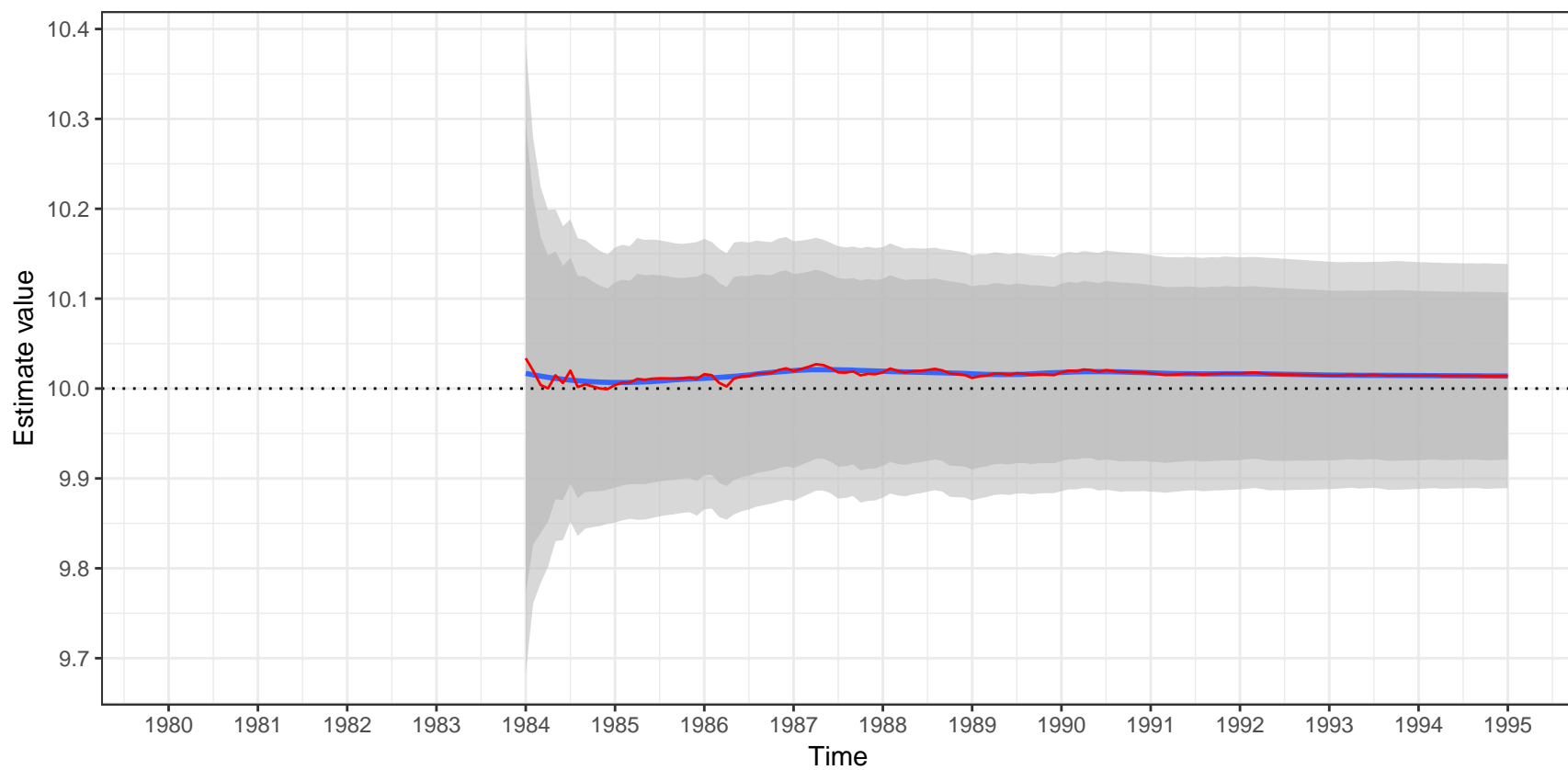


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.90B)(1-0.7B^{12})a_t$

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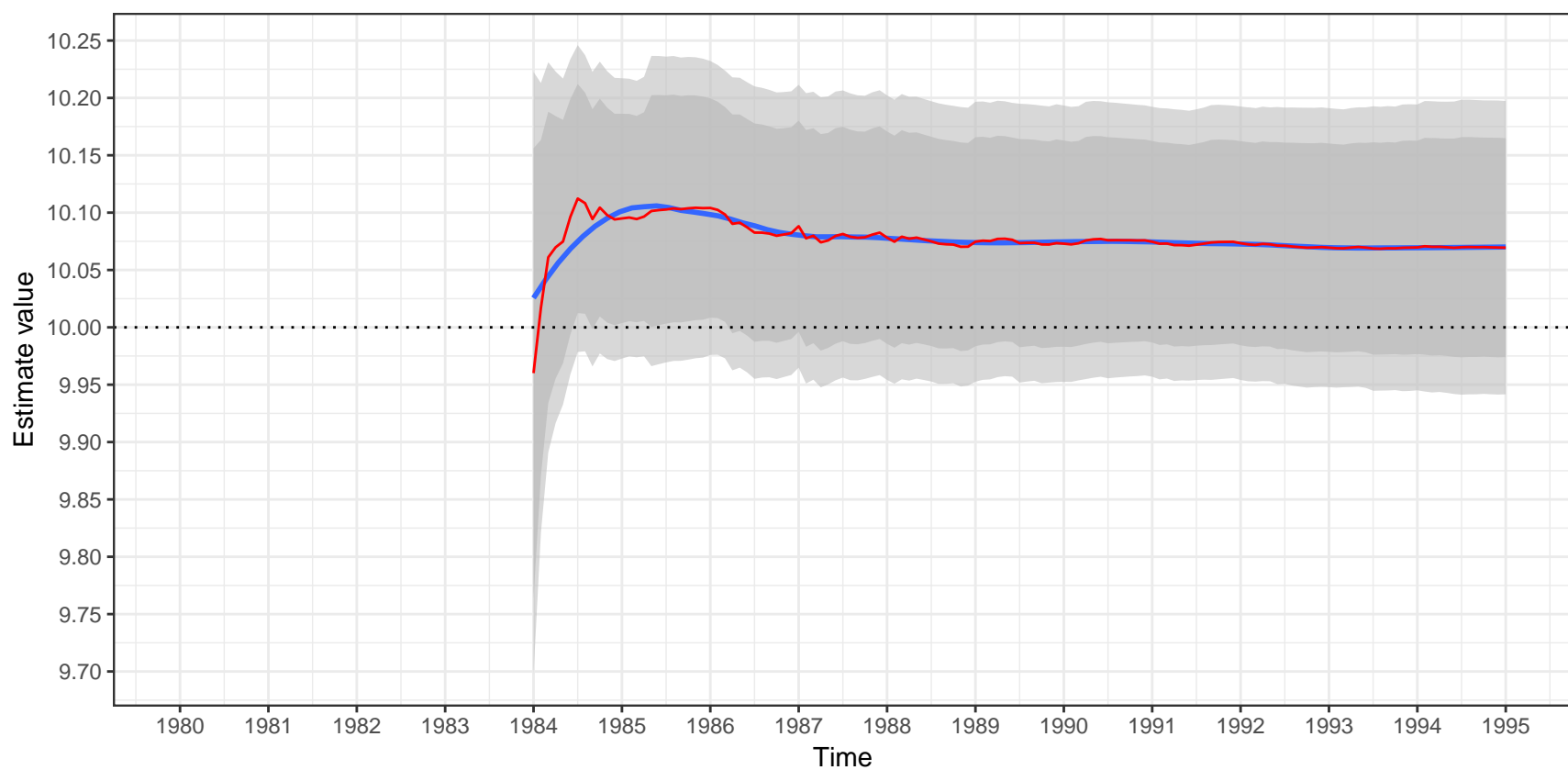


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t = (1-0.90B)(1-0.7B^{12})a_t$

Estimation of the outlier

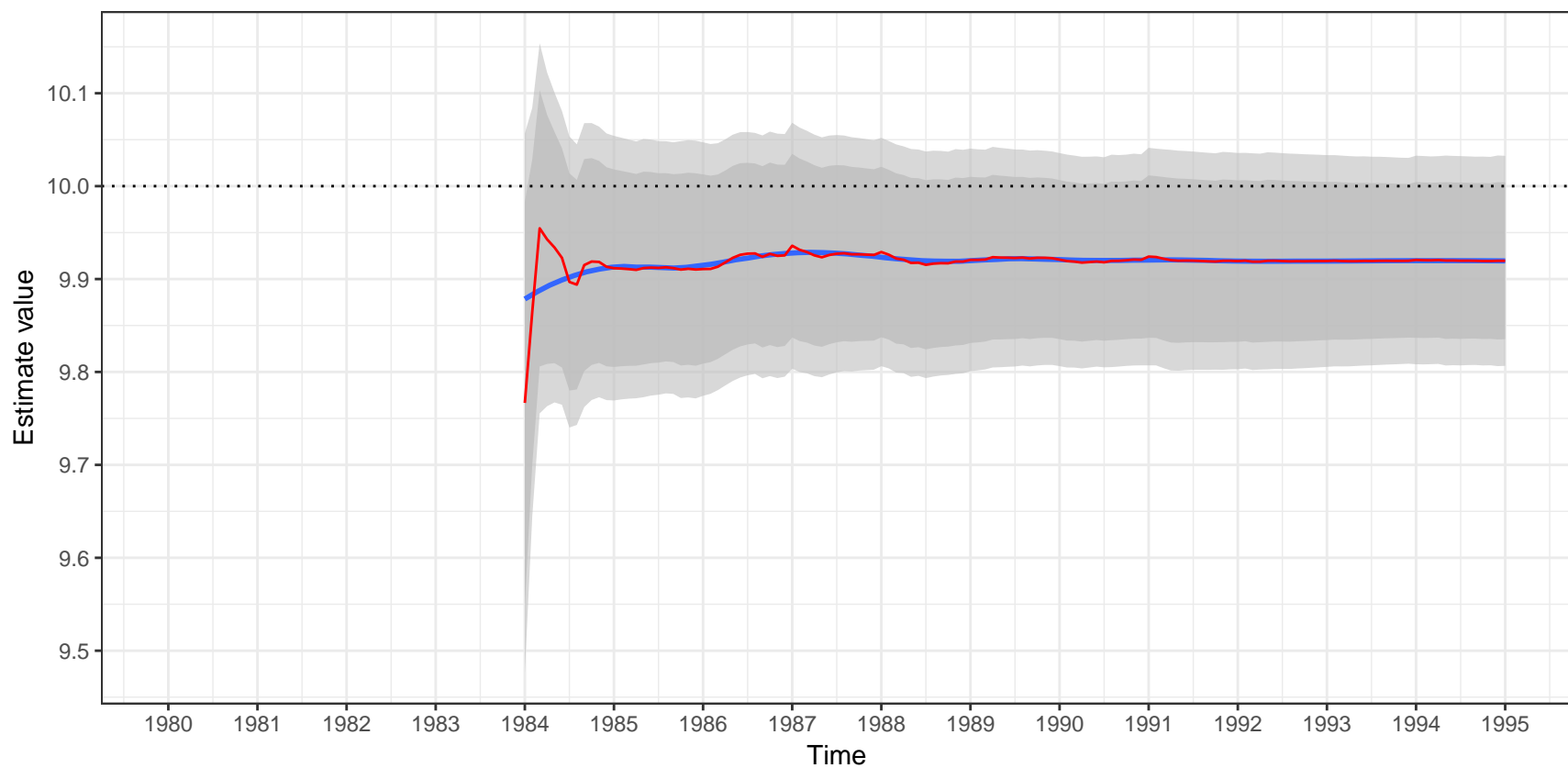


Raw data



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ARIMA (0,1,1)(0,1,1) – additive decomposition
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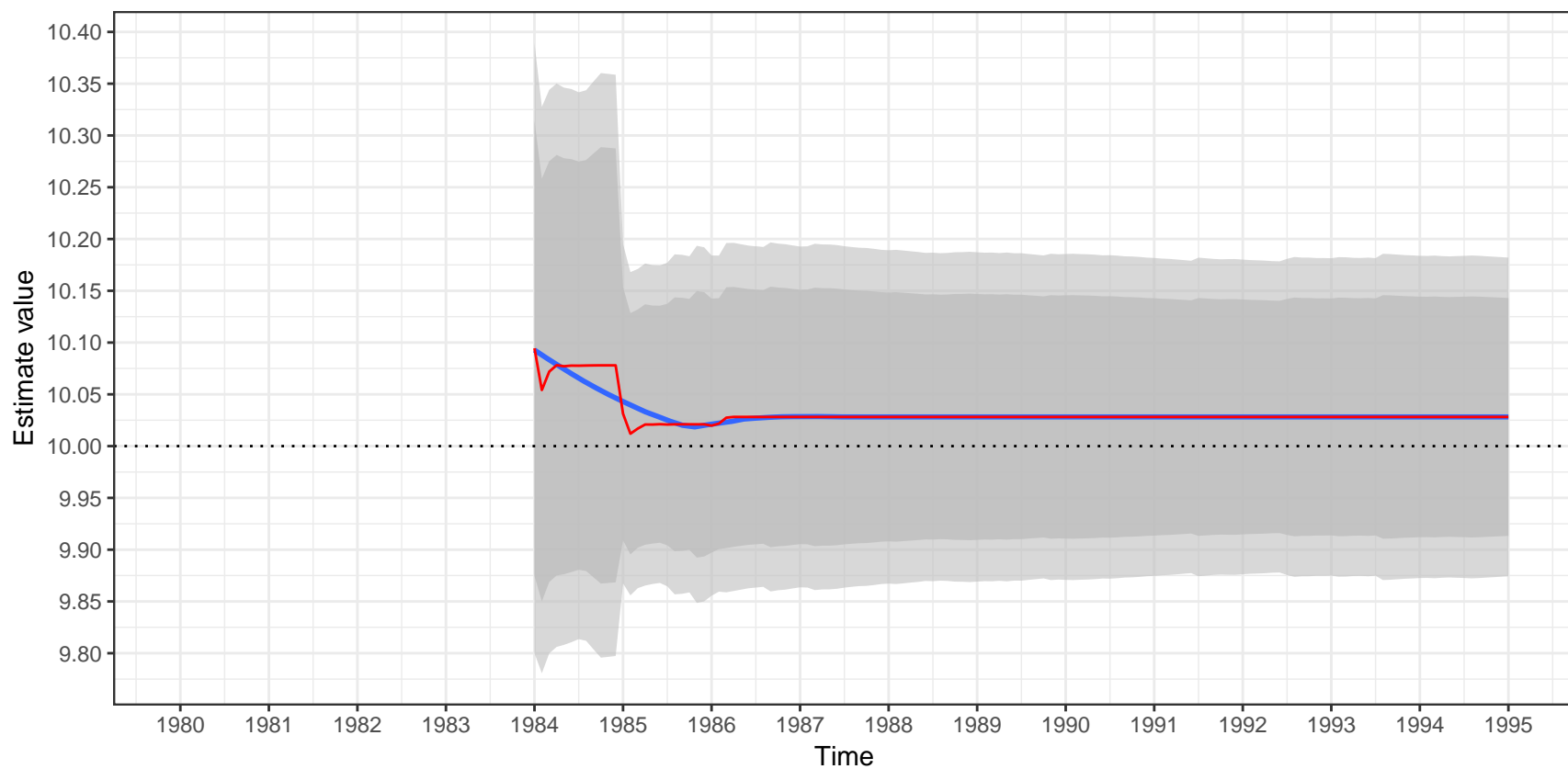


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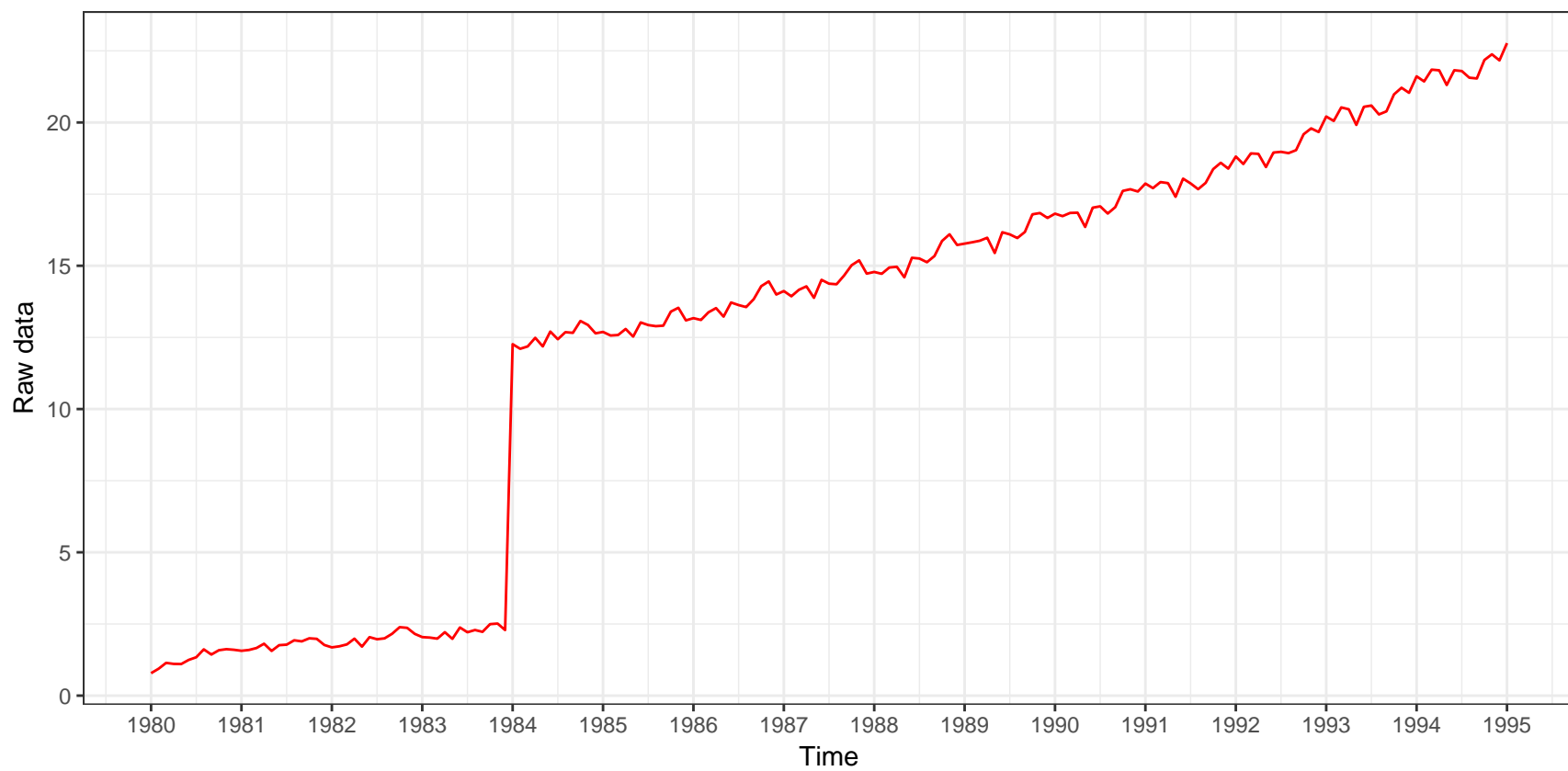


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,0) – additive decomposition
 $(1-B)(1-B^{12})(1-0.5B^{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

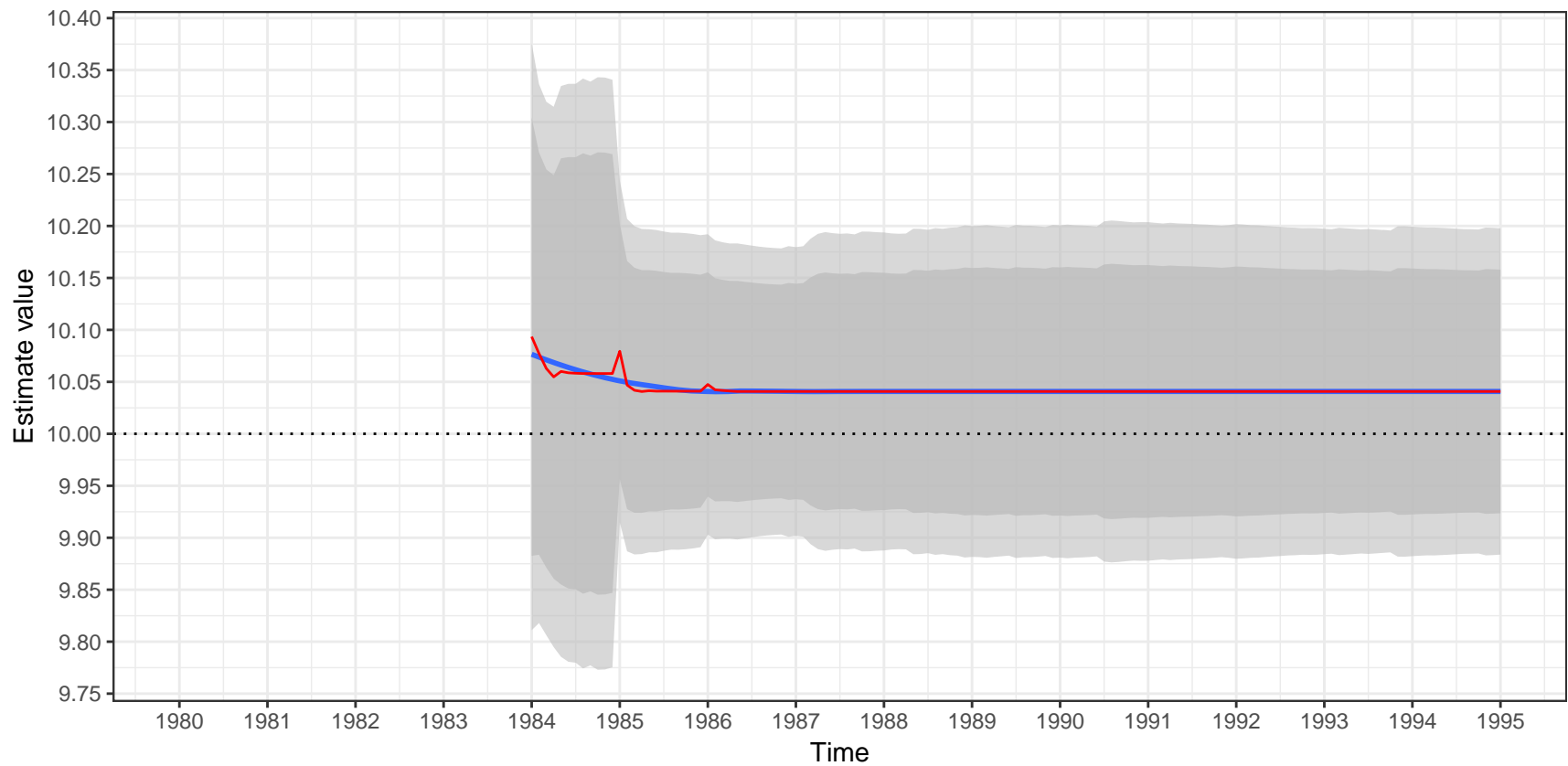


Raw data

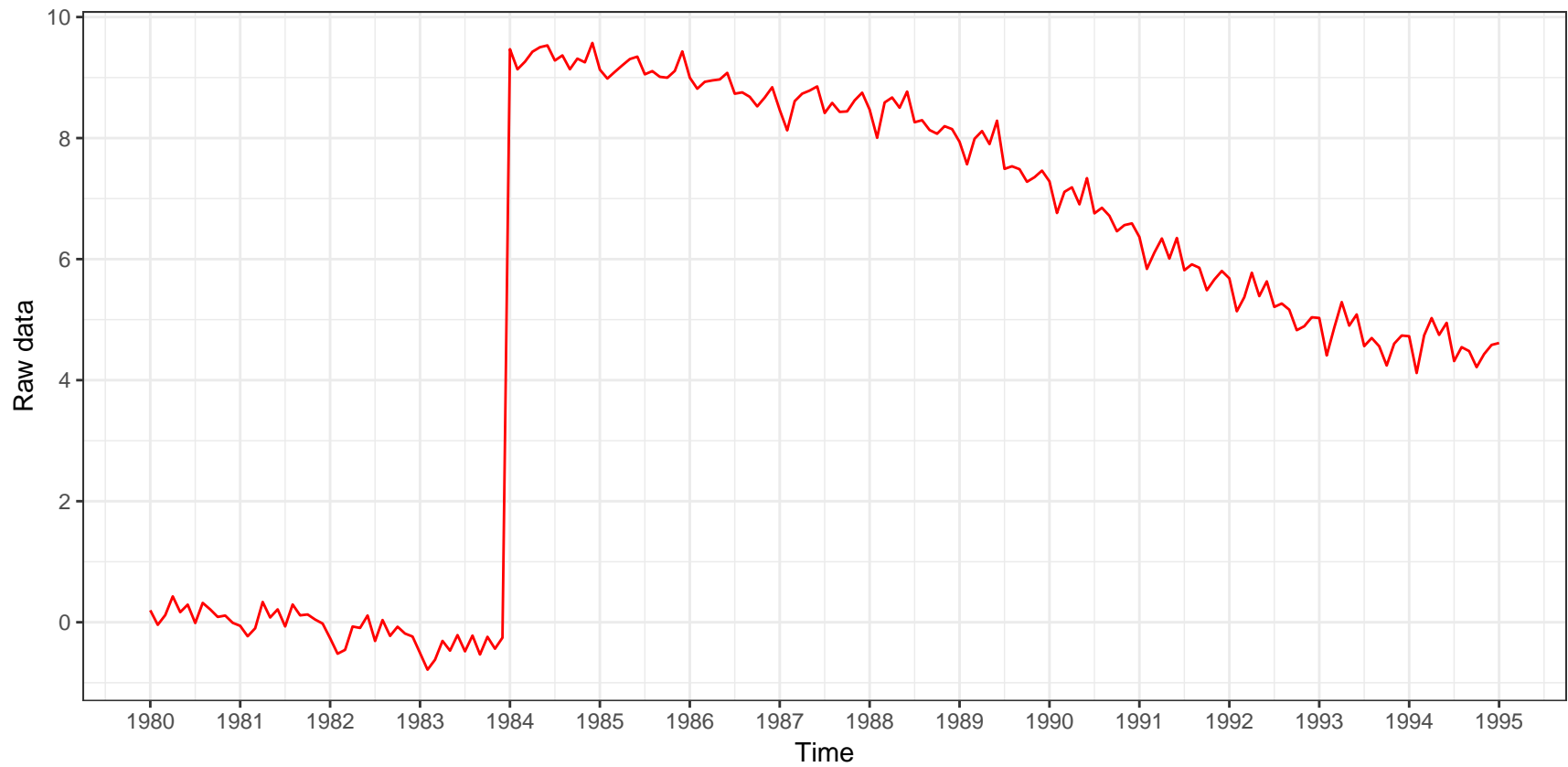


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,0) – additive decomposition
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Estimation of the outlier

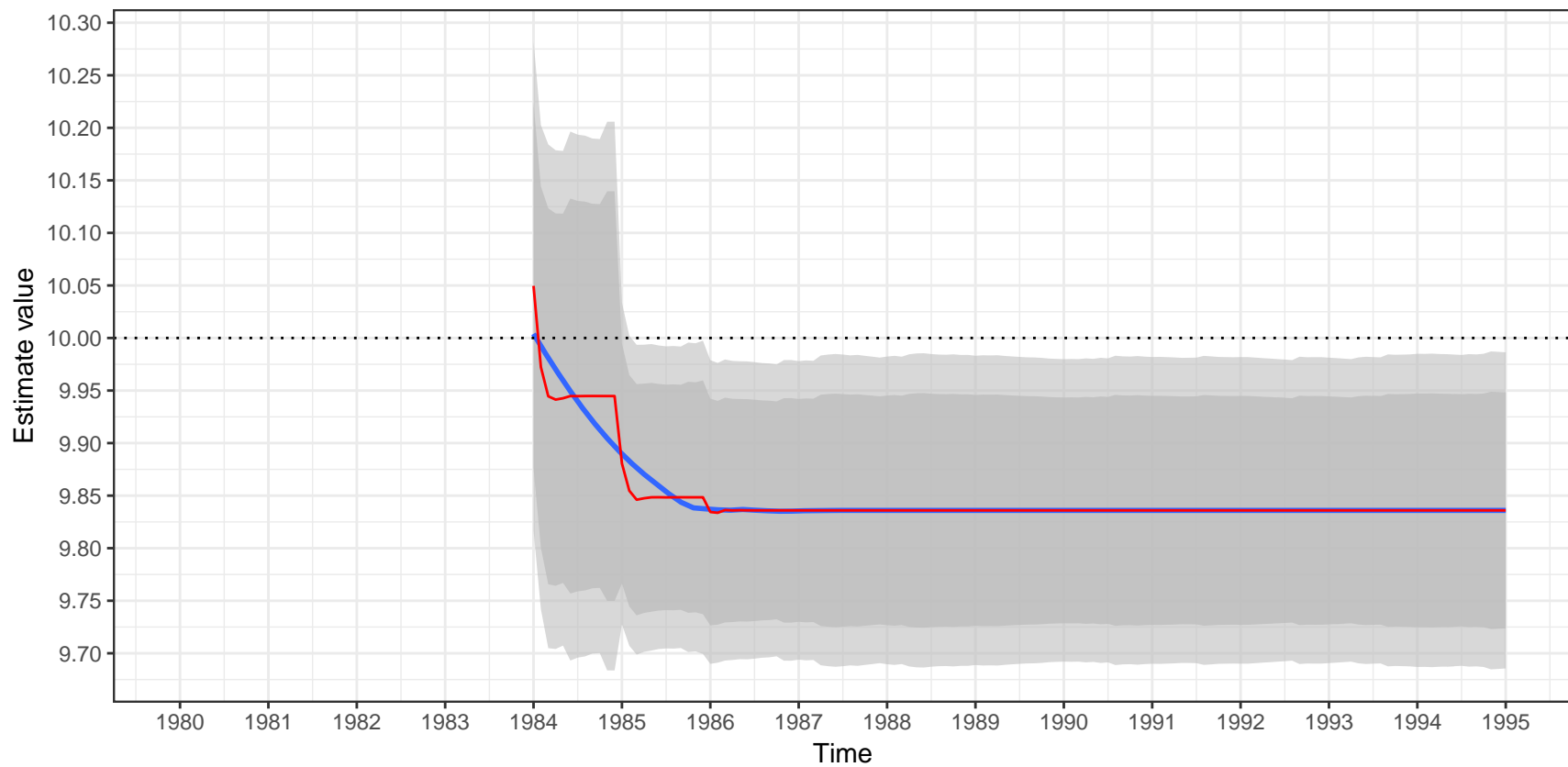


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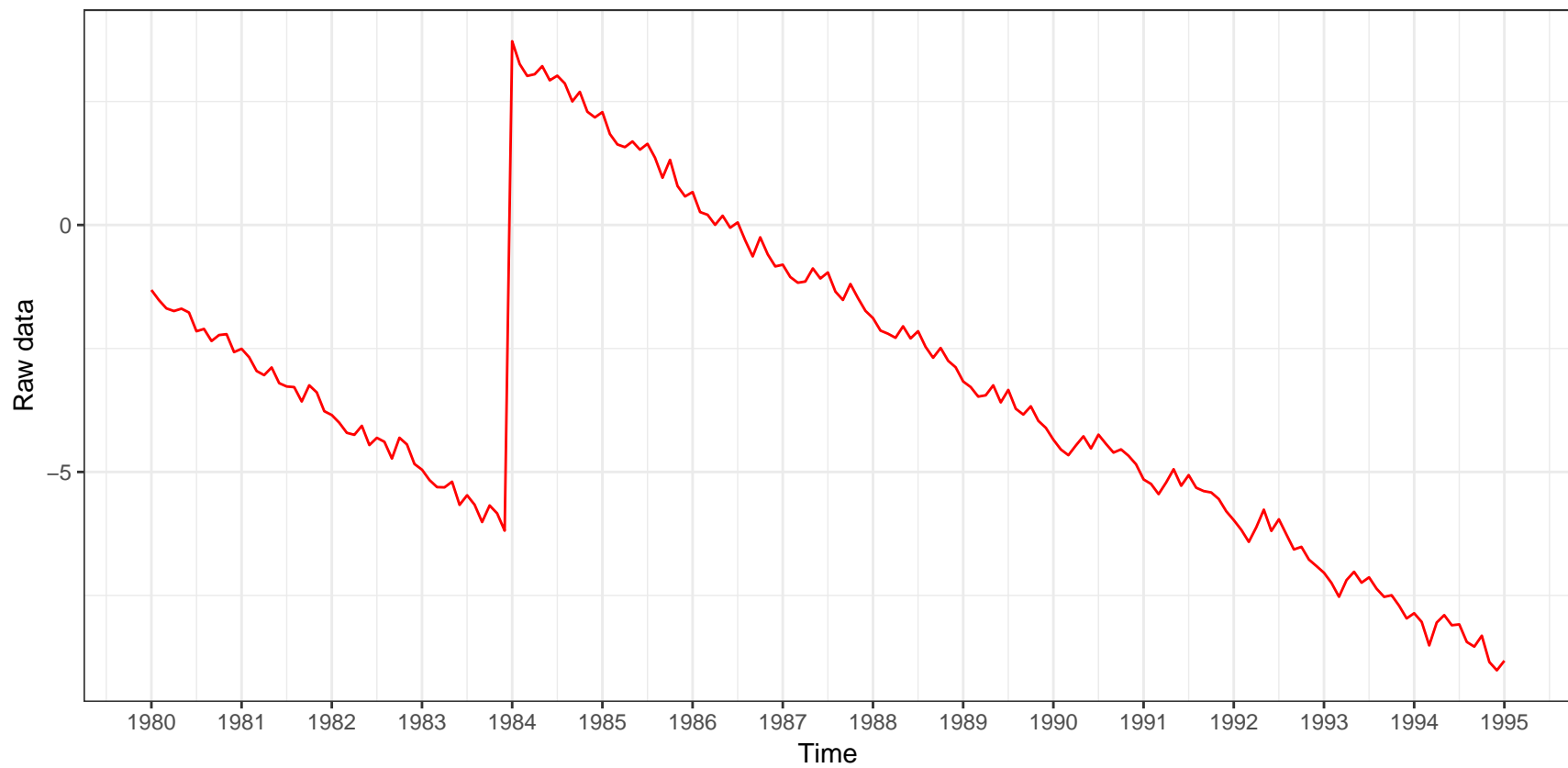


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,0) – additive decomposition
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Estimation of the outlier

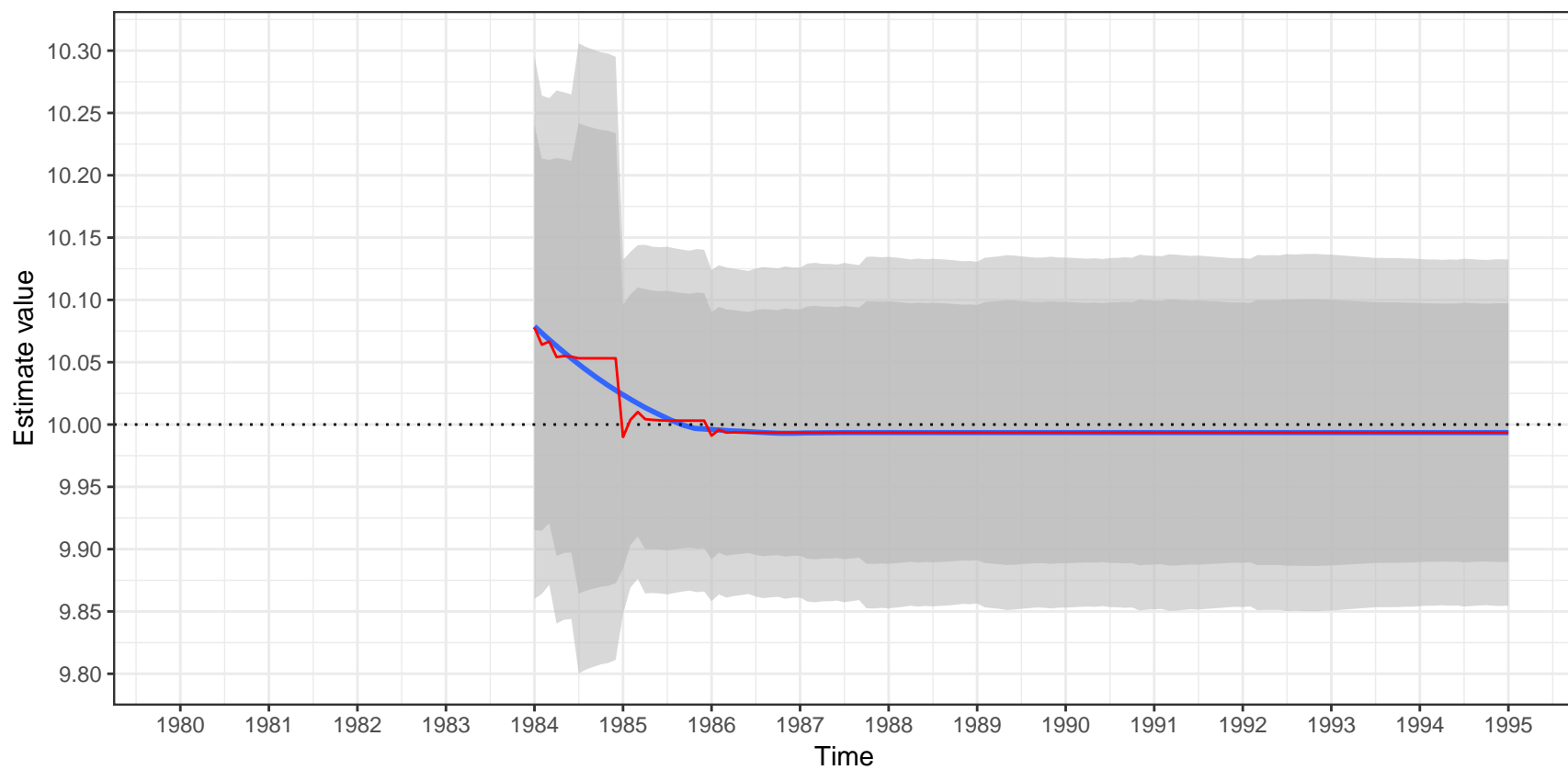


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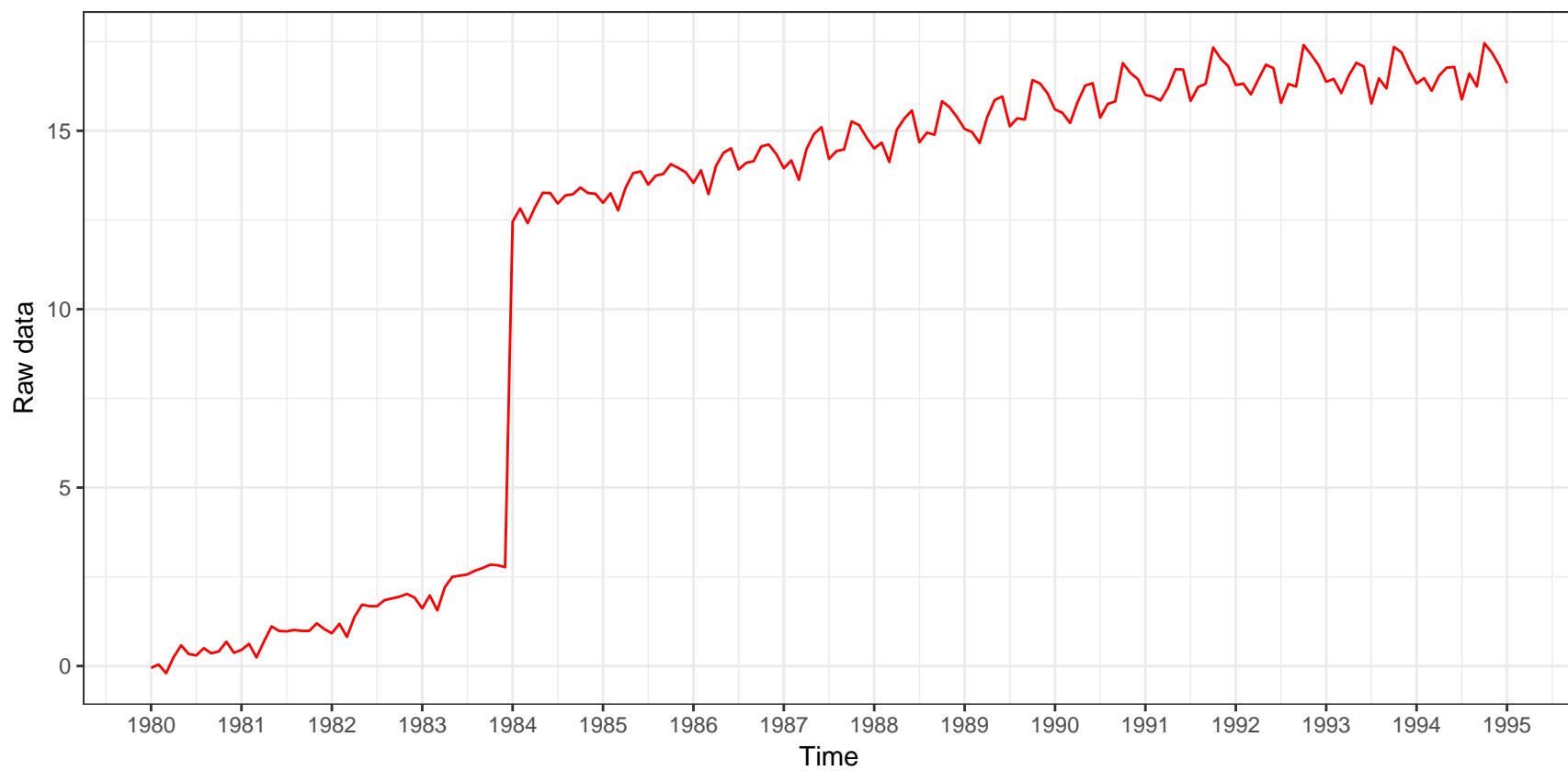


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,0) – additive decomposition
 $(1-B)(1-B_{12})(1-0.5B_{12})X_t=(1-0.4B)a_t$

Estimation of the outlier

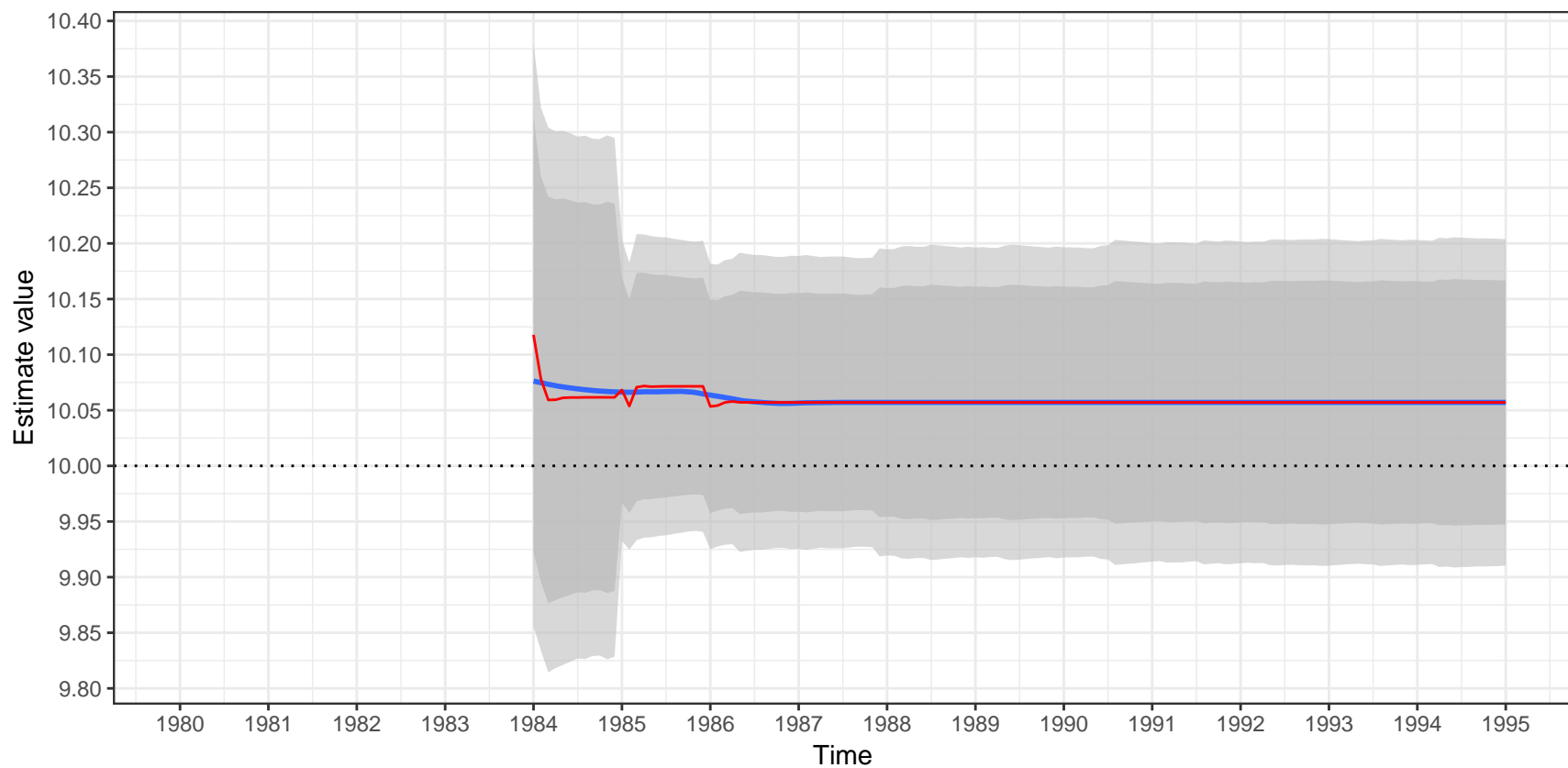


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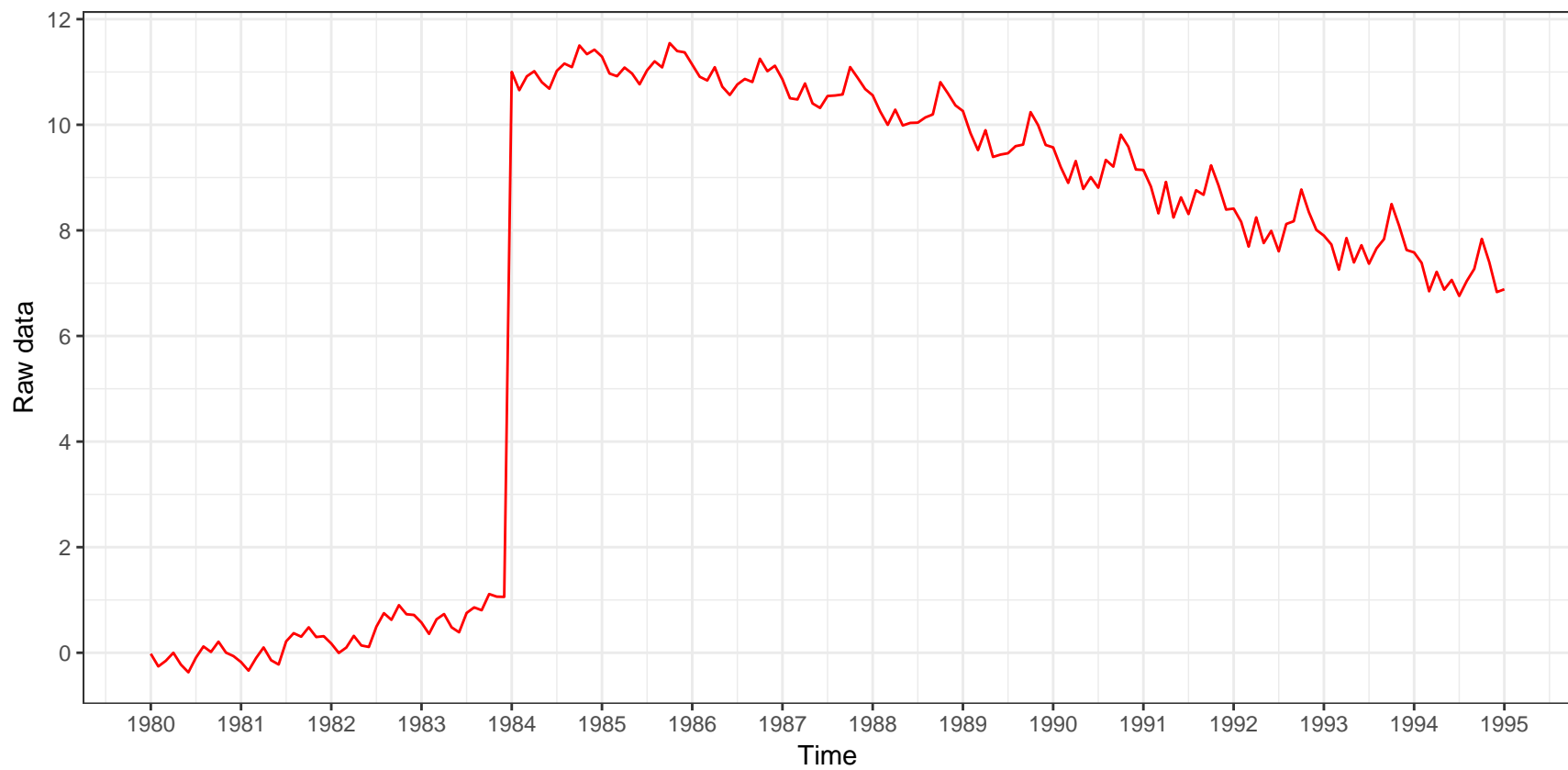


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,0) – additive decomposition
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Estimation of the outlier

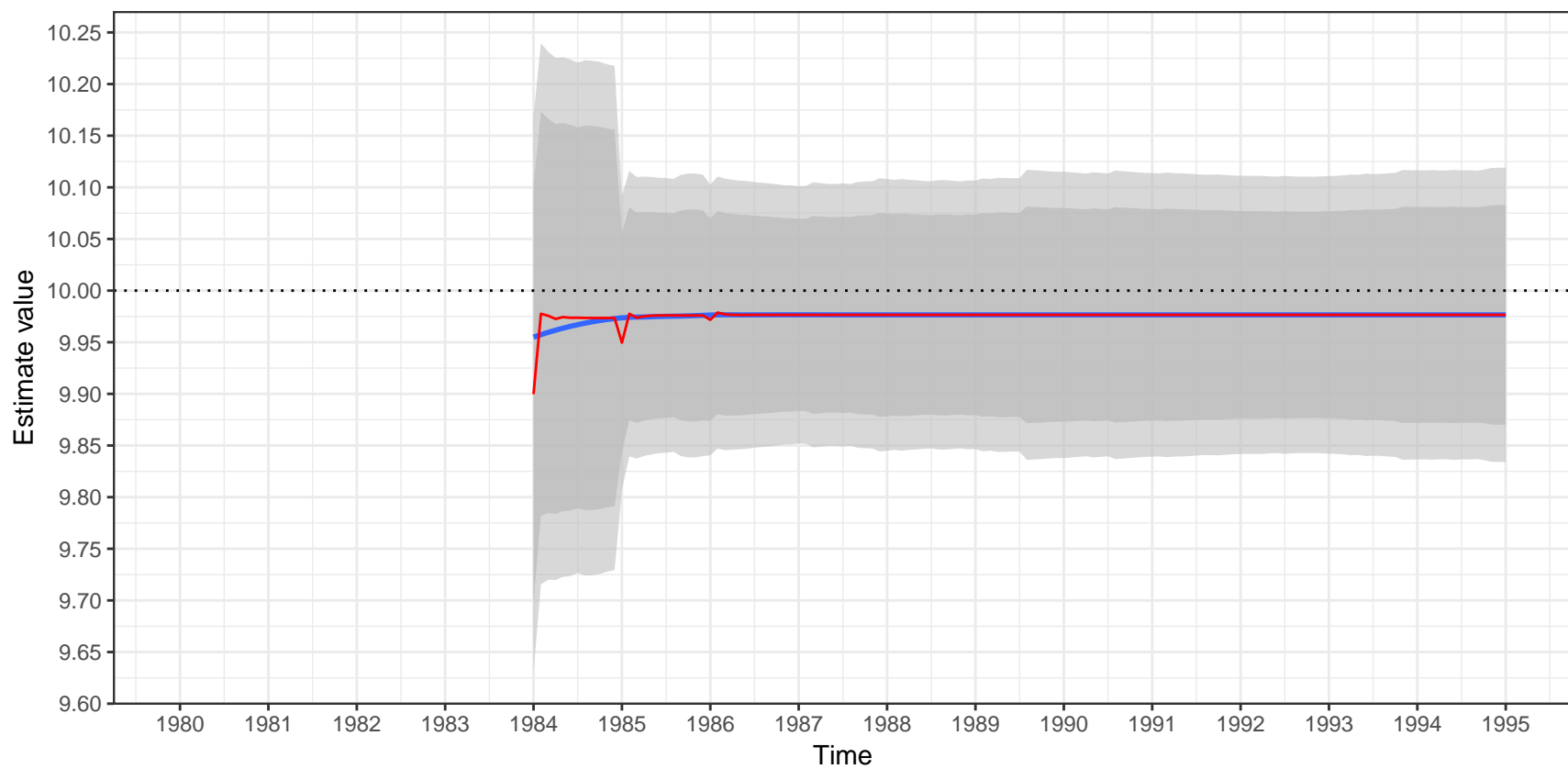


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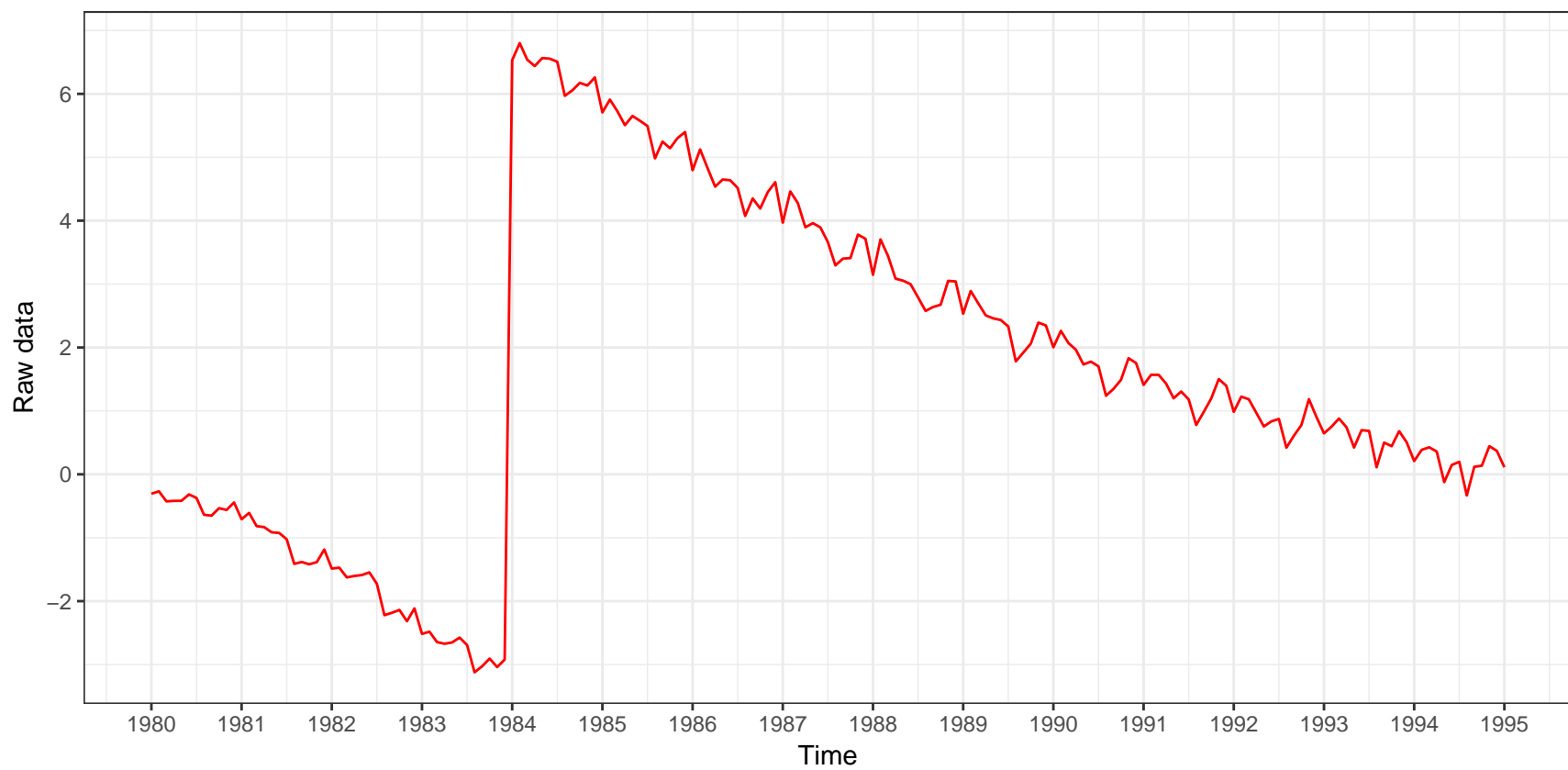


Estimate value of a LS(1984-01)
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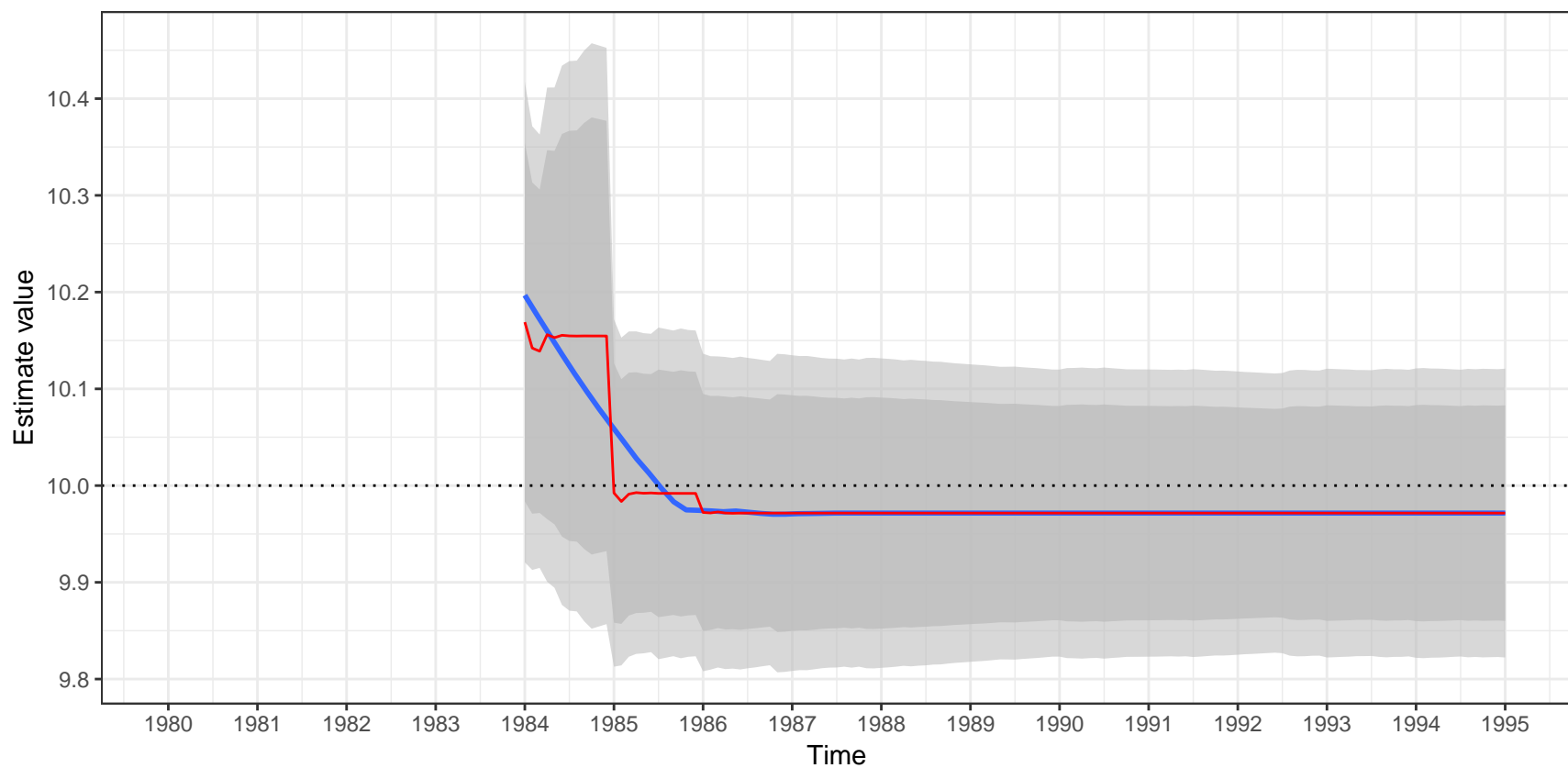


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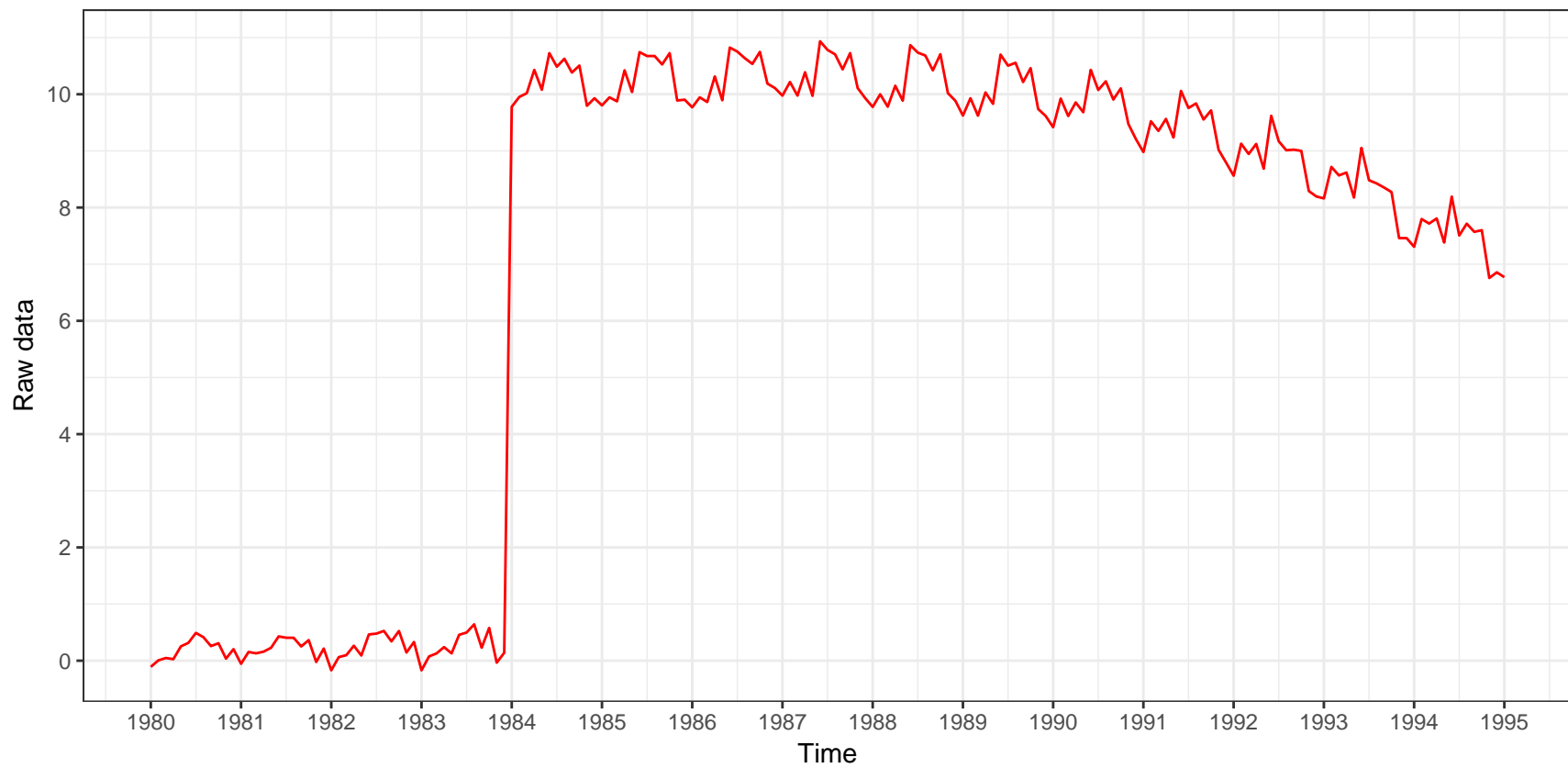


Estimate value of a LS(1984-01)
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Estimation of the outlier

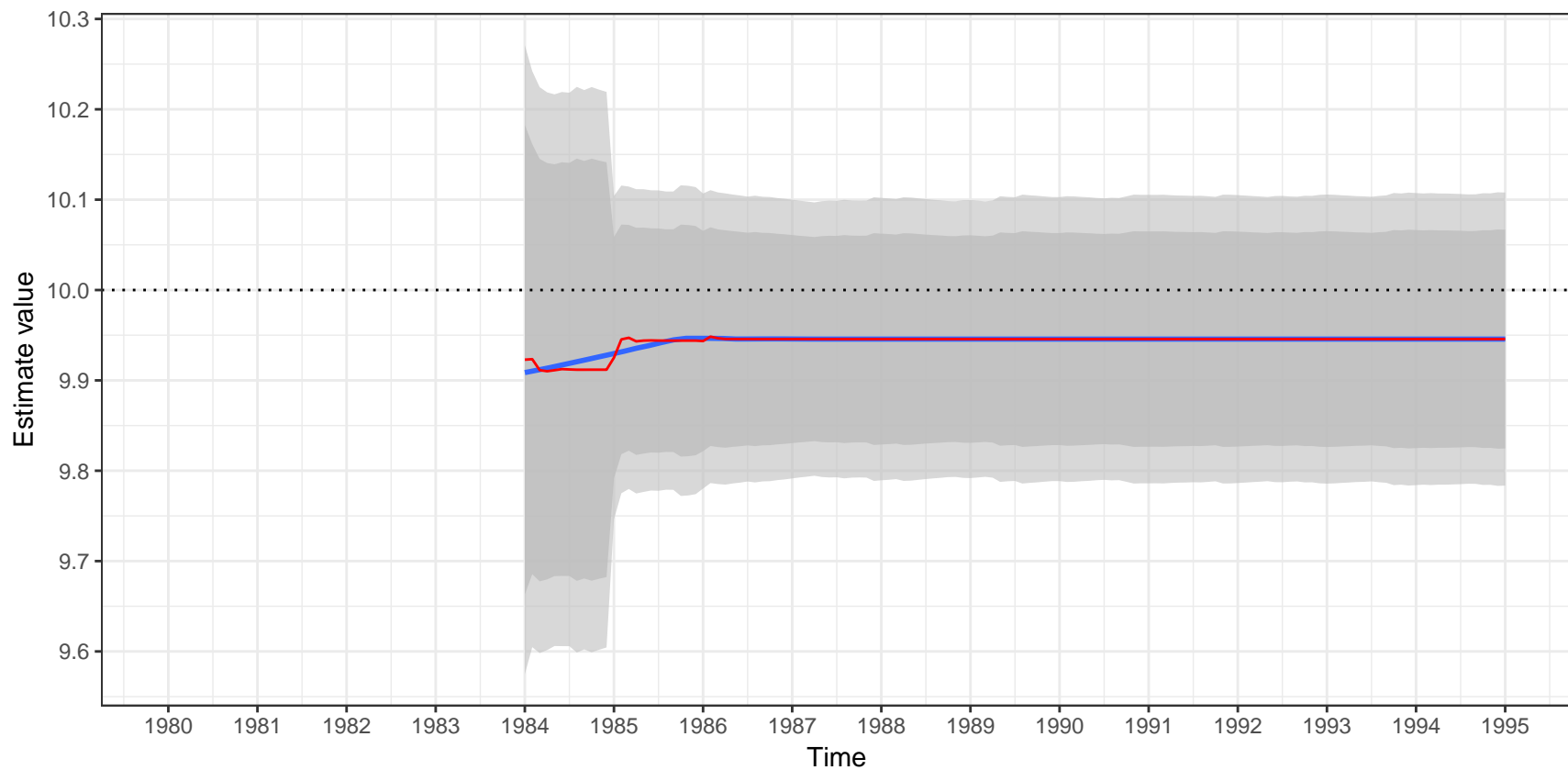


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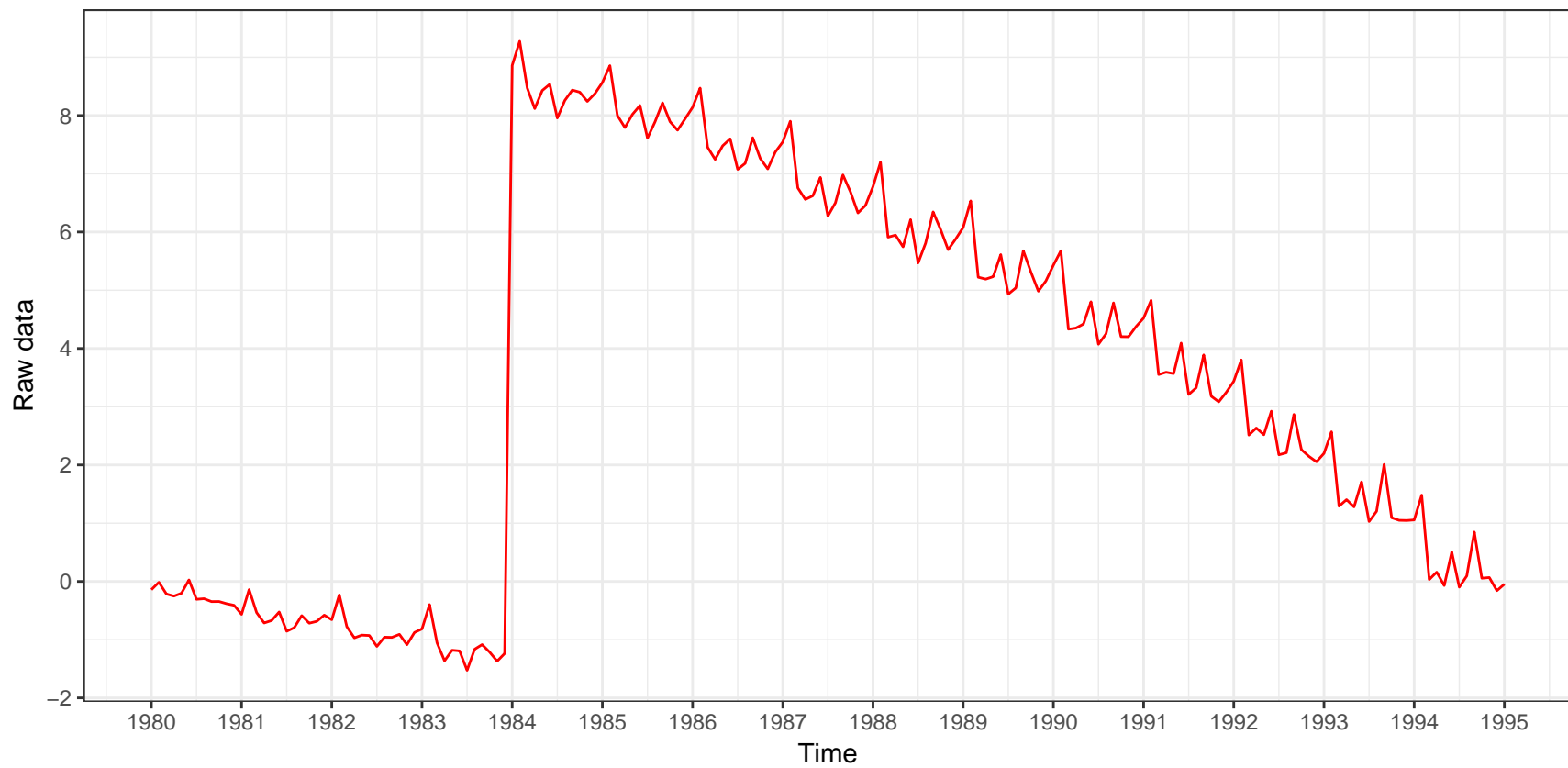


Estimate value of a LS(1984-01)
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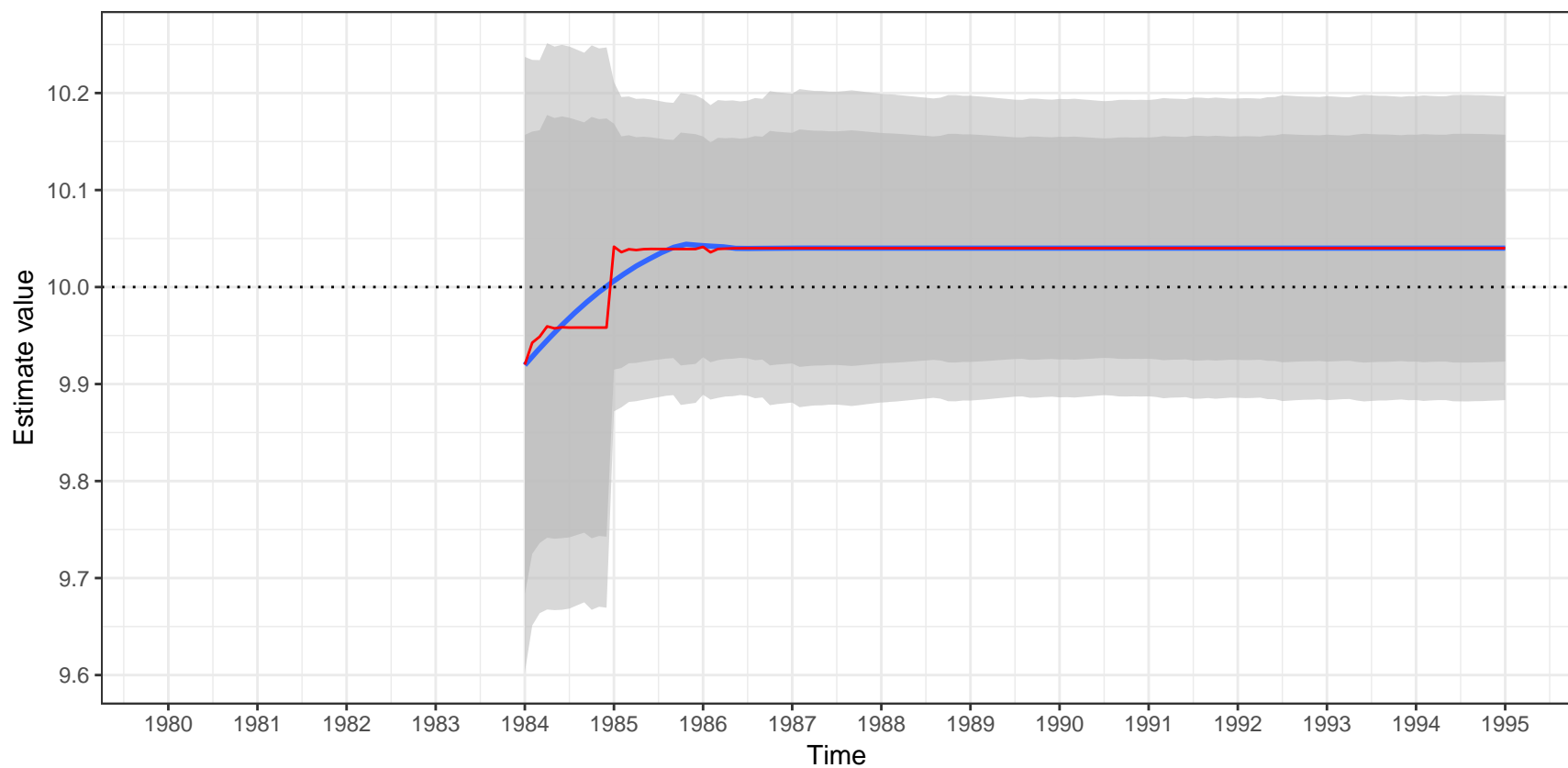


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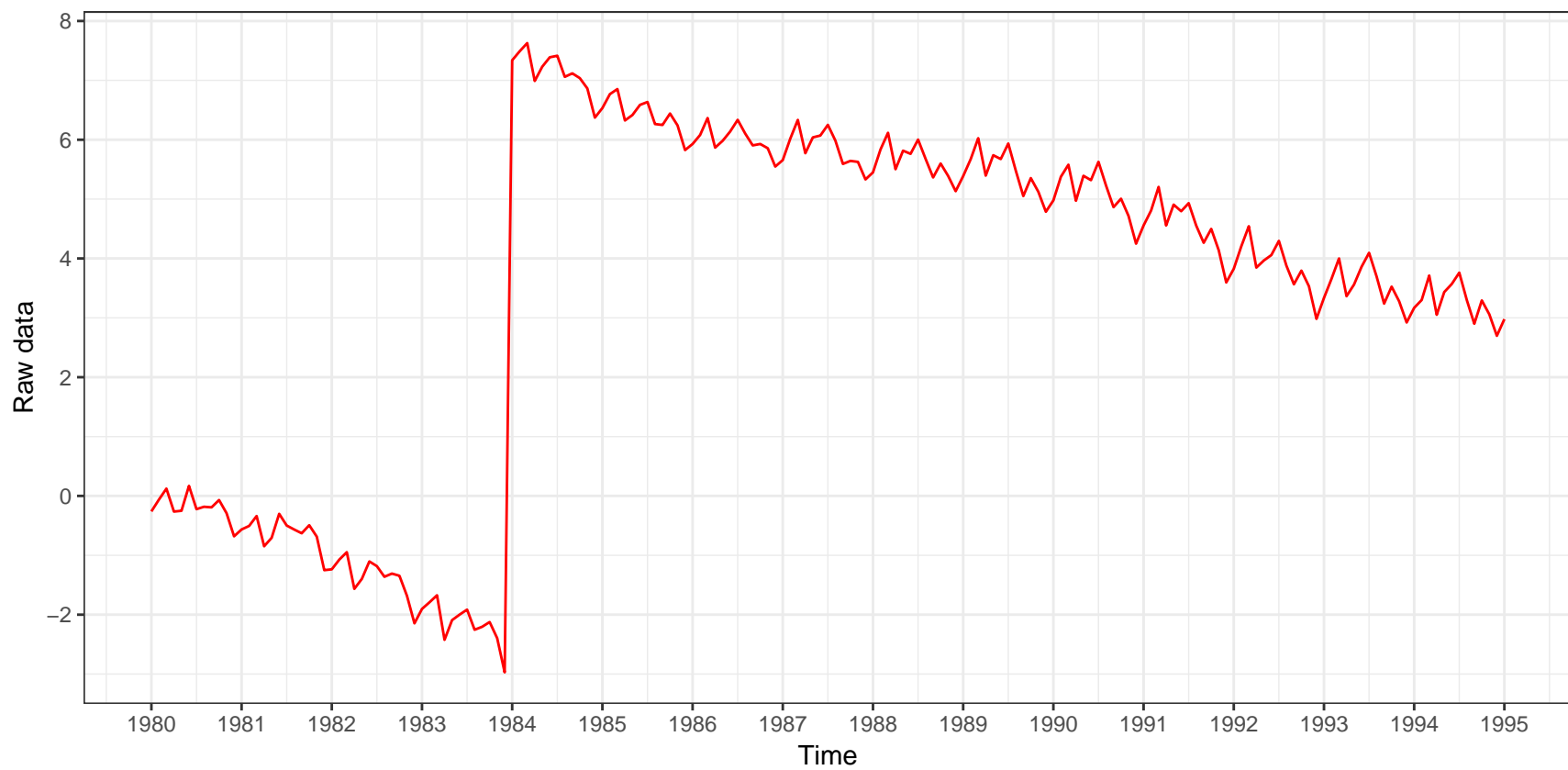


Estimate value of a LS(1984-01)
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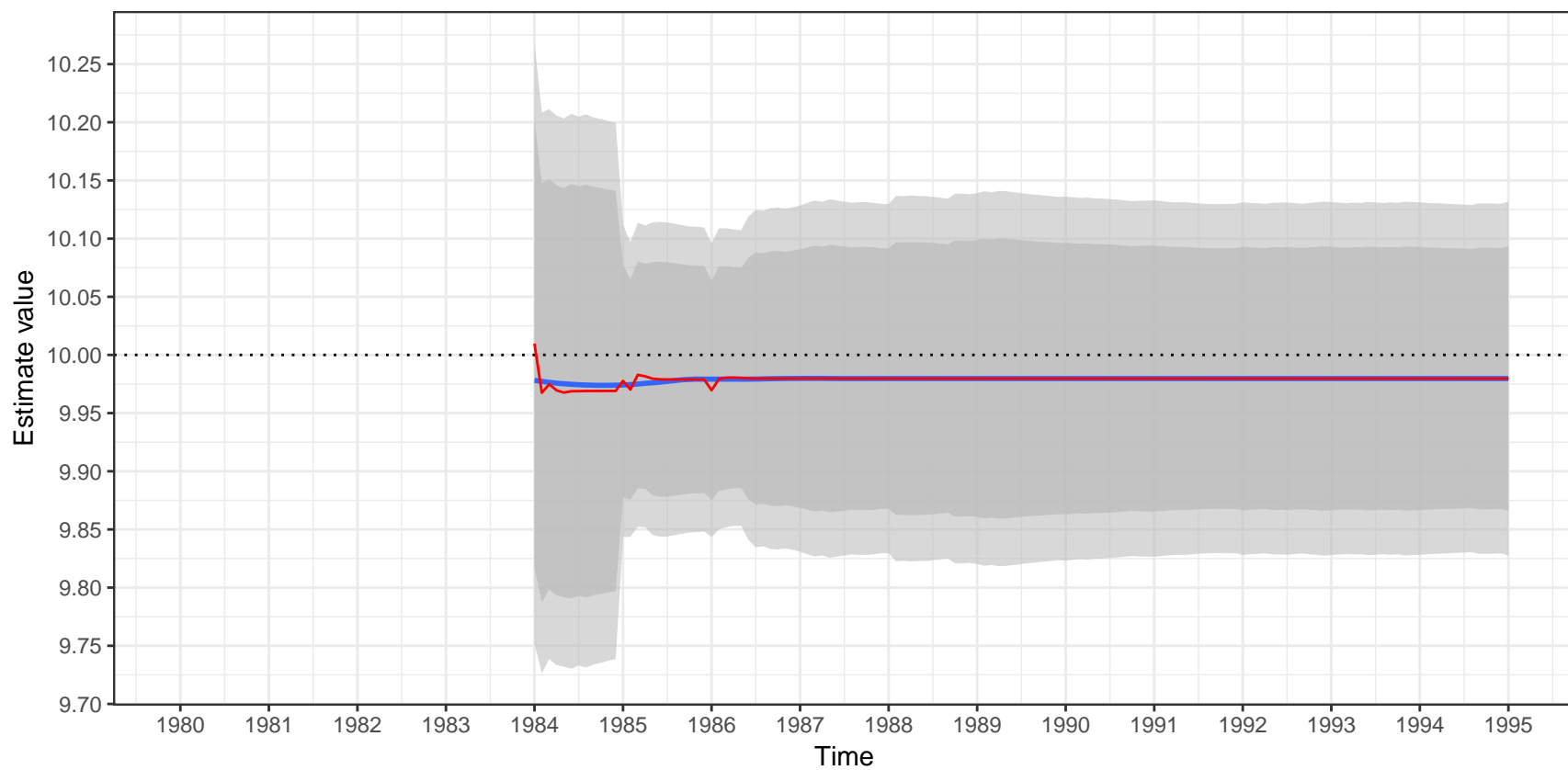


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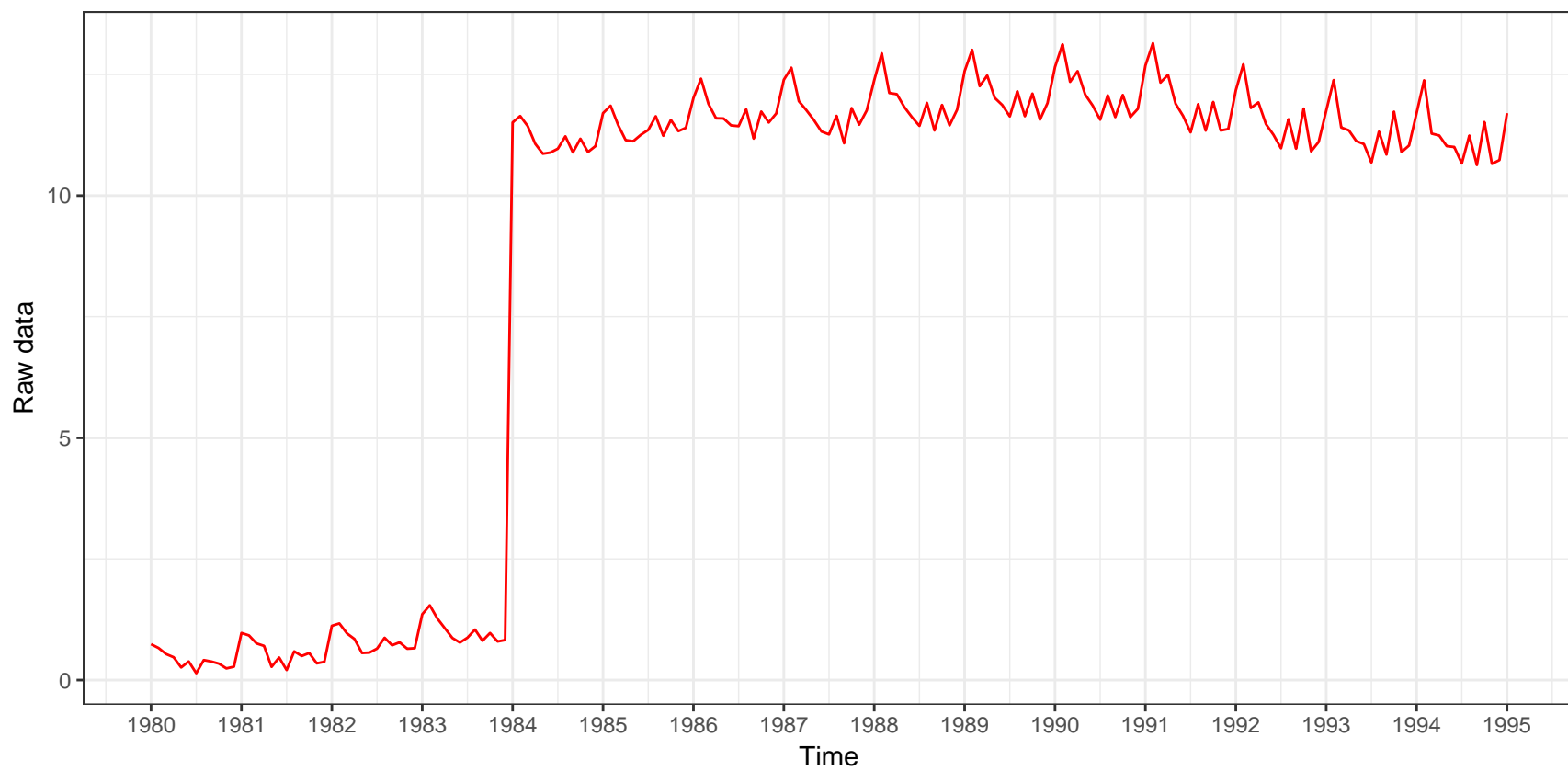


Estimate value of a LS(1984-01)
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Estimation of the outlier

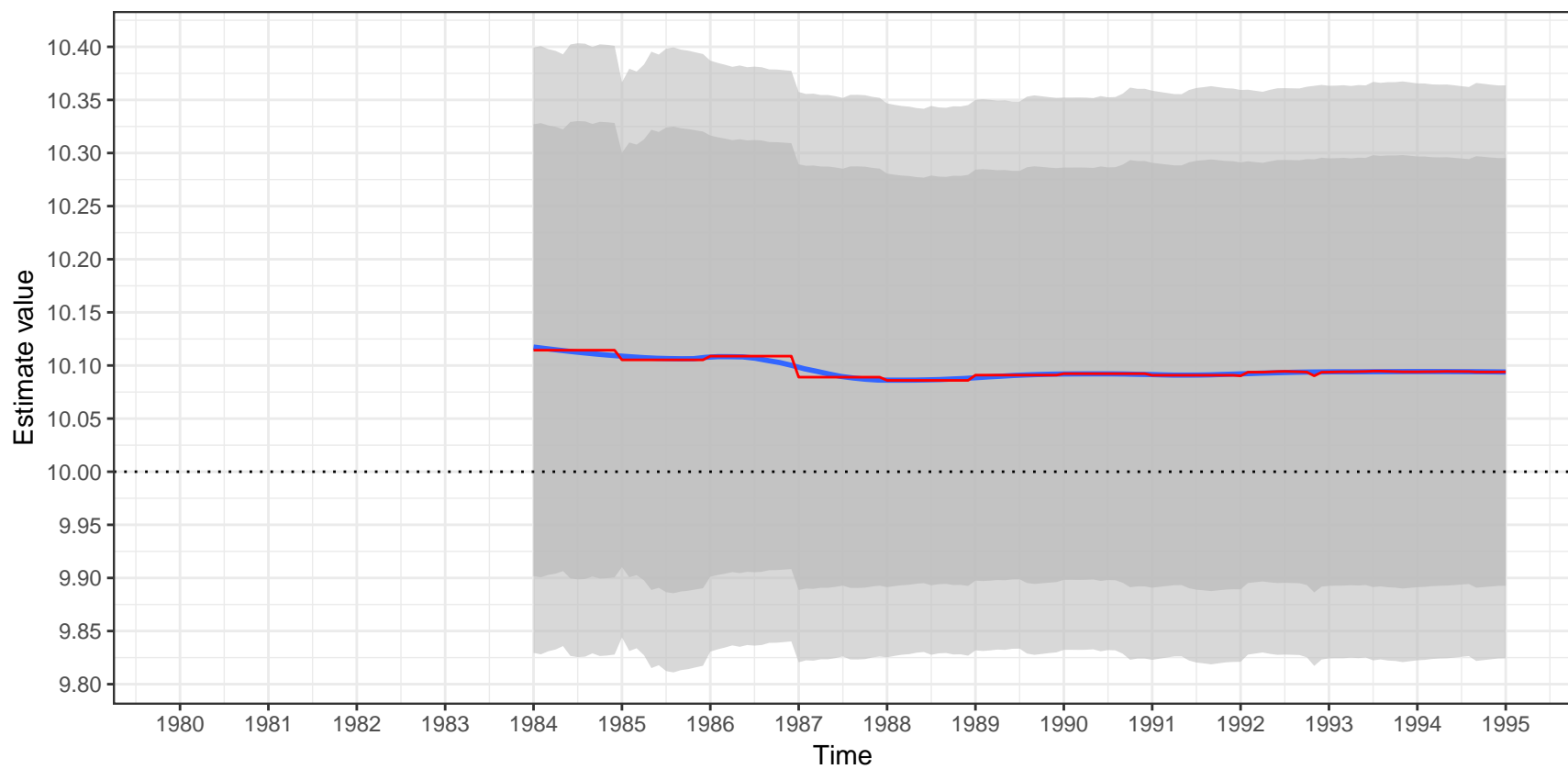


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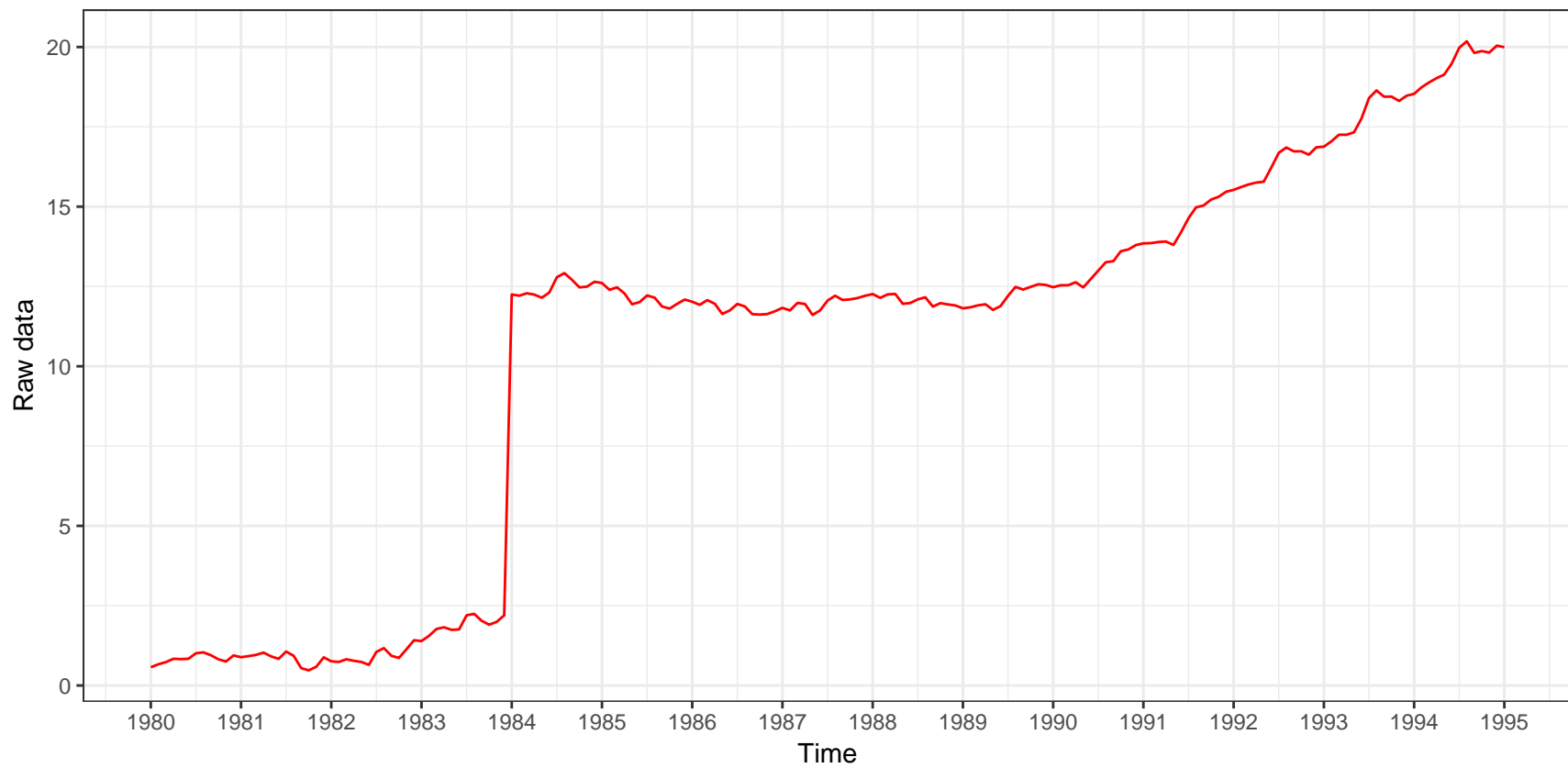


Estimate value of a LS(1984-01)
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 $(1-B)(1-B^{12})(1-0.3B)X_t=(1-0.6B^{12})a_t$

Estimation of the outlier

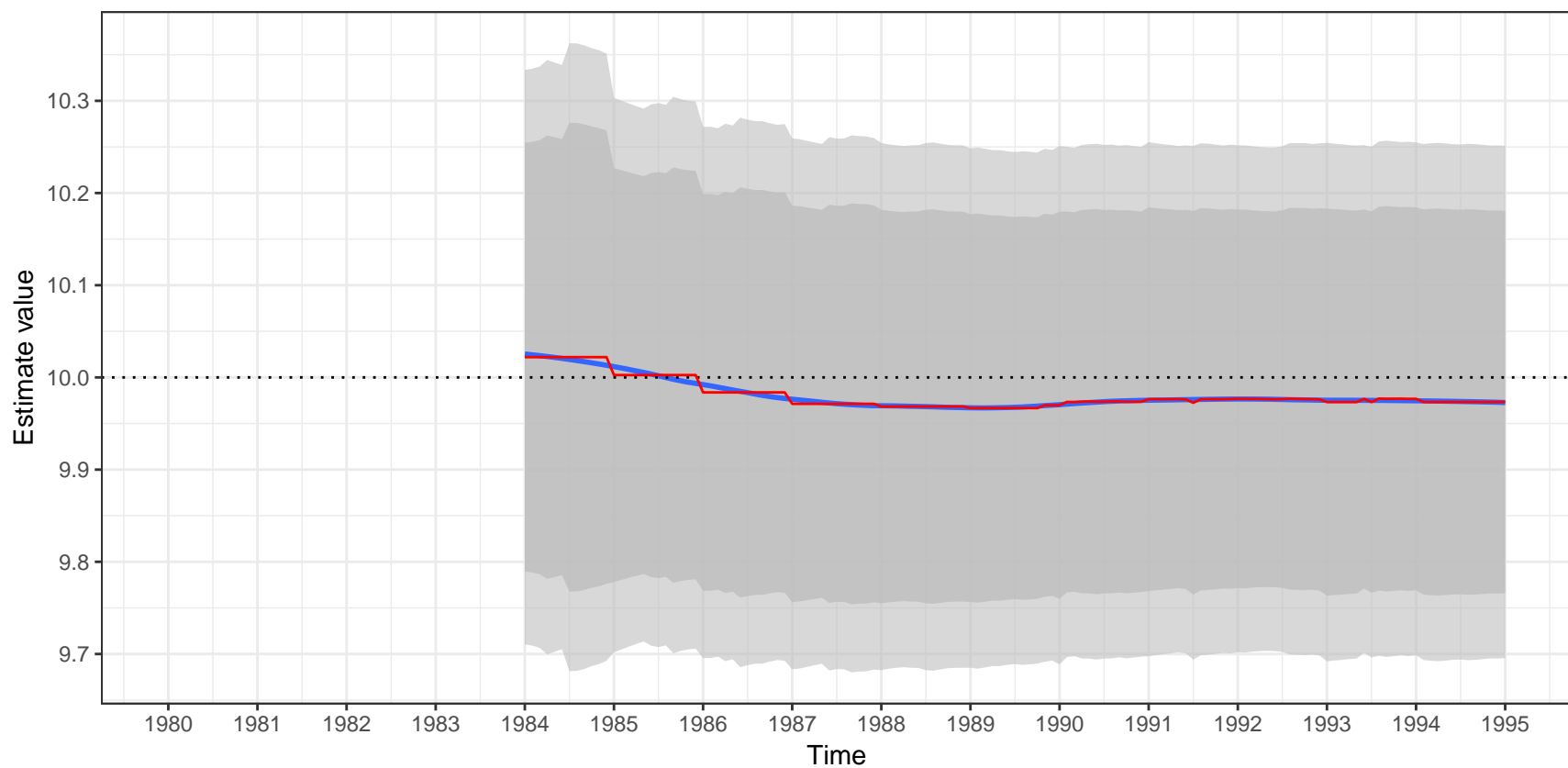


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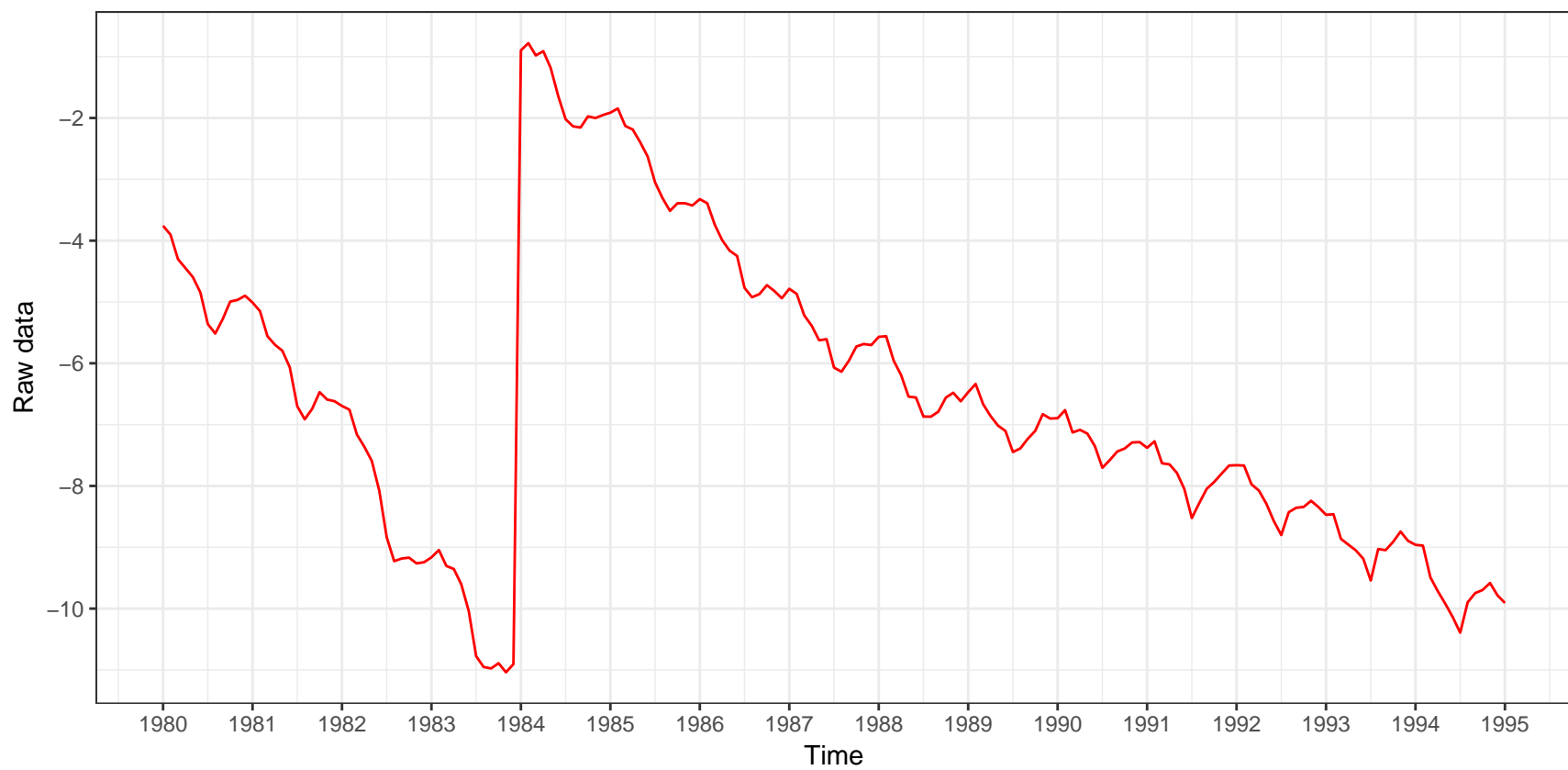


Estimate value of a LS(1984-01)
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 $(1-B)(1-B_{12})(1-0.3B)X_t=(1-0.6B_{12})a_t$

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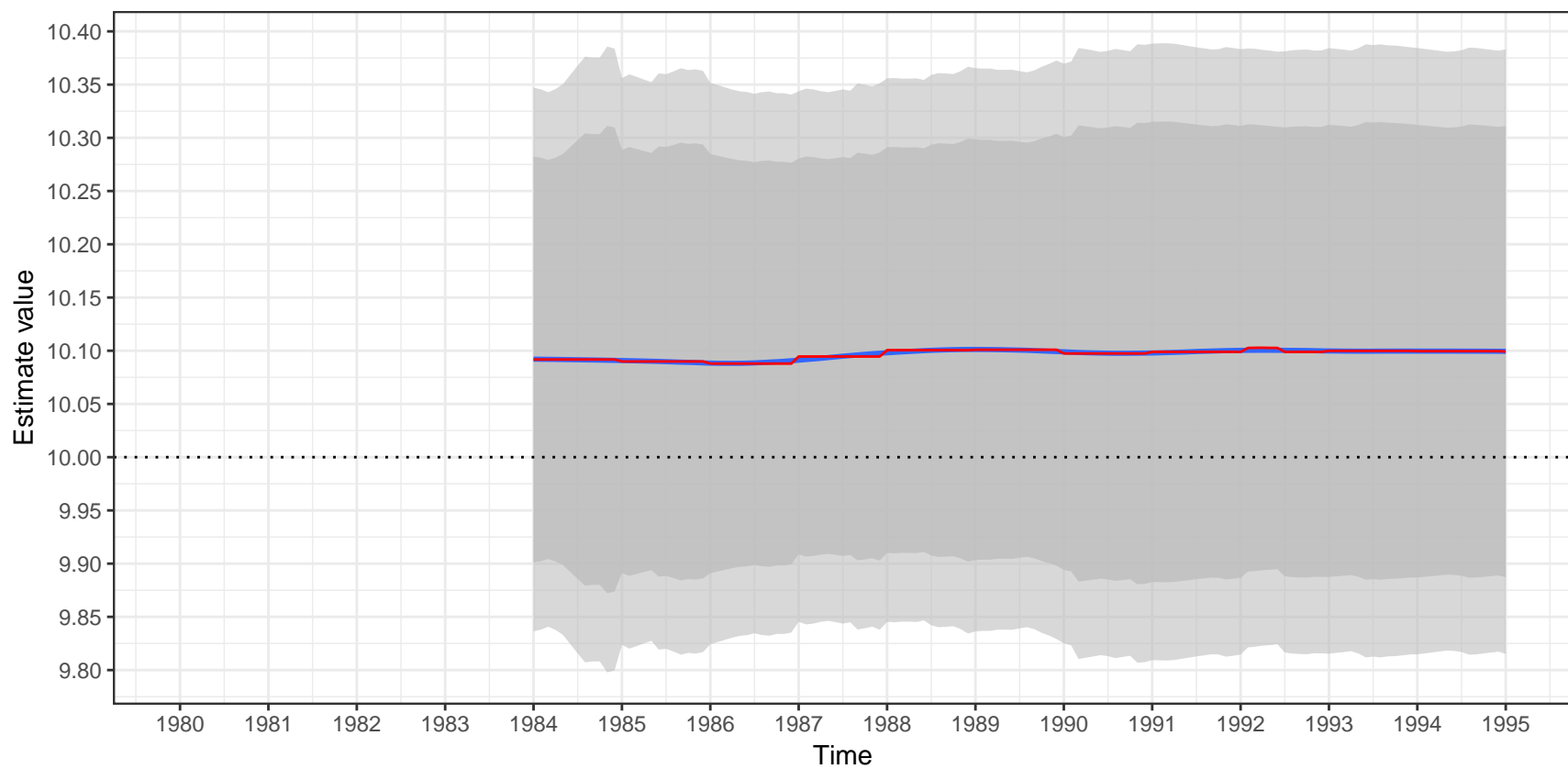


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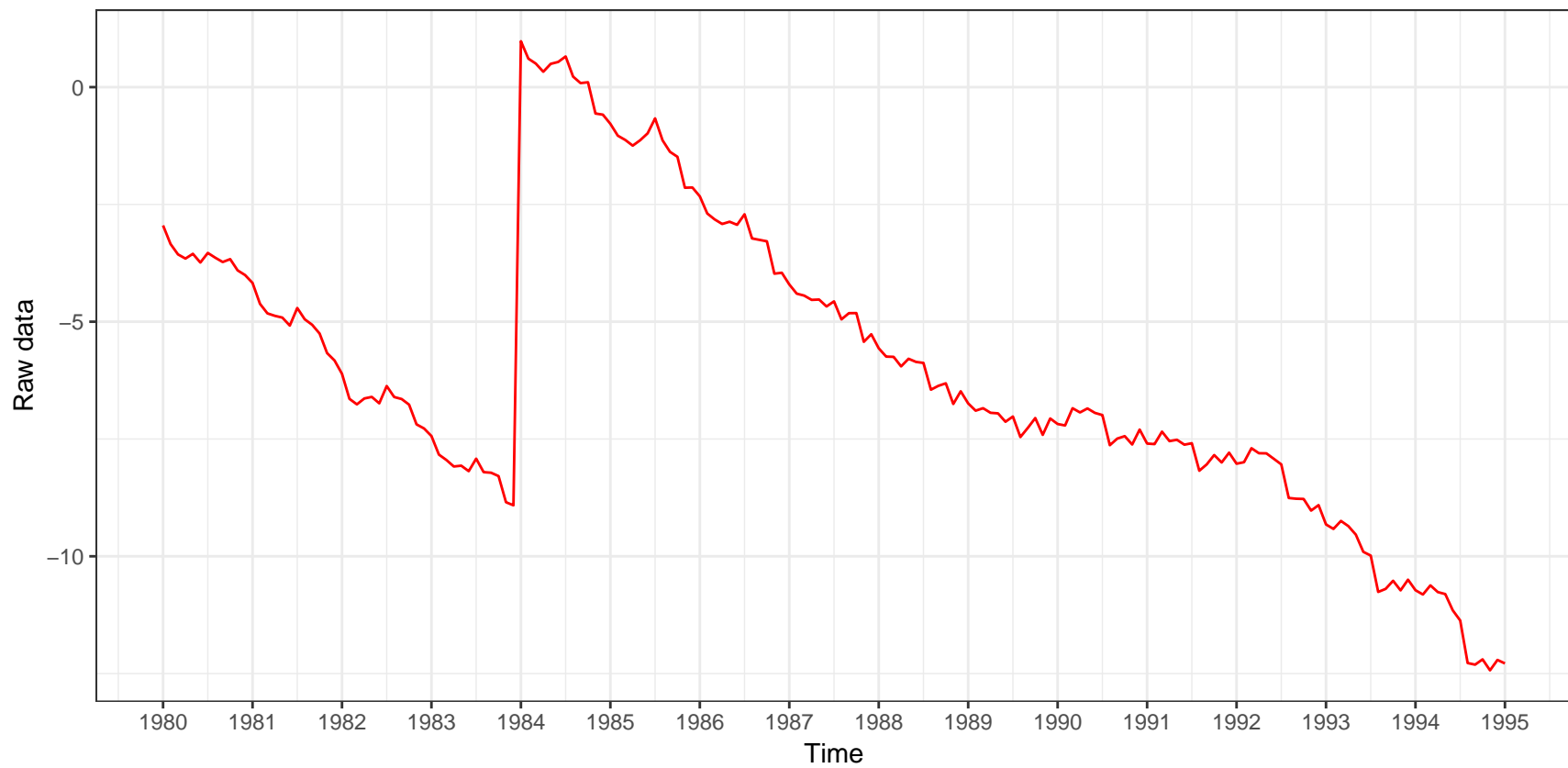


Estimate value of a LS(1984-01)
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 $(1-B)(1-B_{12})(1-0.3B)X_t=(1-0.6B_{12})a_t$

Estimation of the outlier

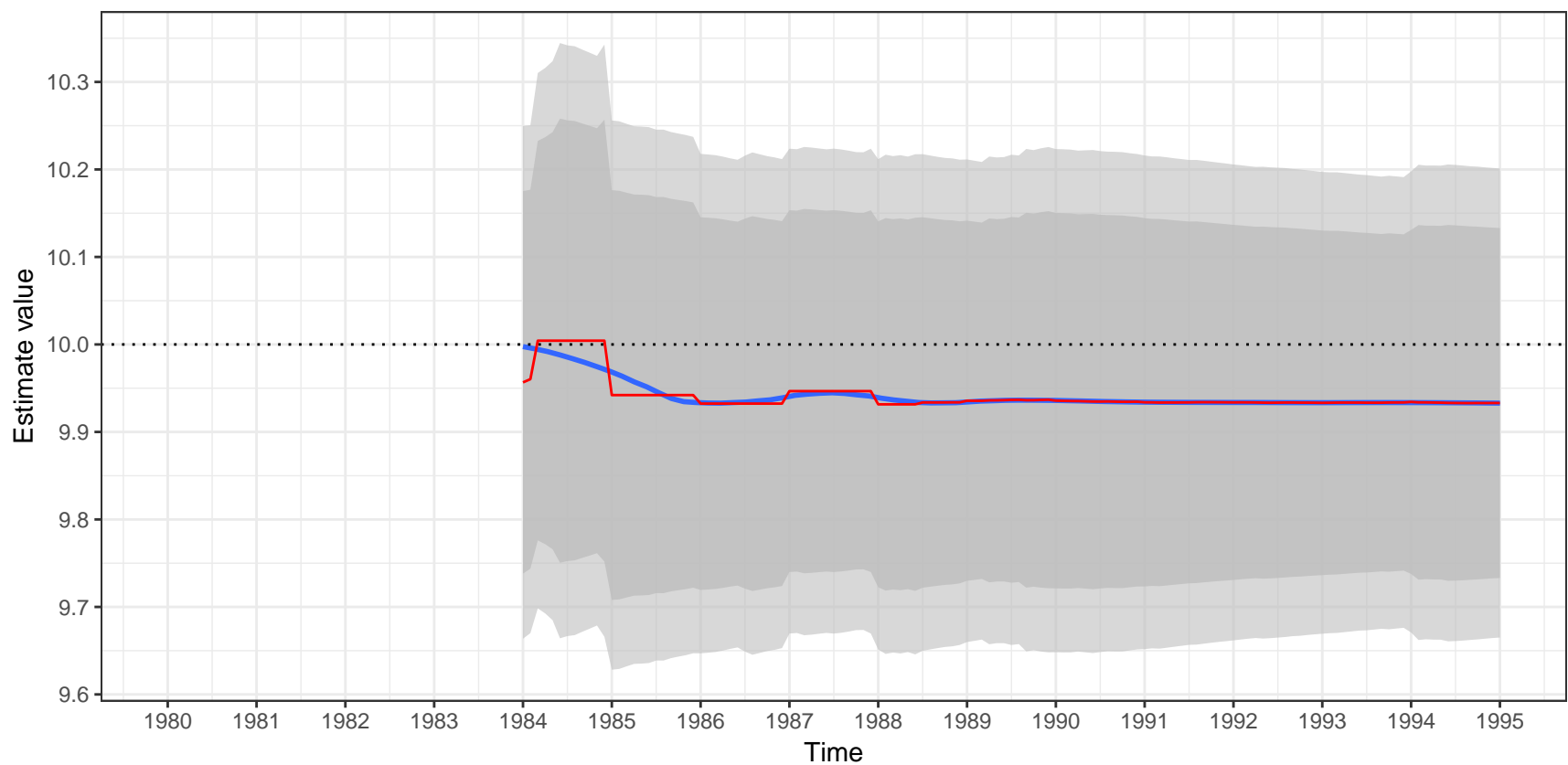


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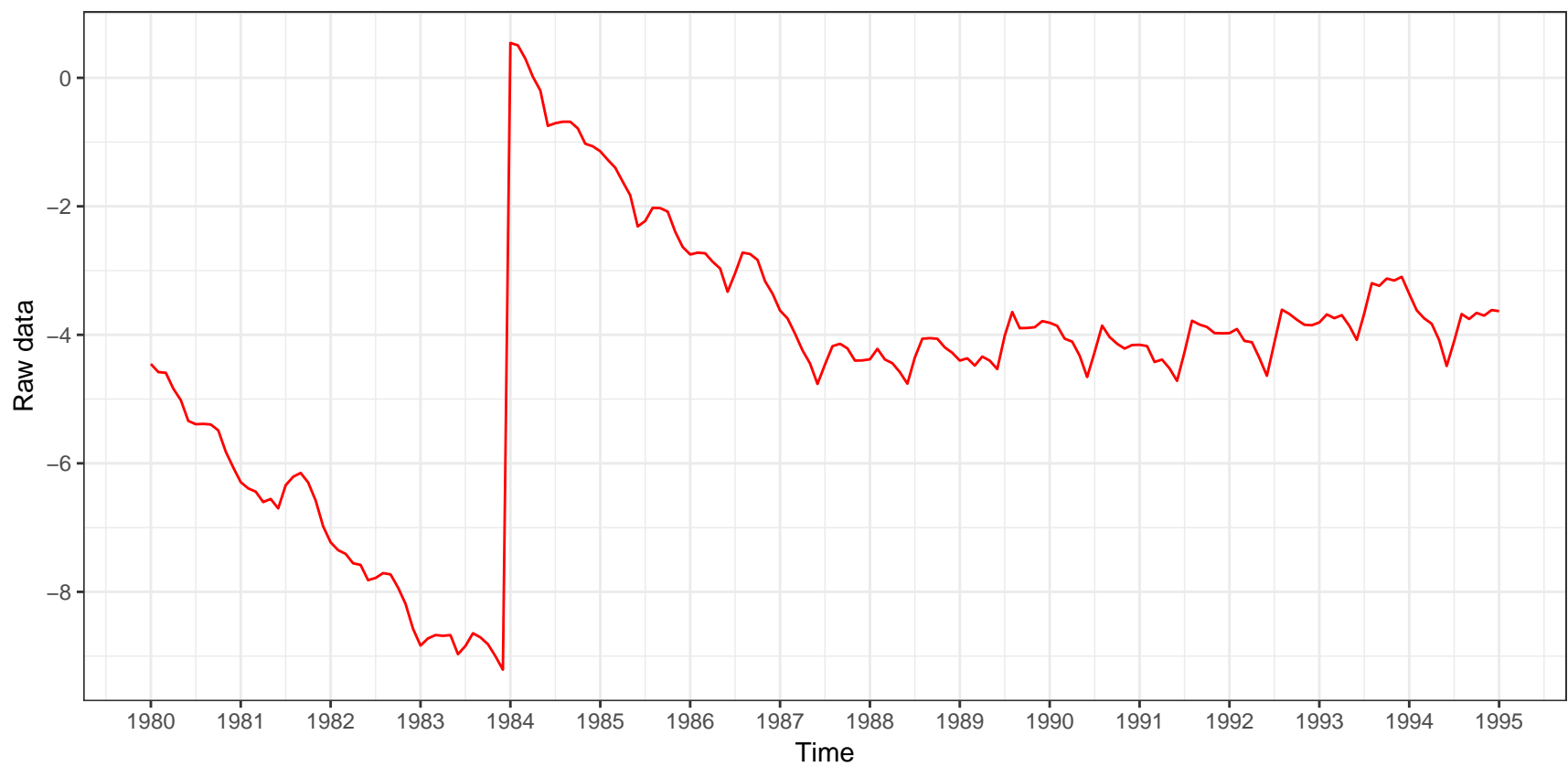


Estimate value of a LS(1984-01)
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Estimation of the outlier

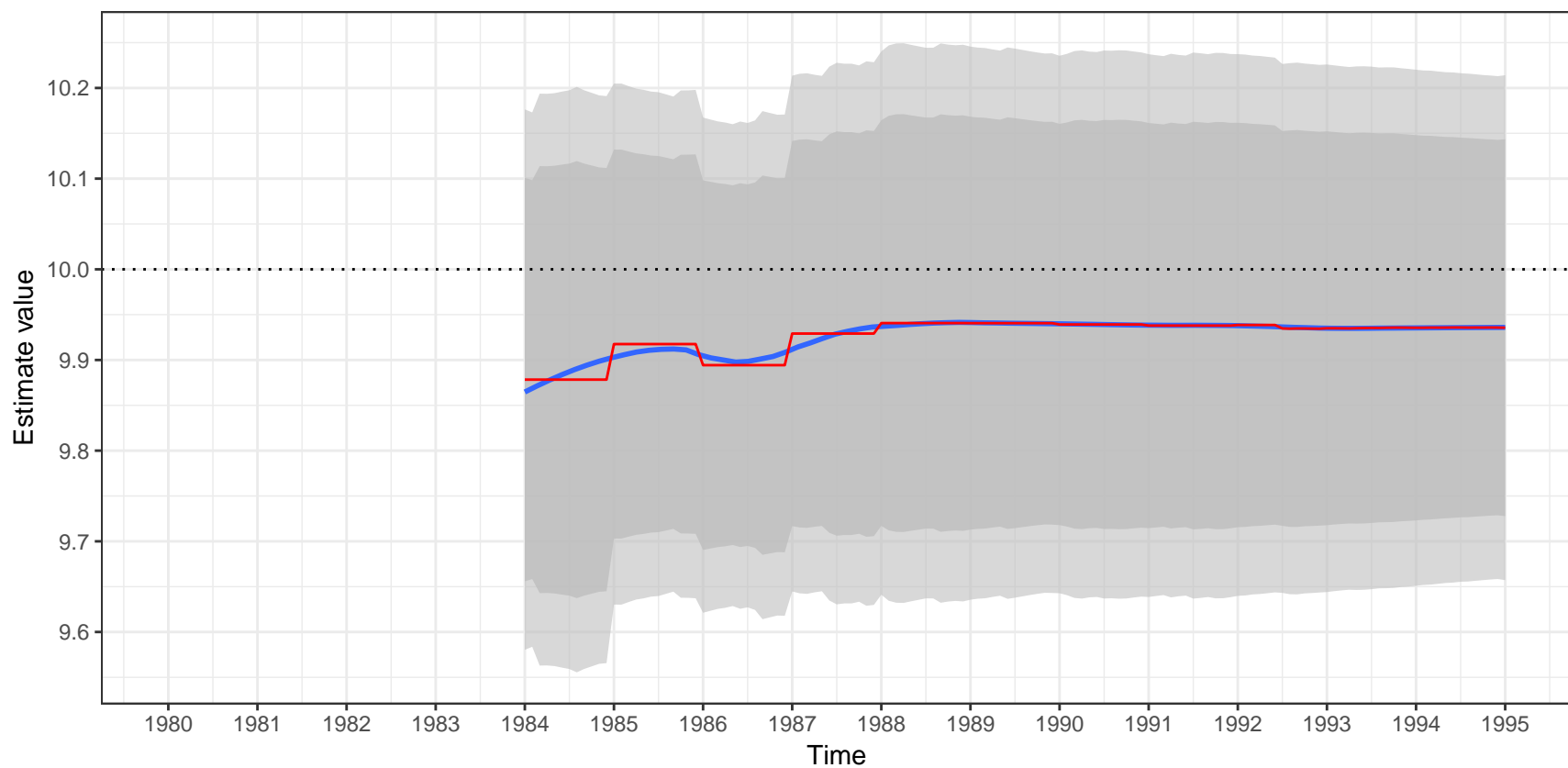


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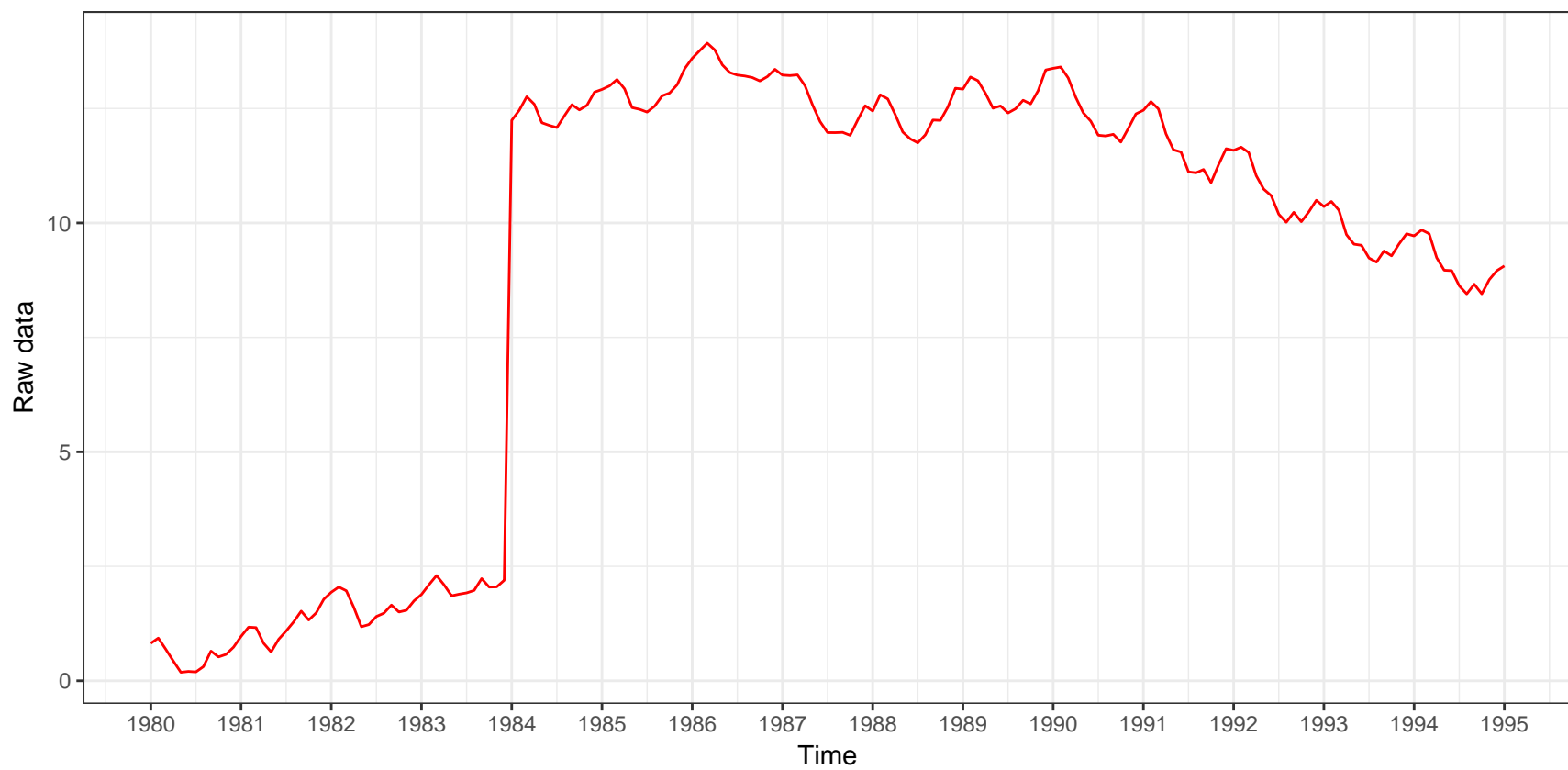


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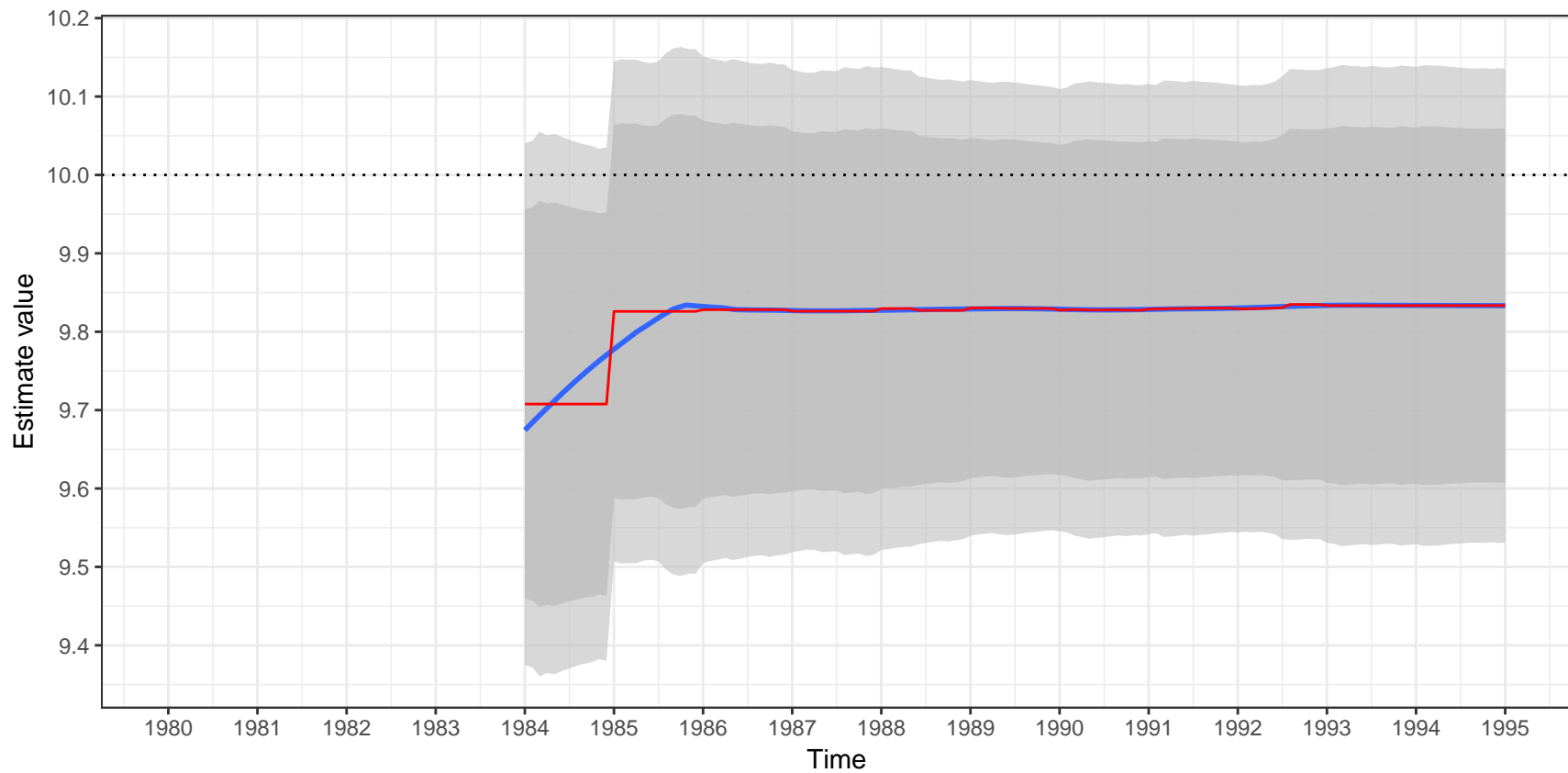


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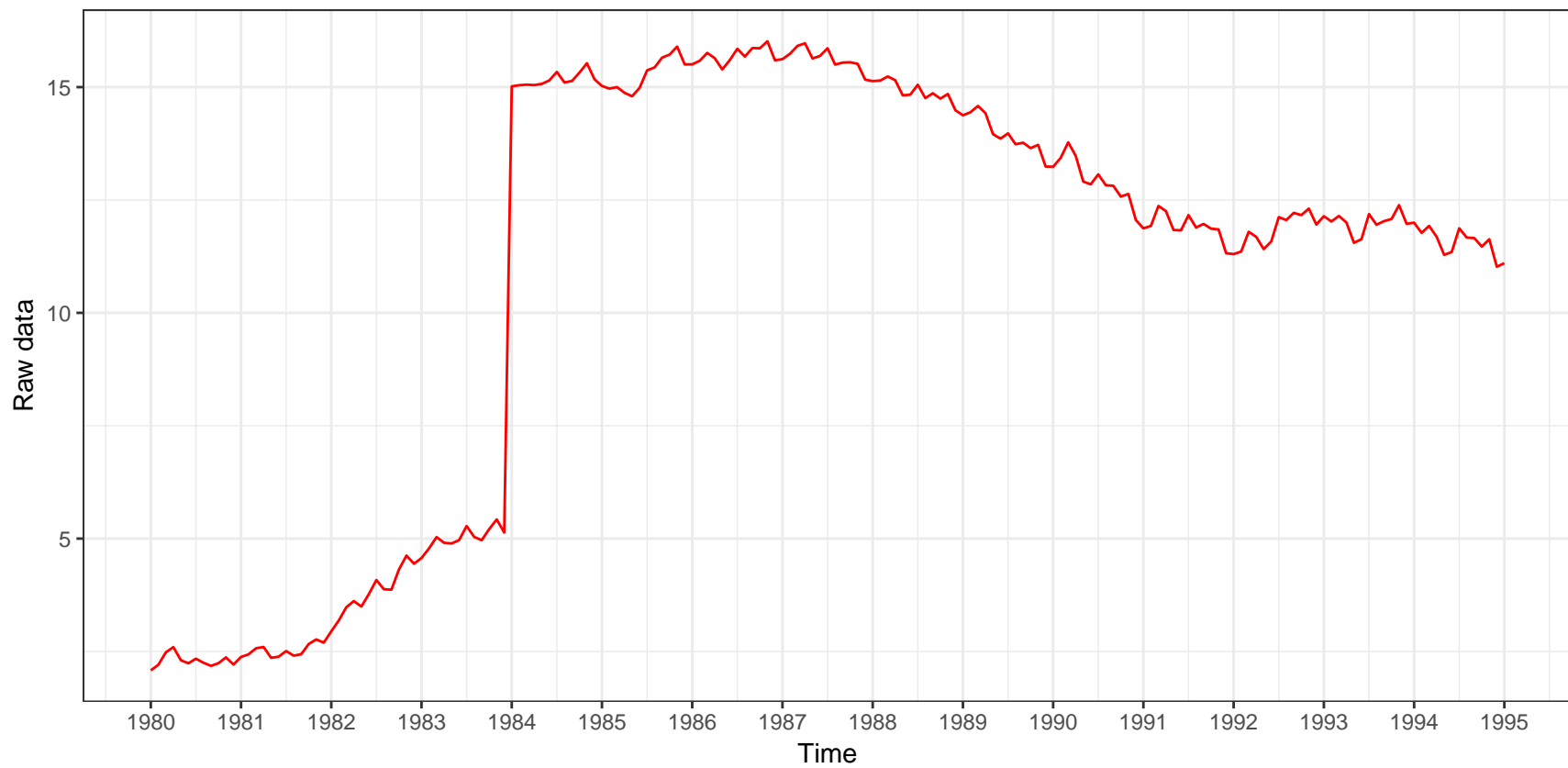


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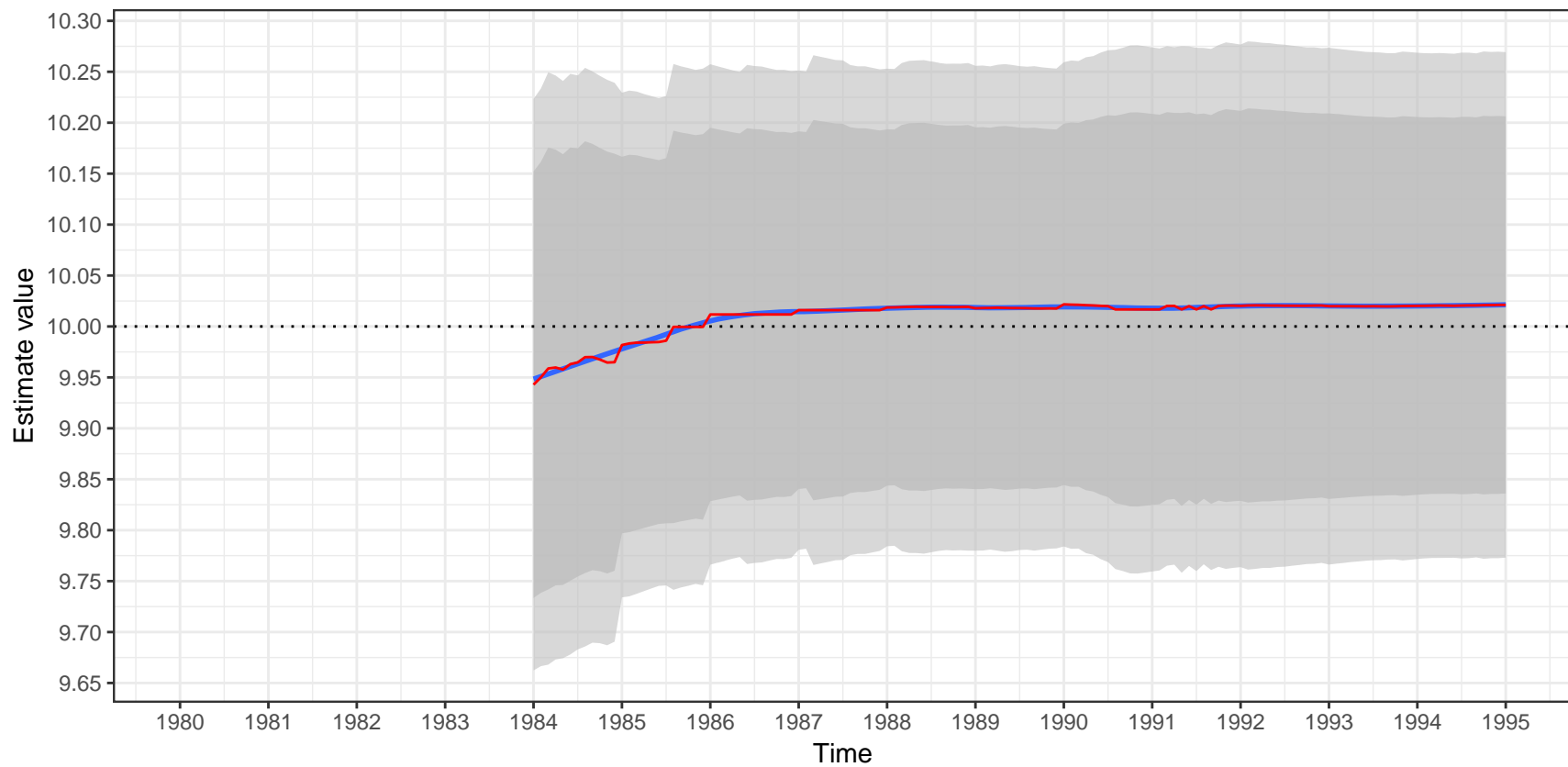


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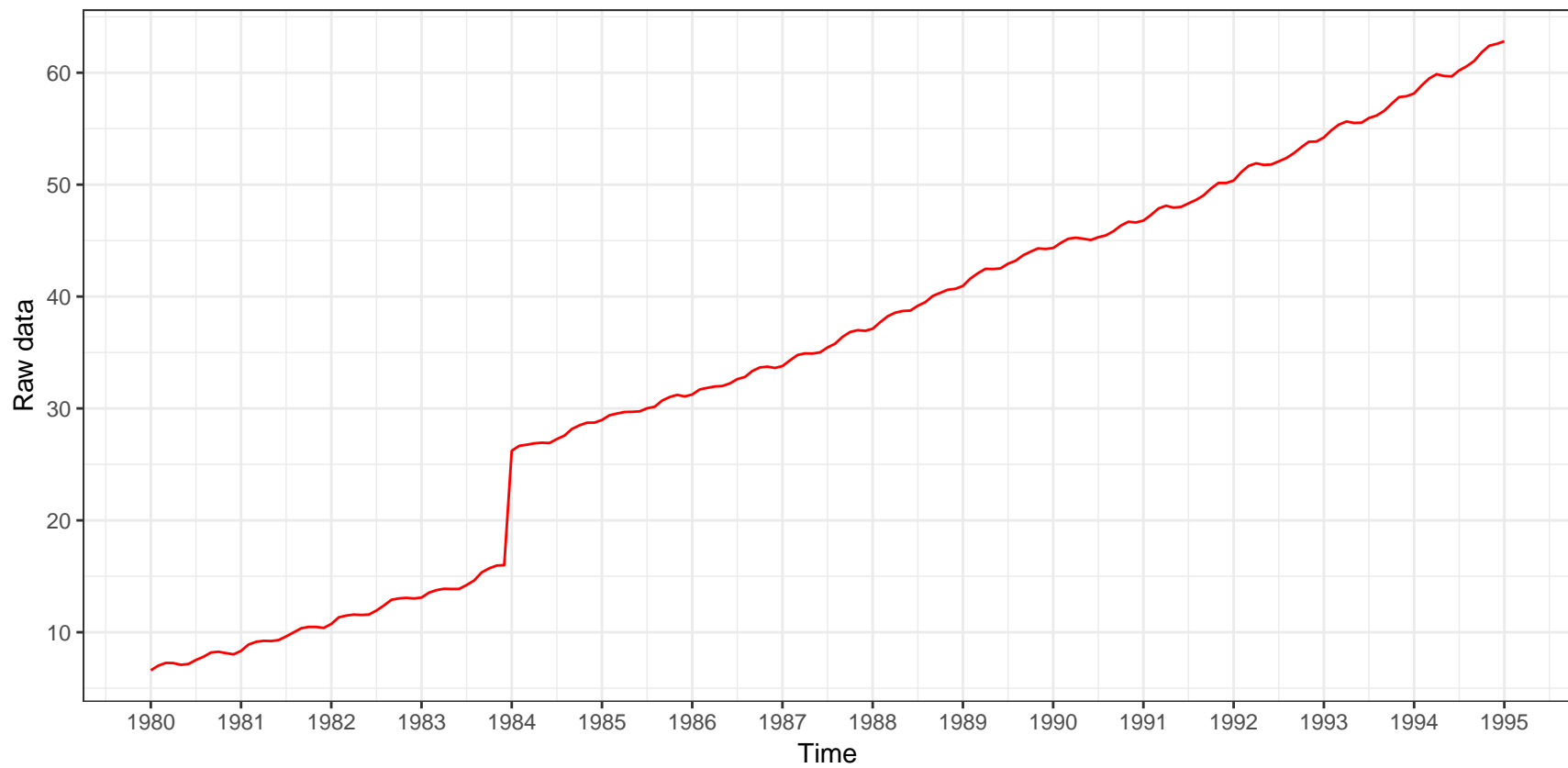


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.3B)X_t=(1-0.6B^{12})at$

Estimation of the outlier

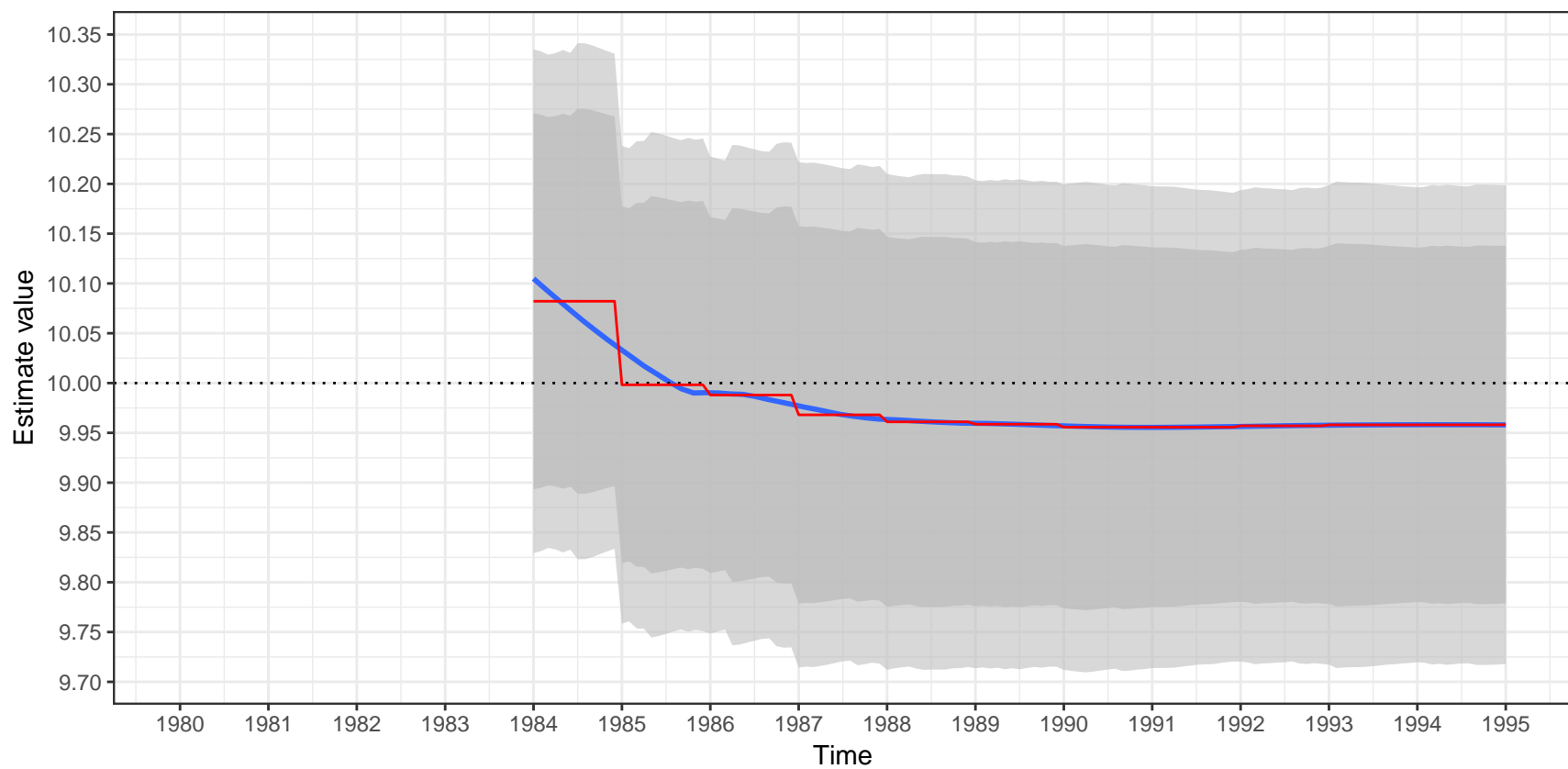


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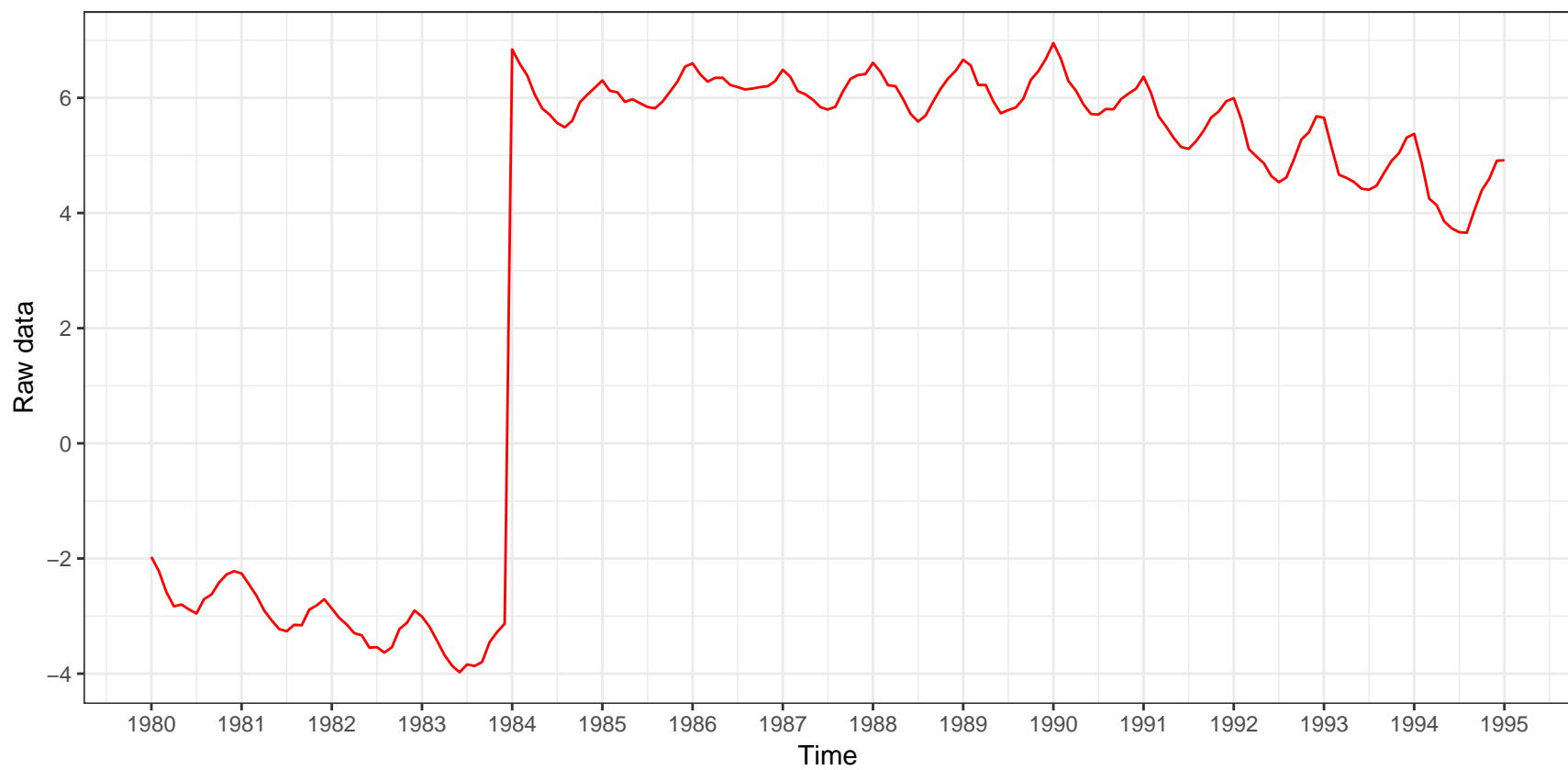


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Estimation of the outlier

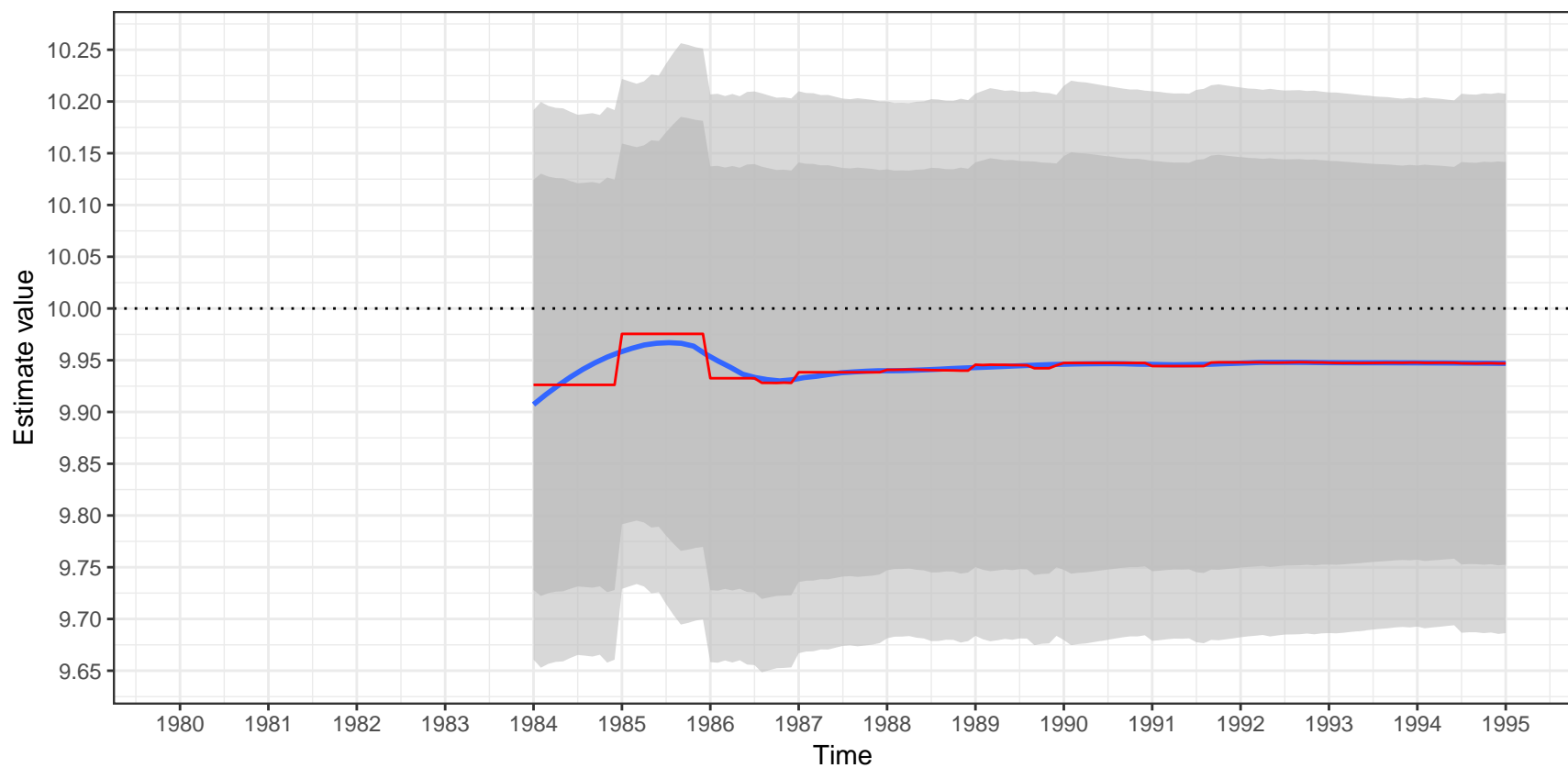


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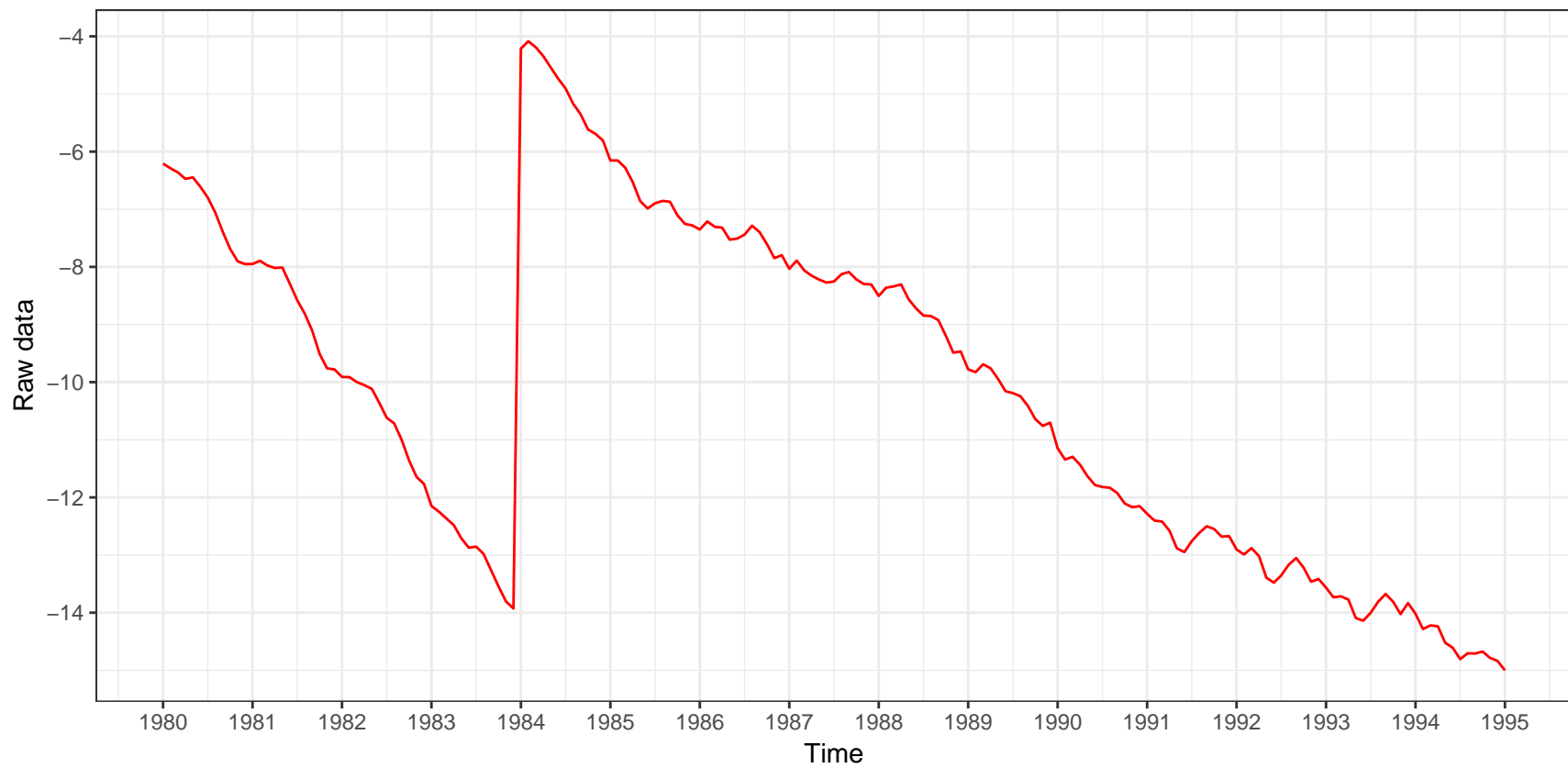


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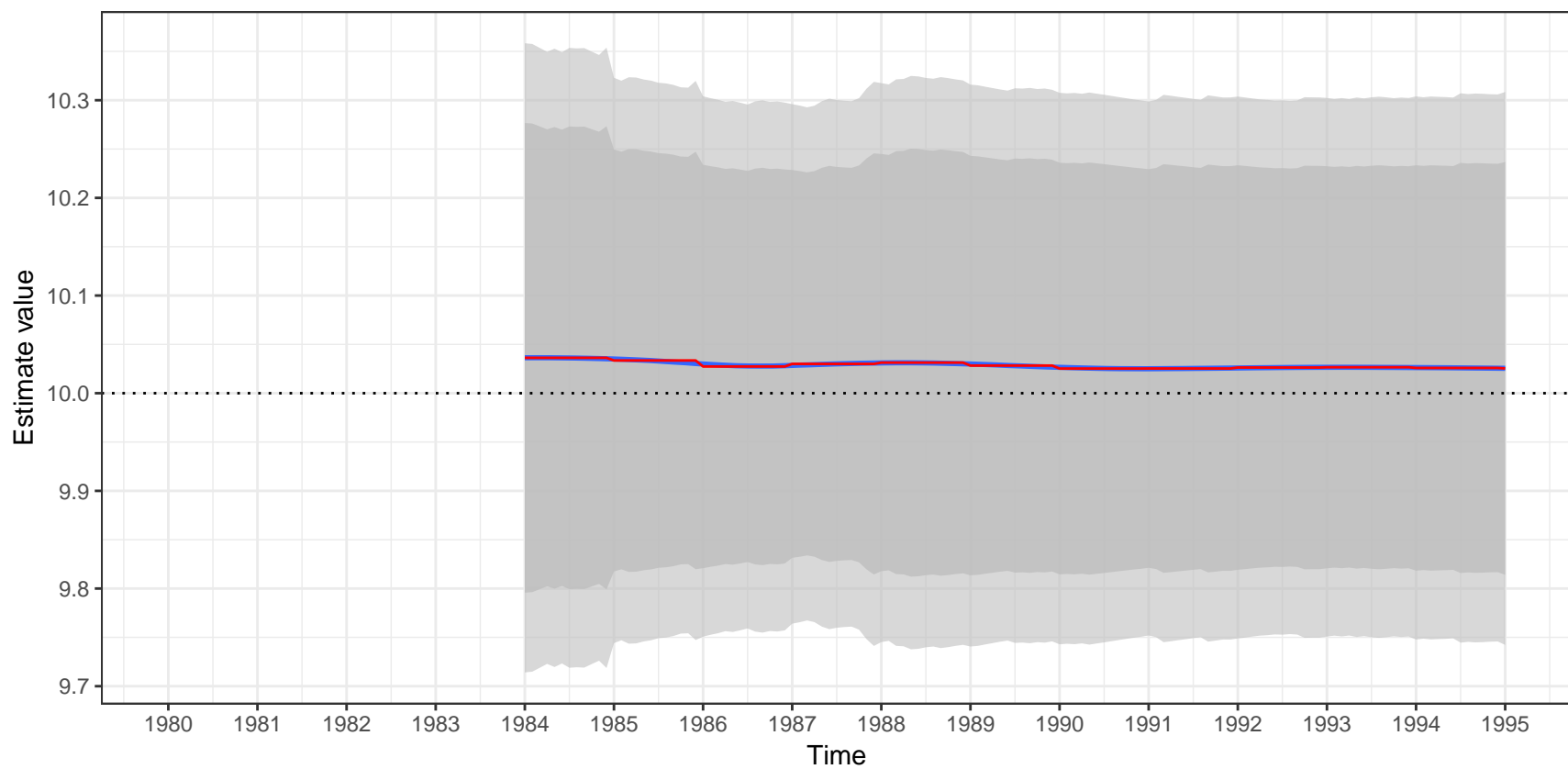


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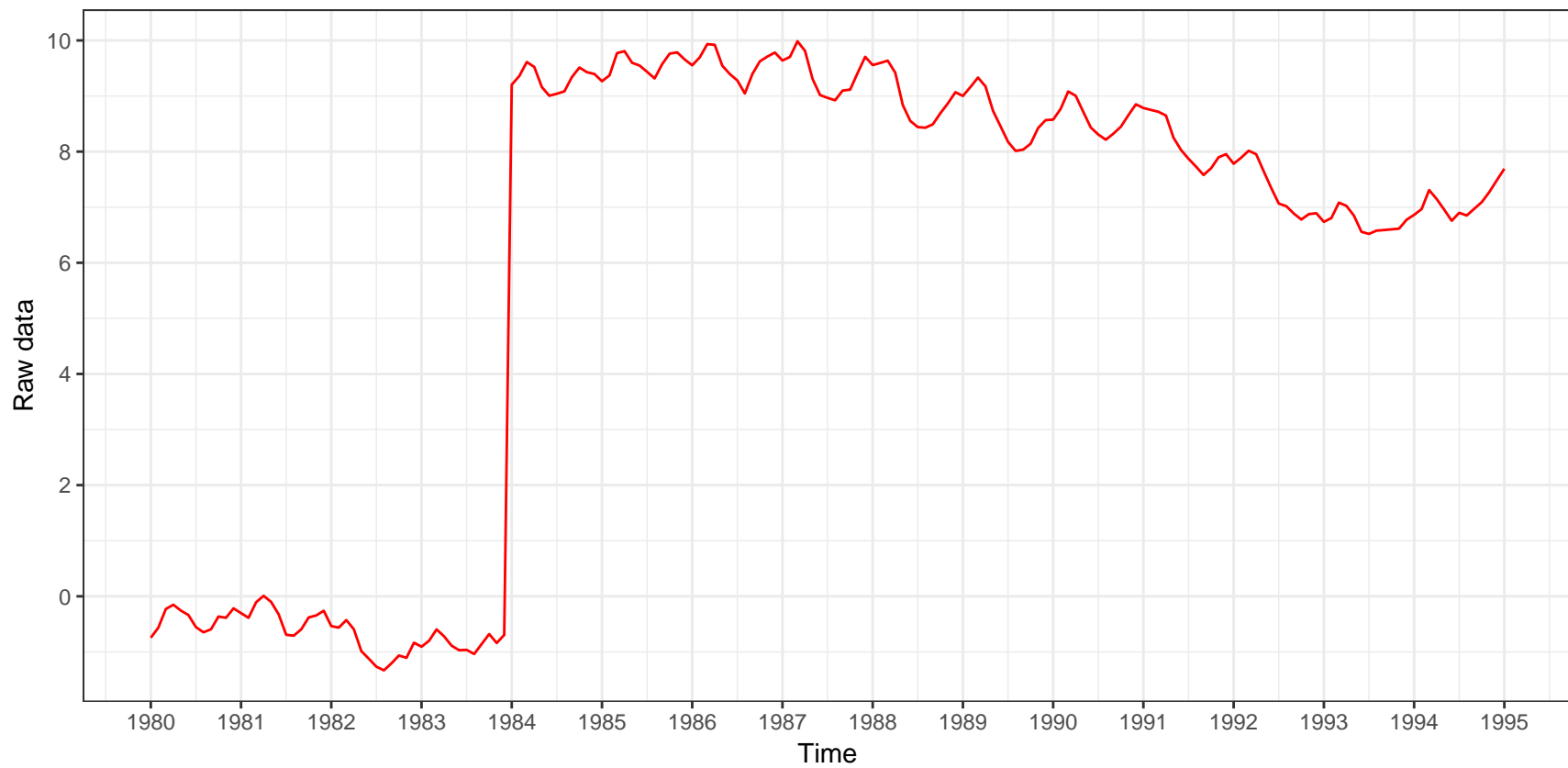


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Estimation of the outlier

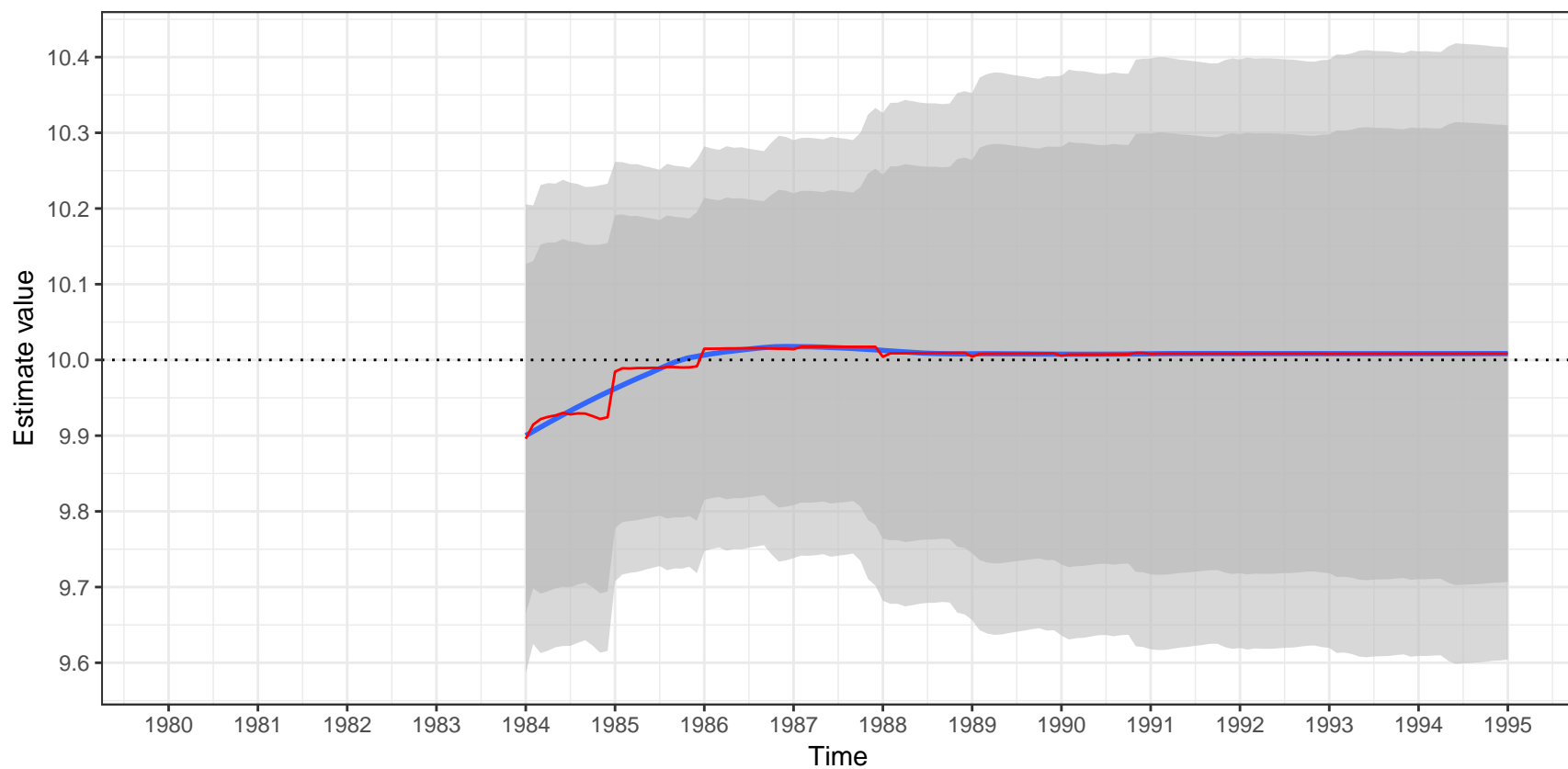


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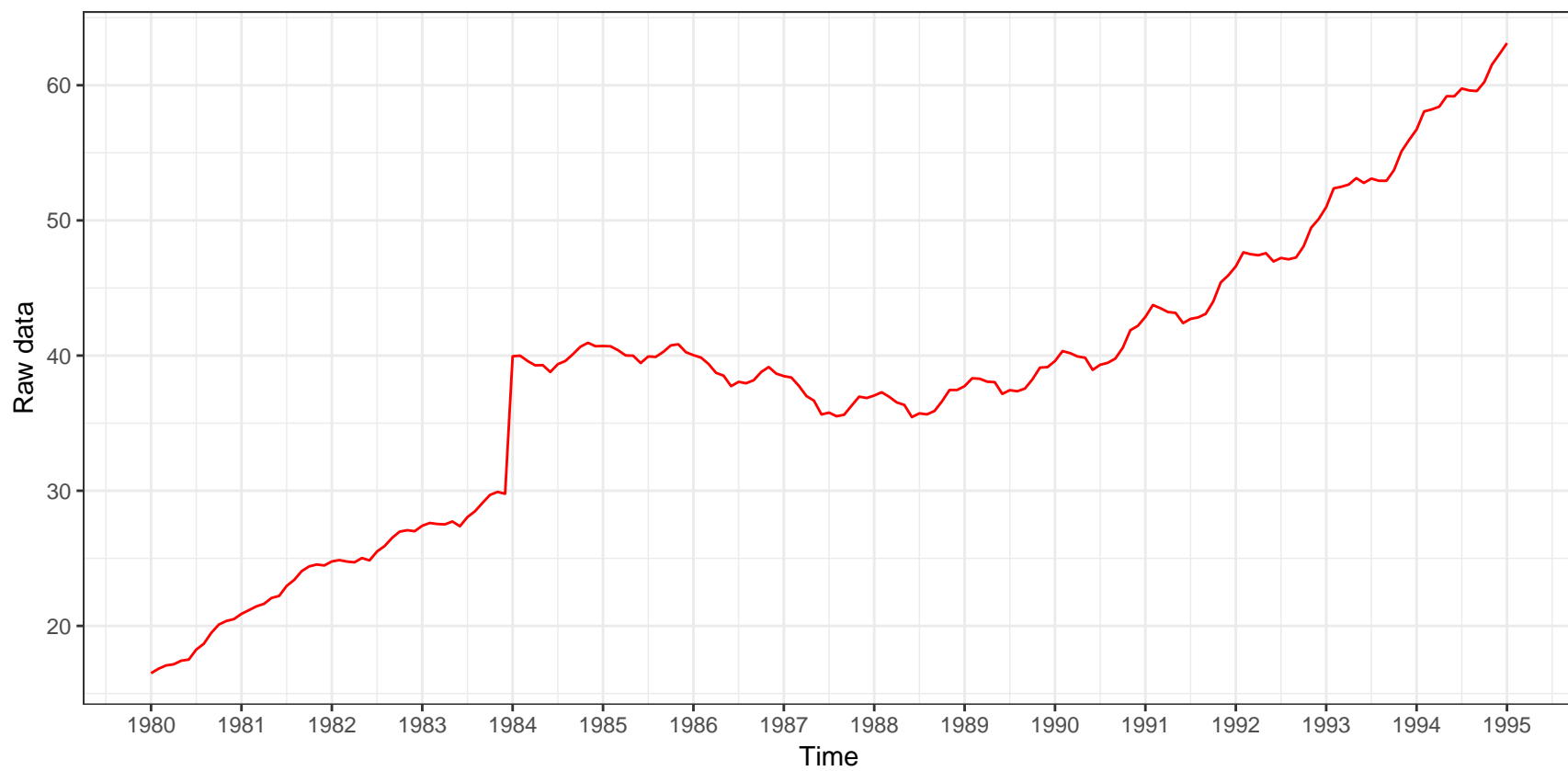


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.7B)X_t=(1-0.5B^{12})at$

Estimation of the outlier

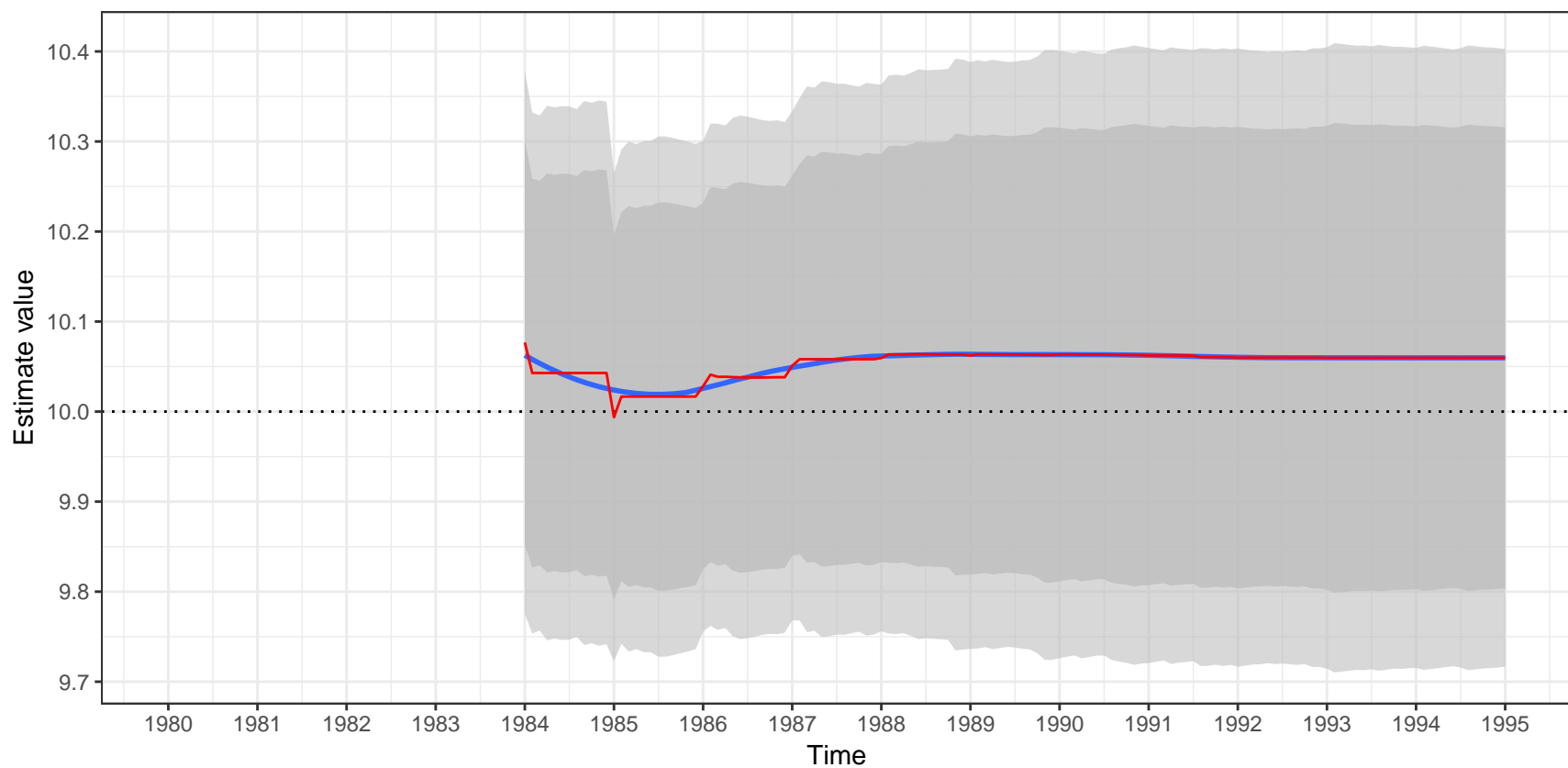


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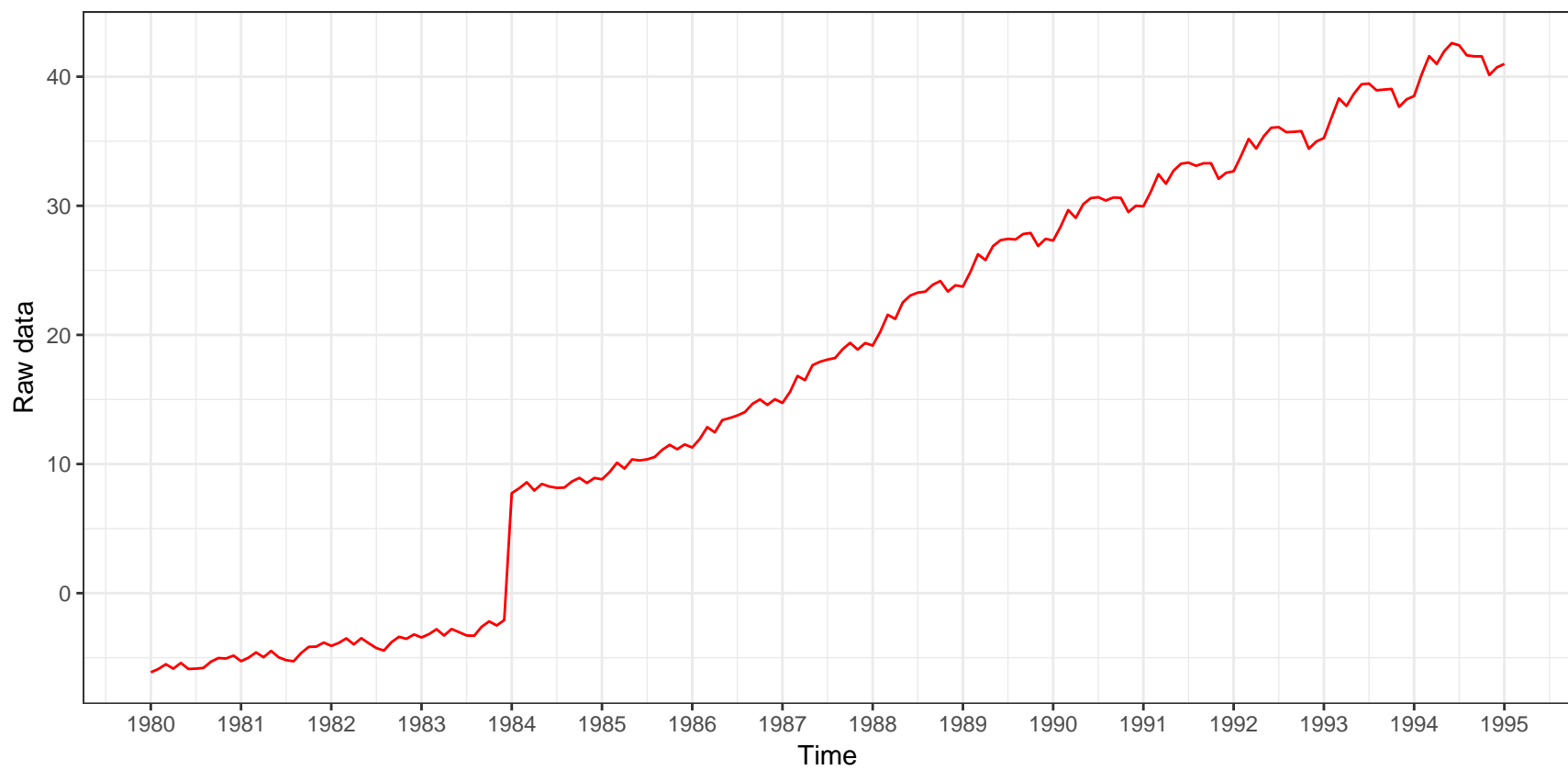


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Estimation of the outlier

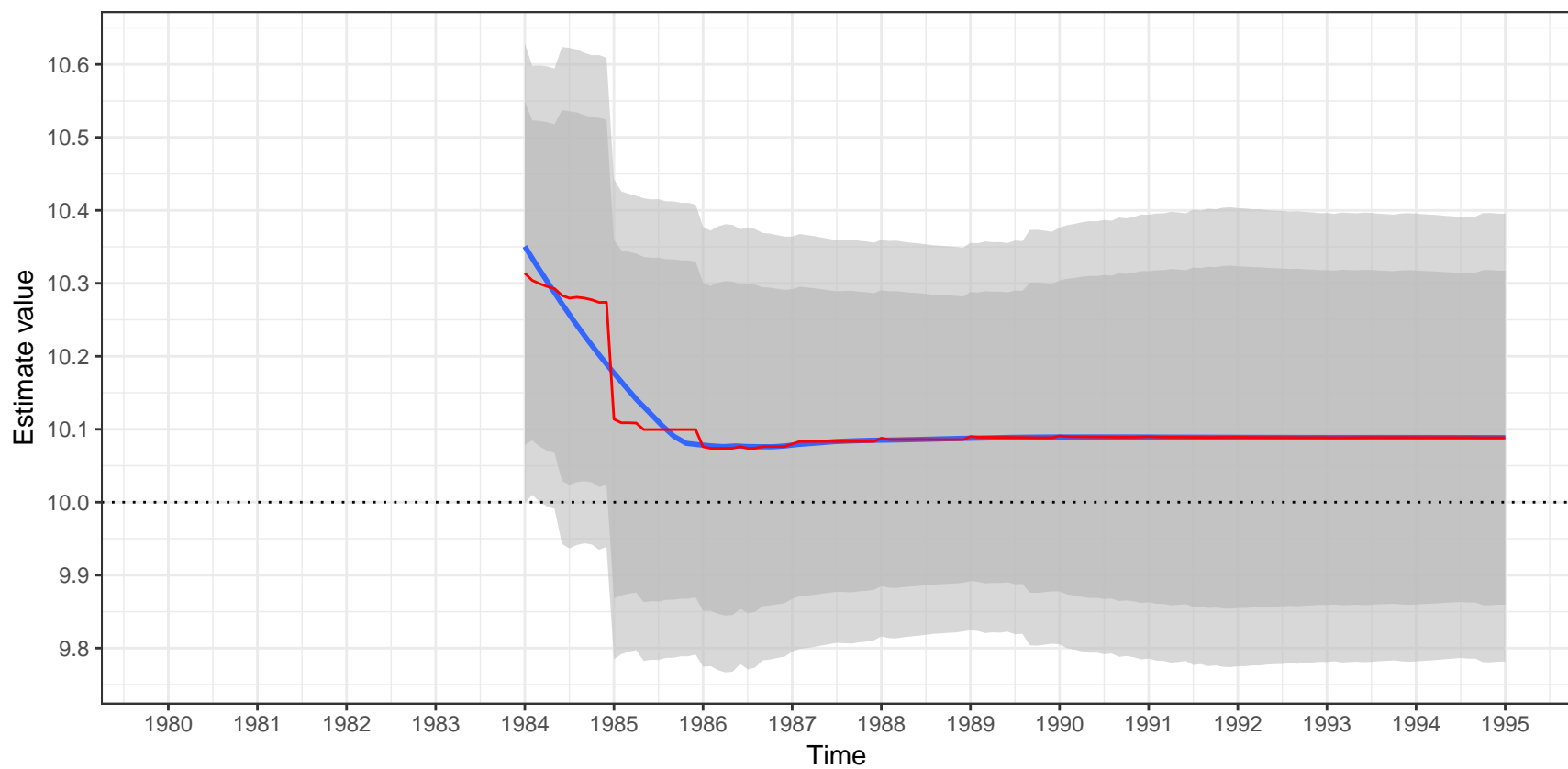


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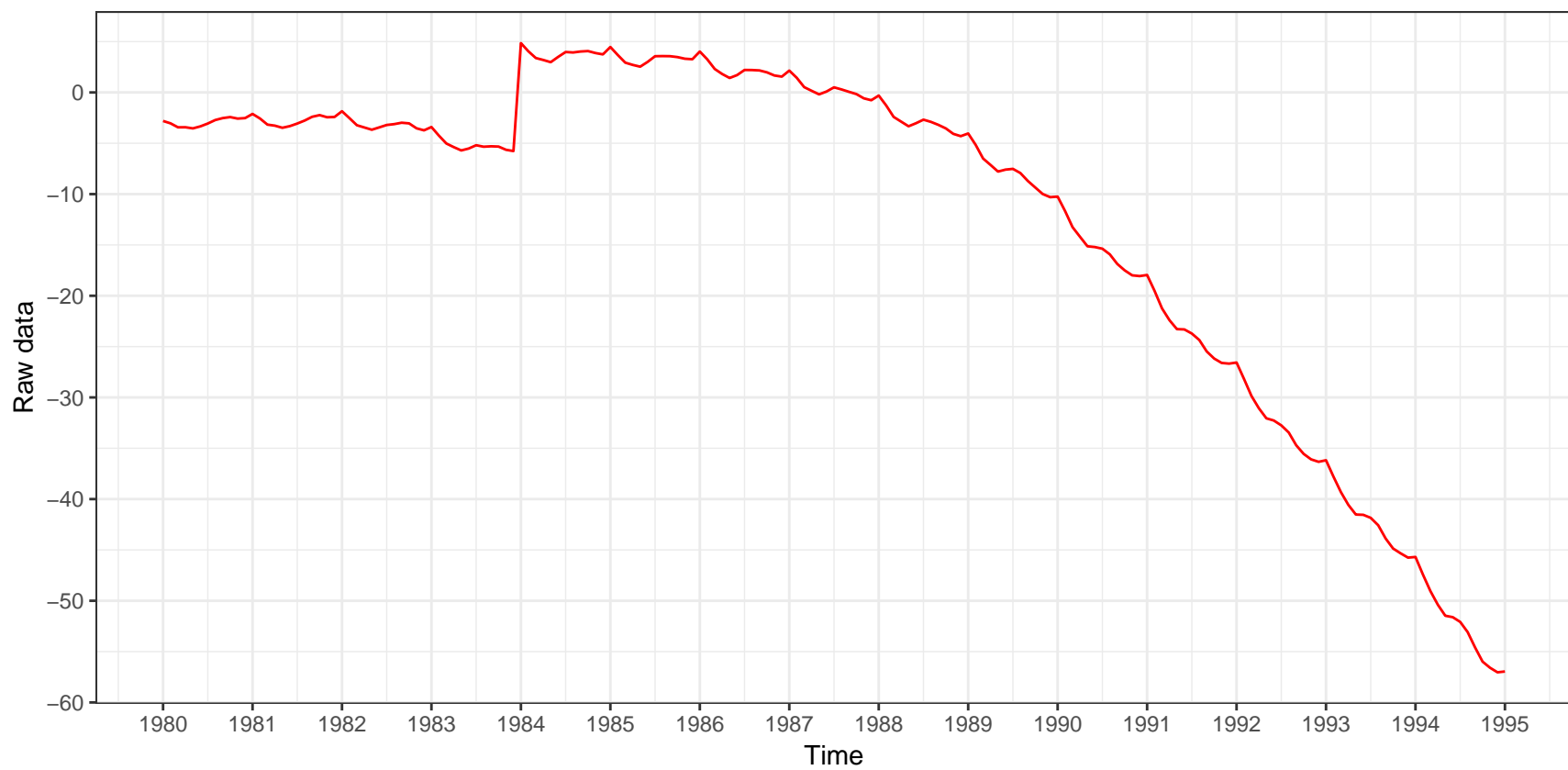


Estimate value of a LS(1984-01)
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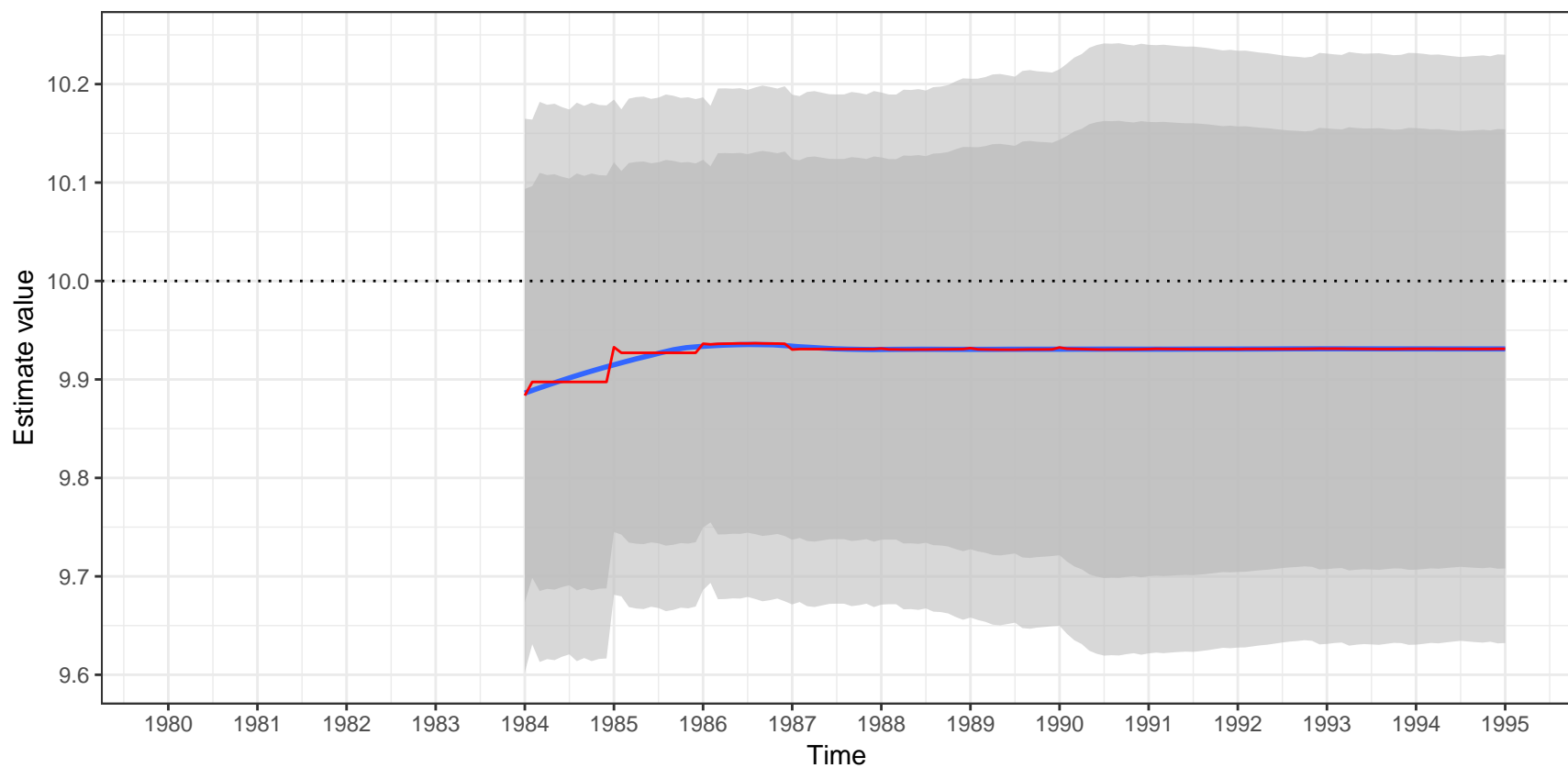


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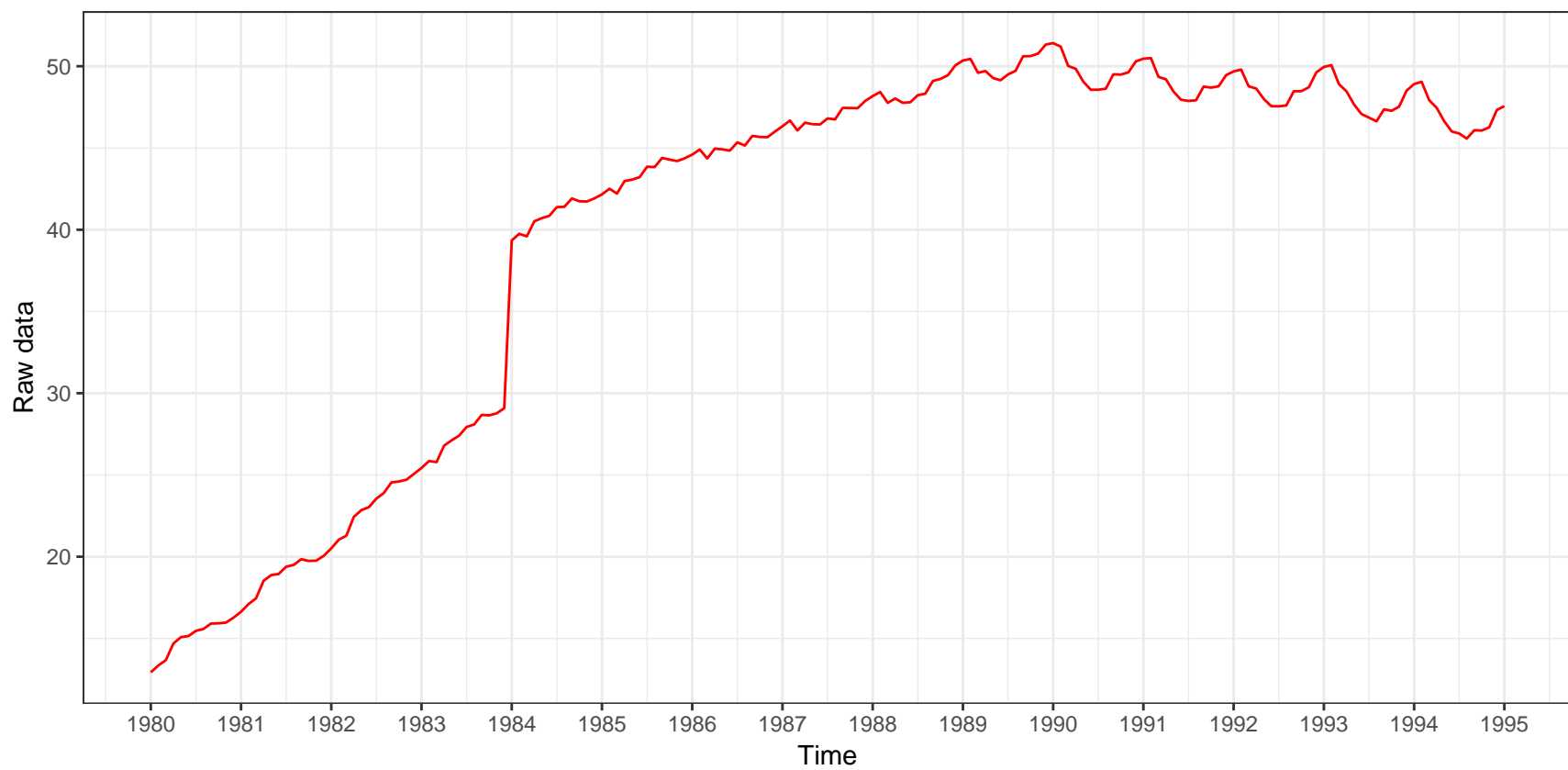


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.7B)X_t=(1-0.5B^{12})at$

Estimation of the outlier

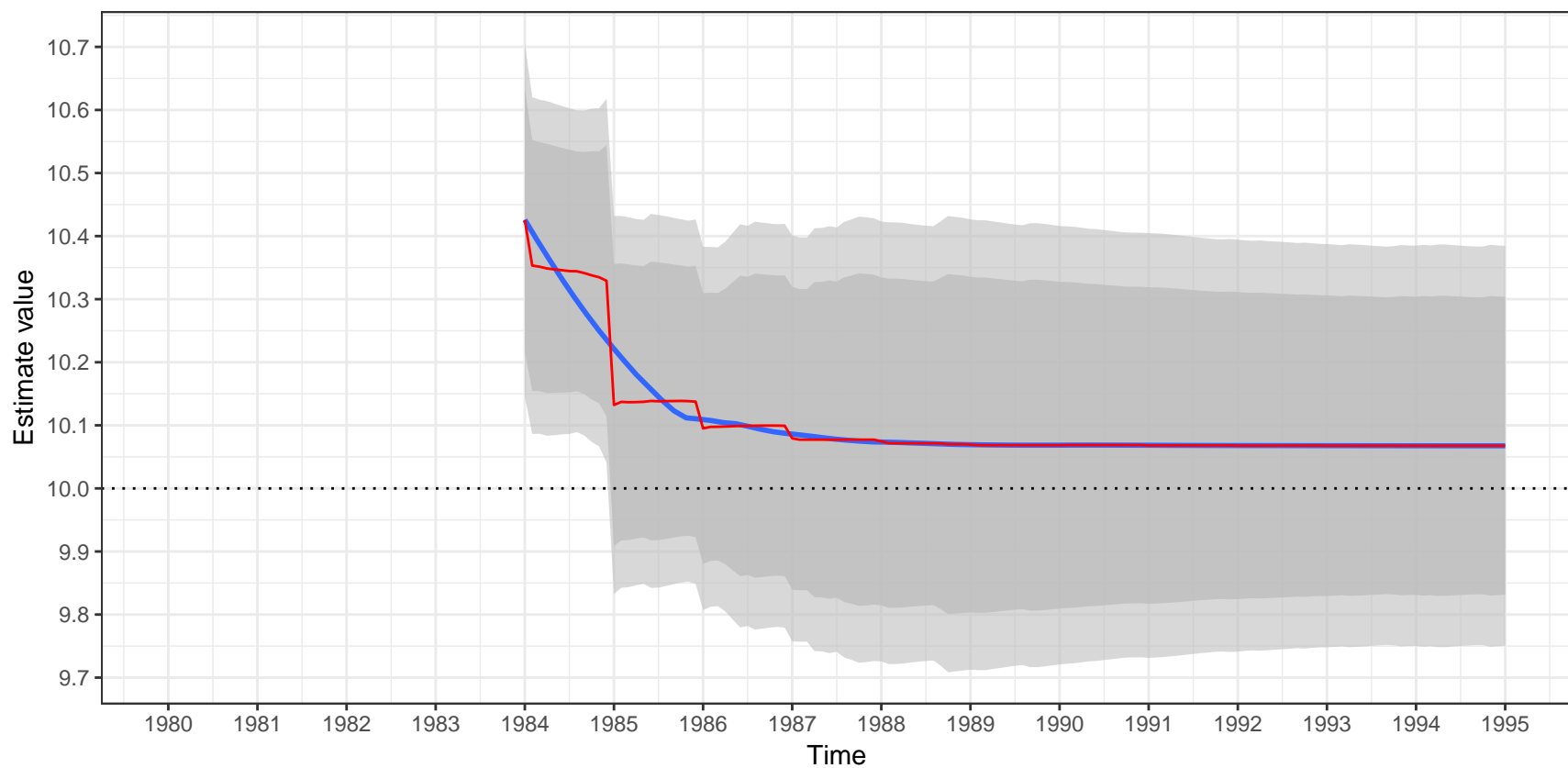


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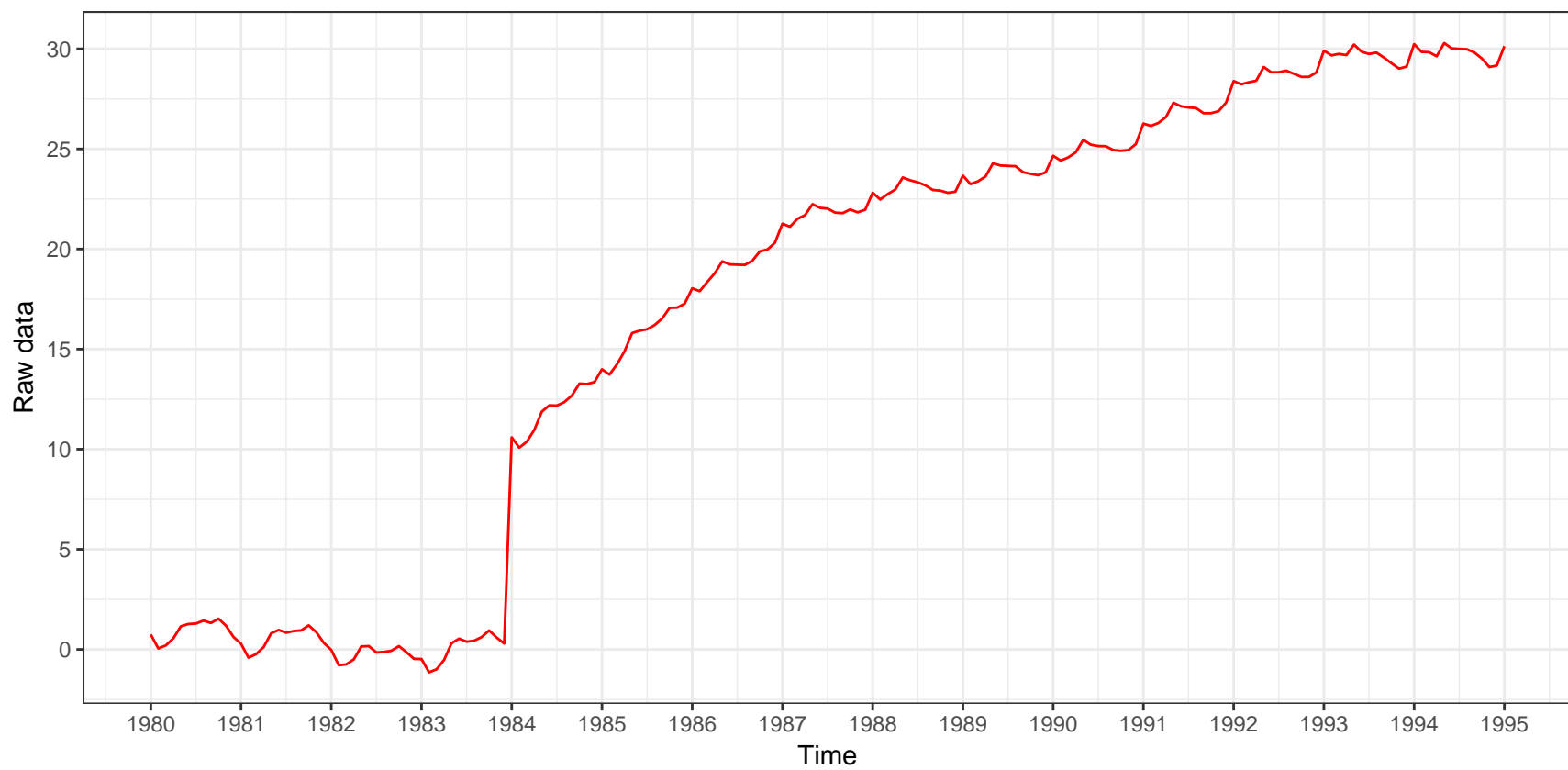


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ARIMA (1,1,0)(0,1,1) – additive decomposition
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Estimation of the outlier

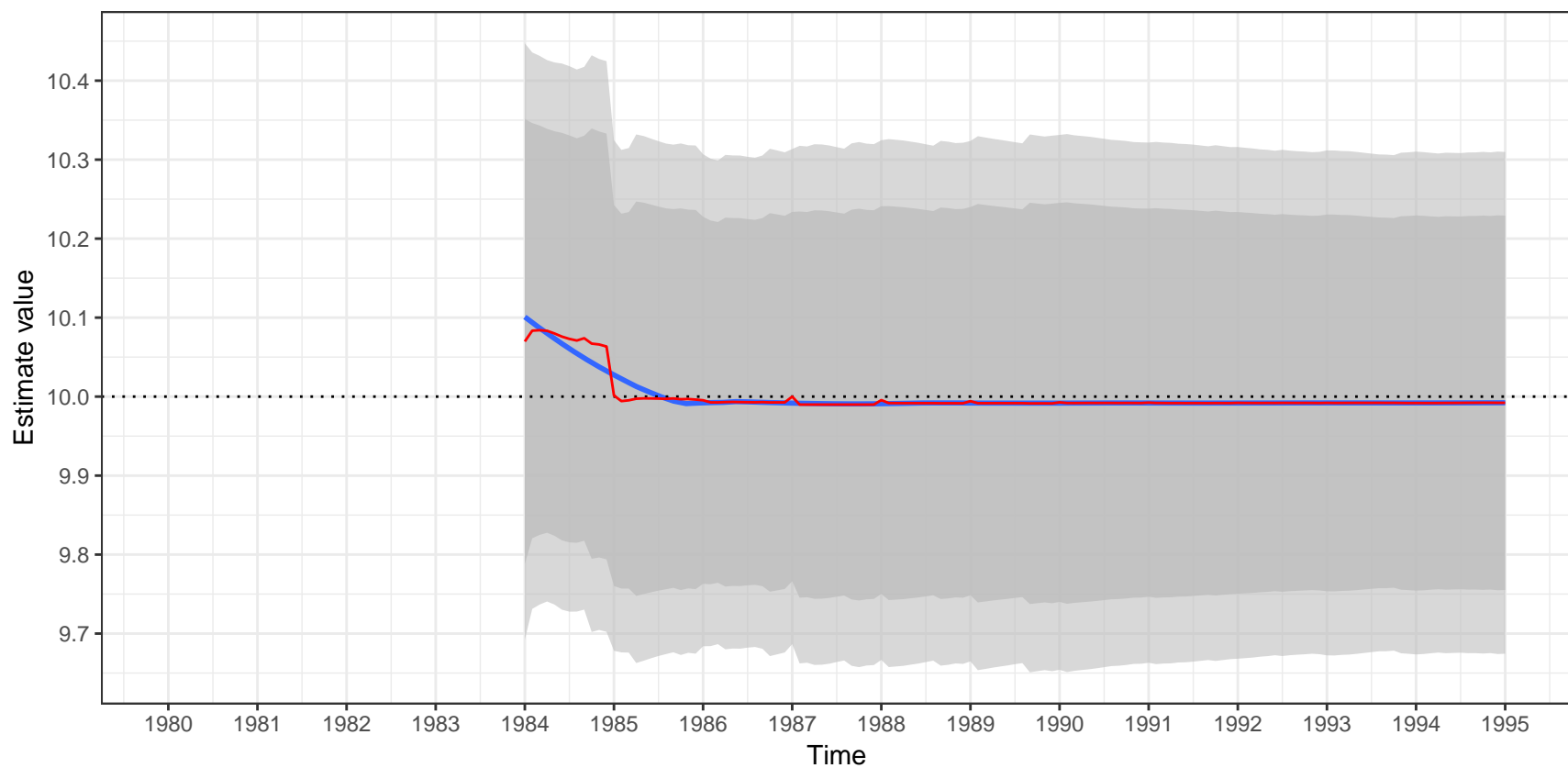


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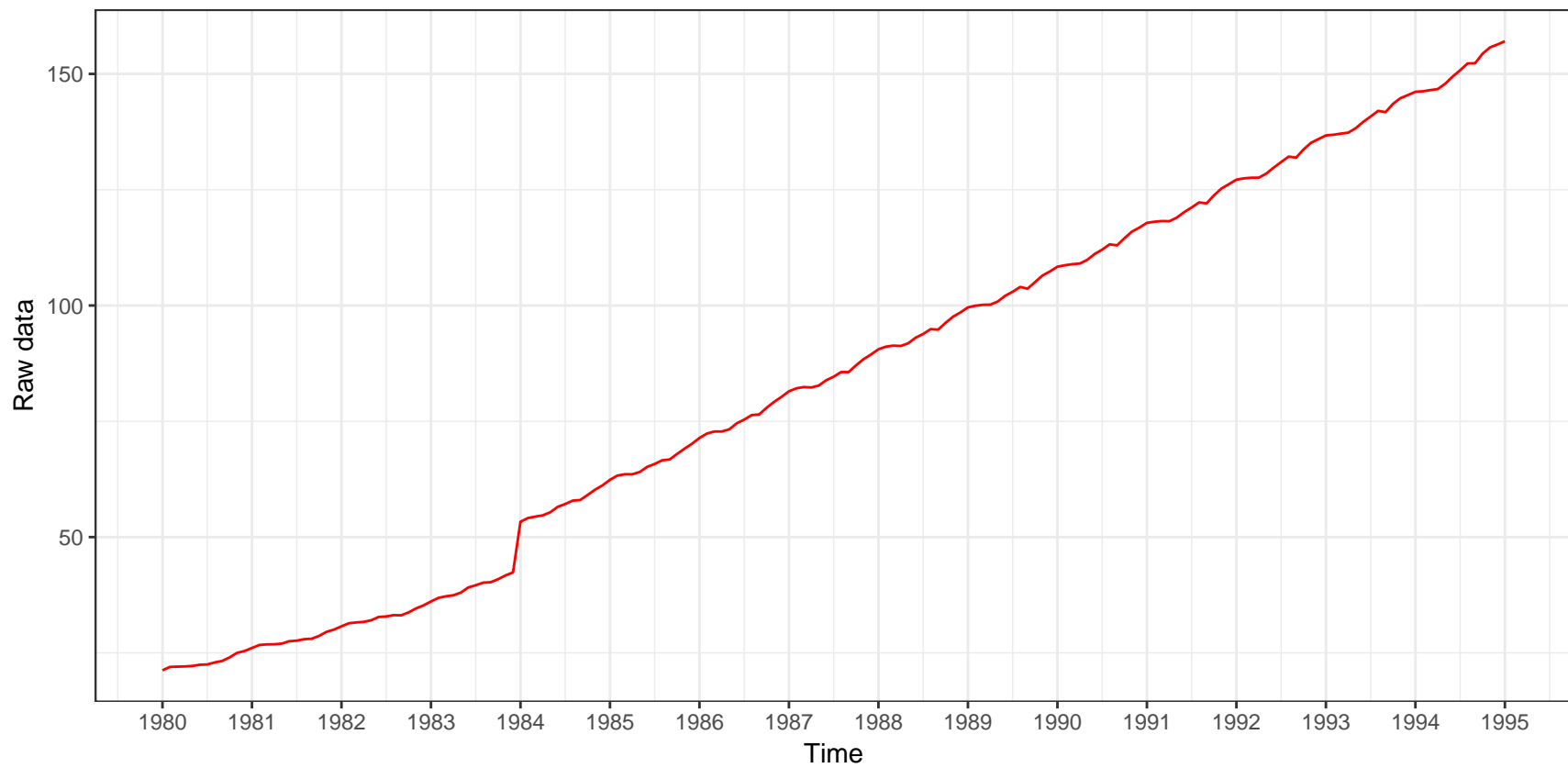


Estimate value of a LS(1984-01)
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Estimation of the outlier

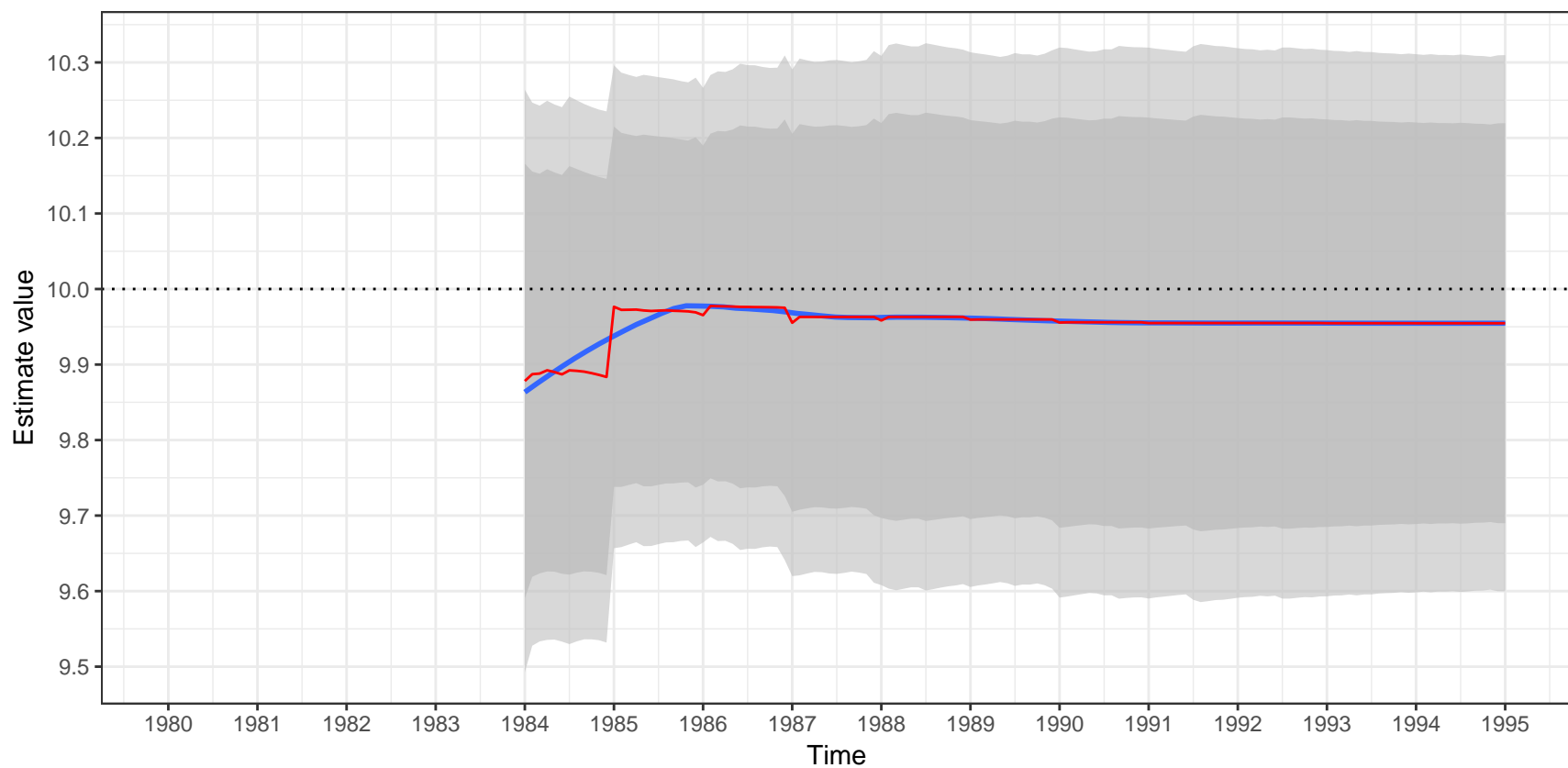


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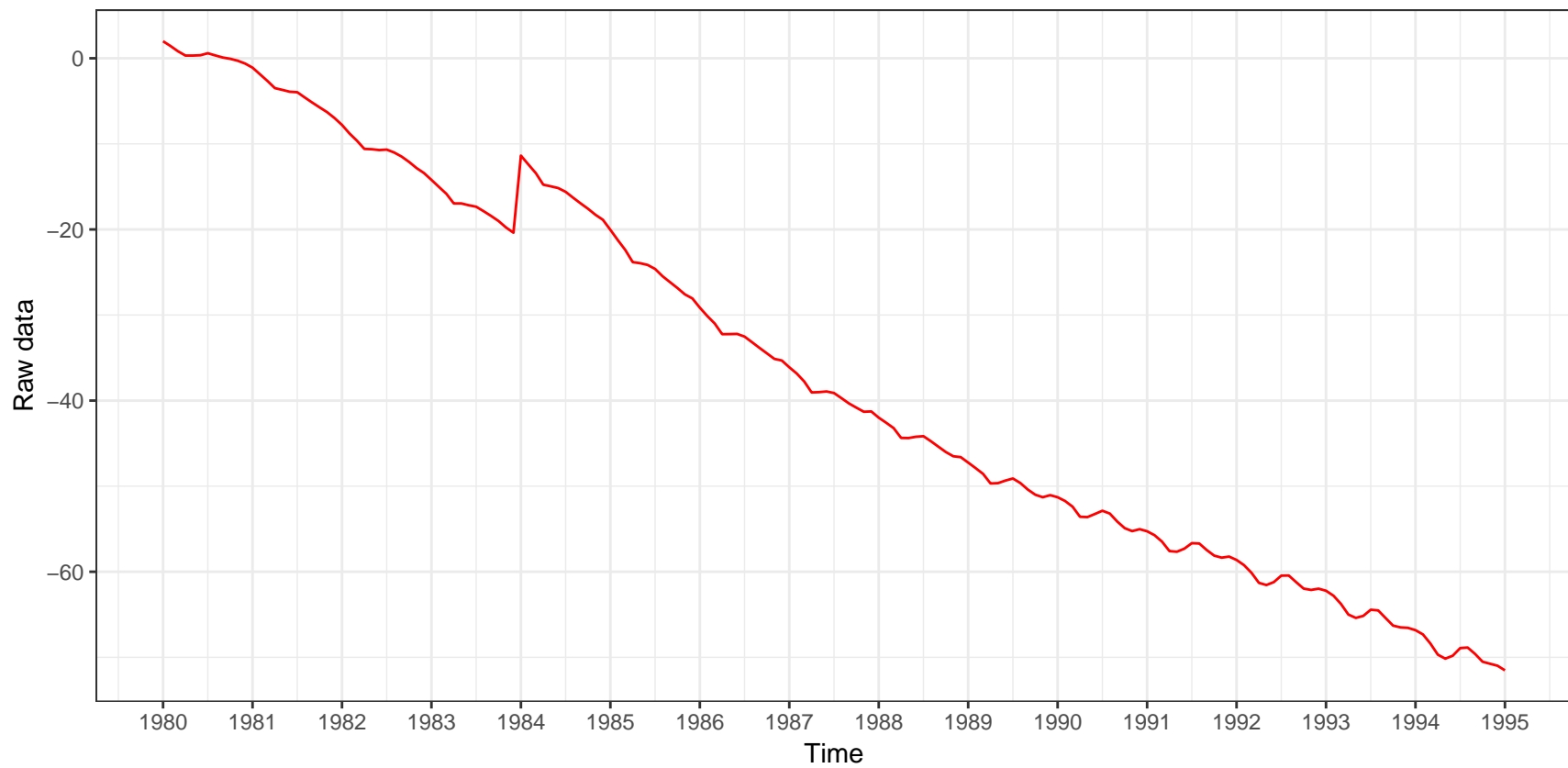


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,1,1) – additive decomposition
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Estimation of the outlier

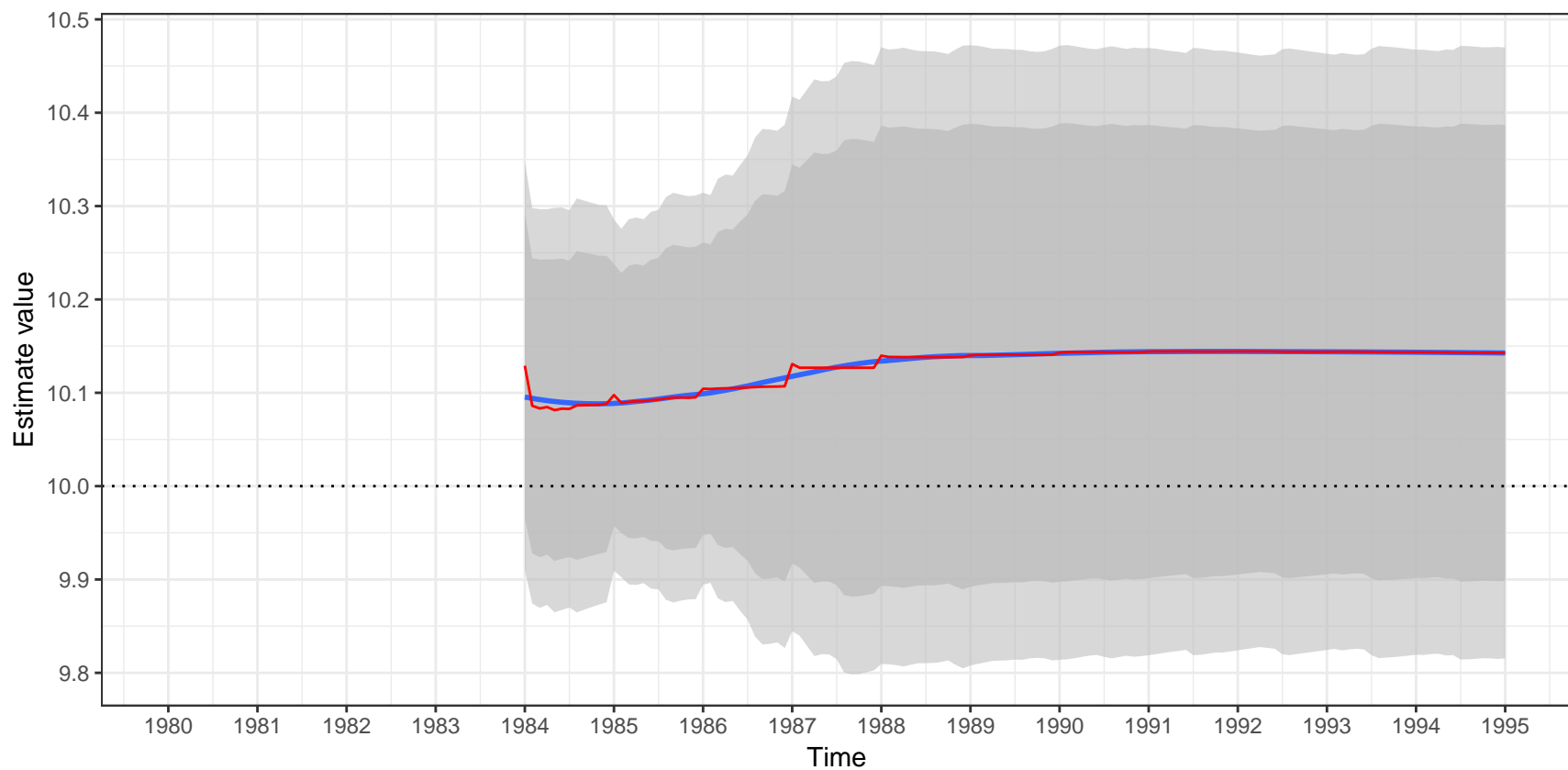


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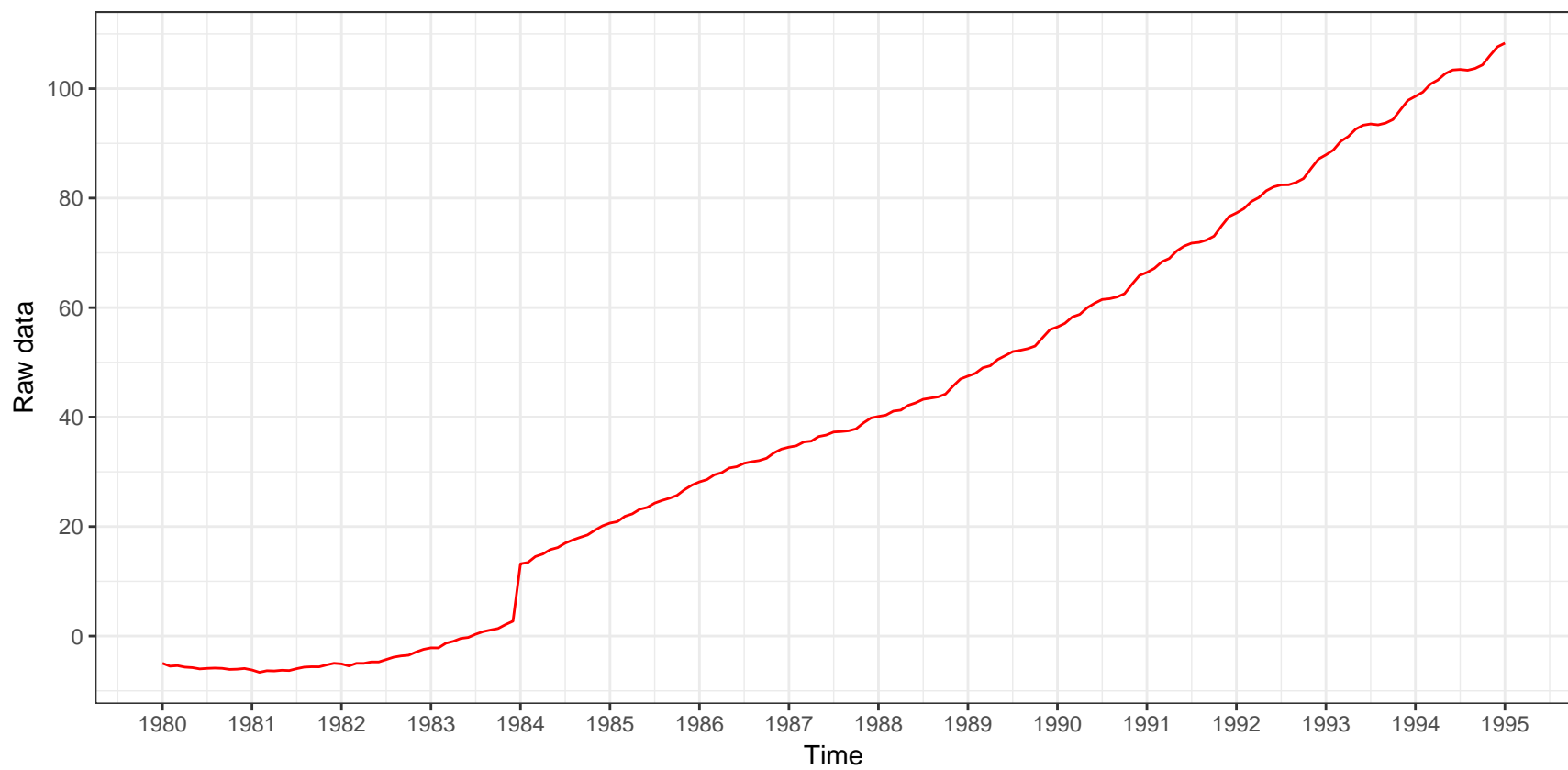


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.7B)X_t=(1-0.5B^{12})at$

Estimation of the outlier

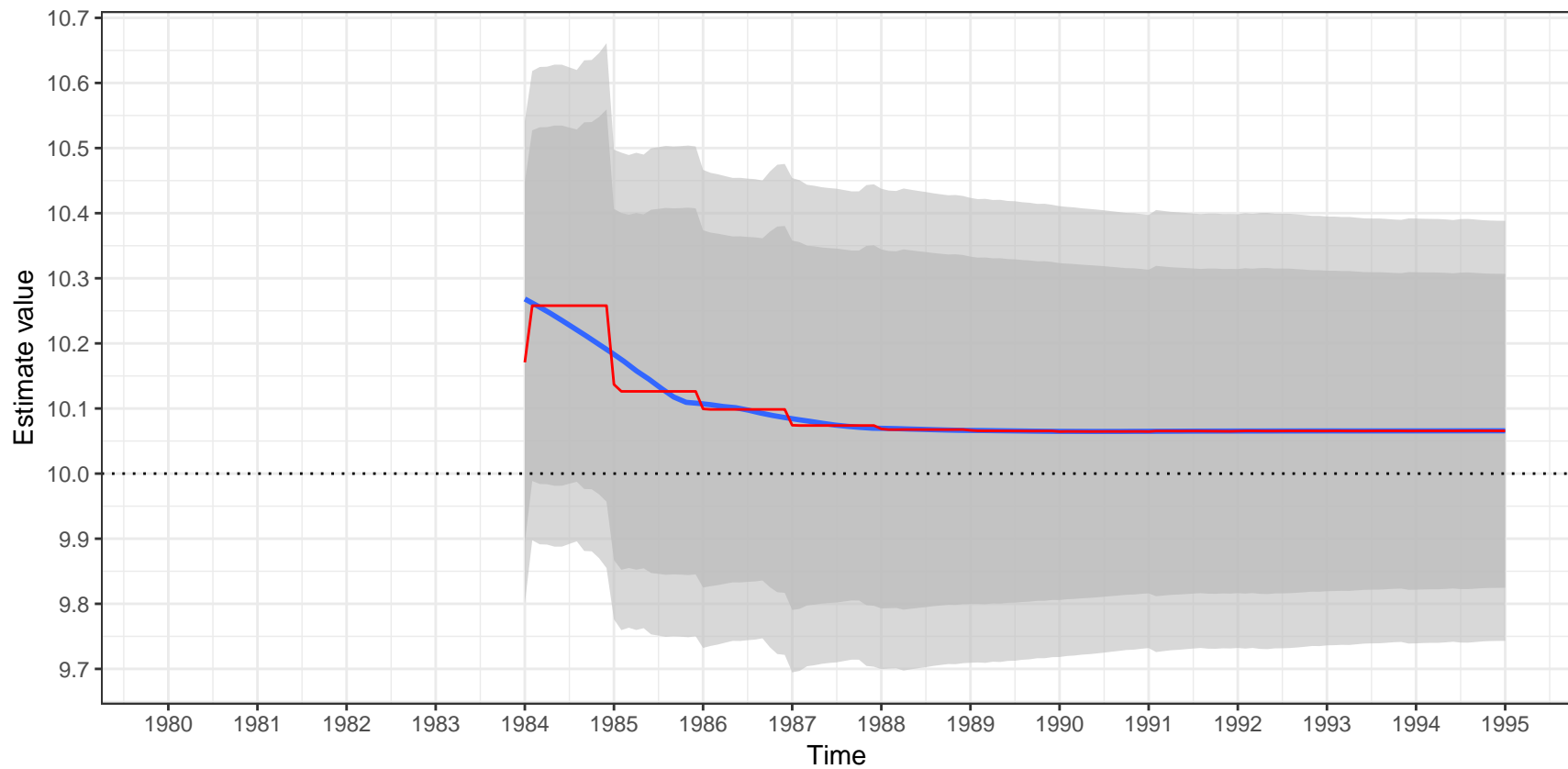


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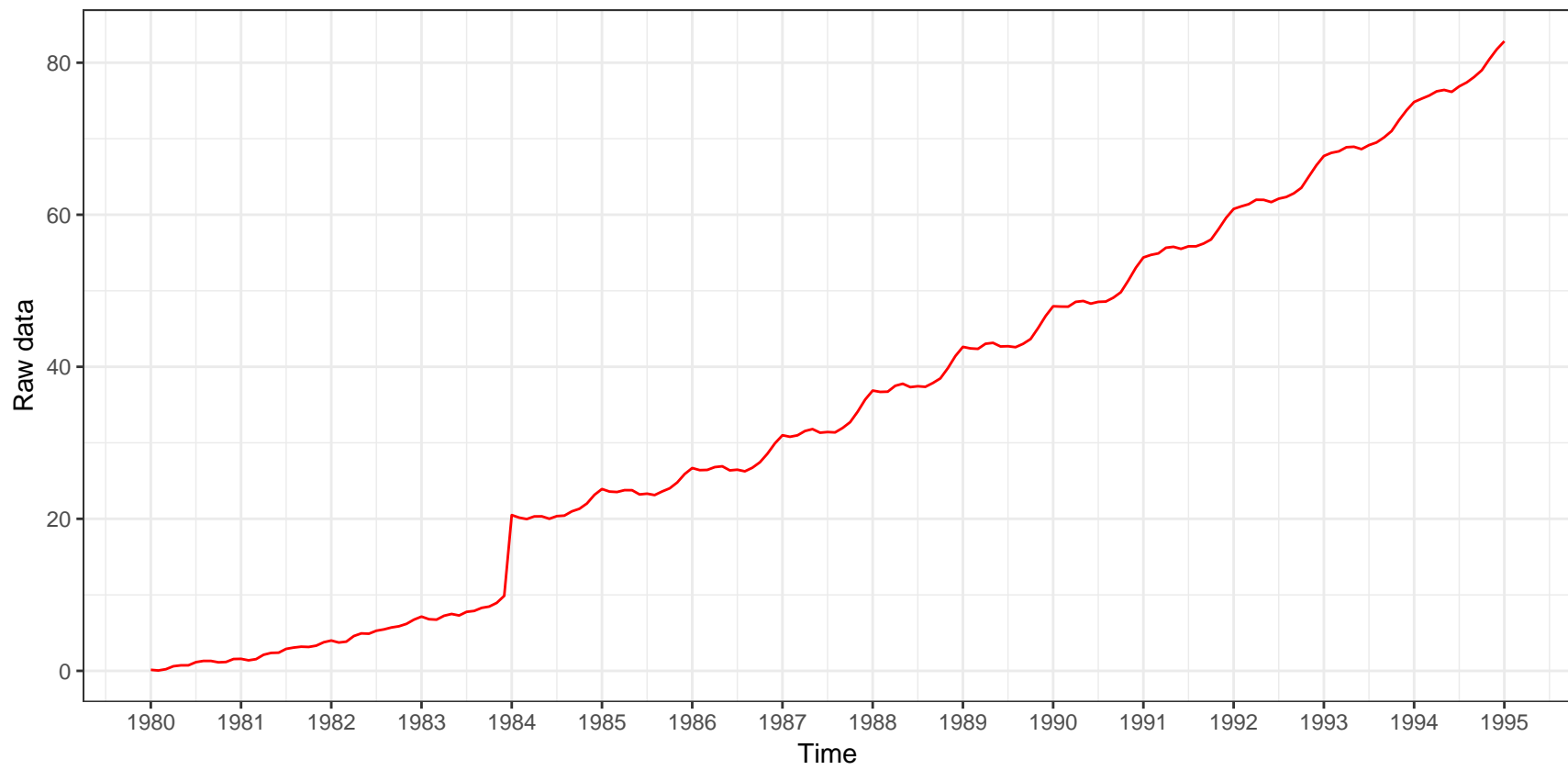


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.7B)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

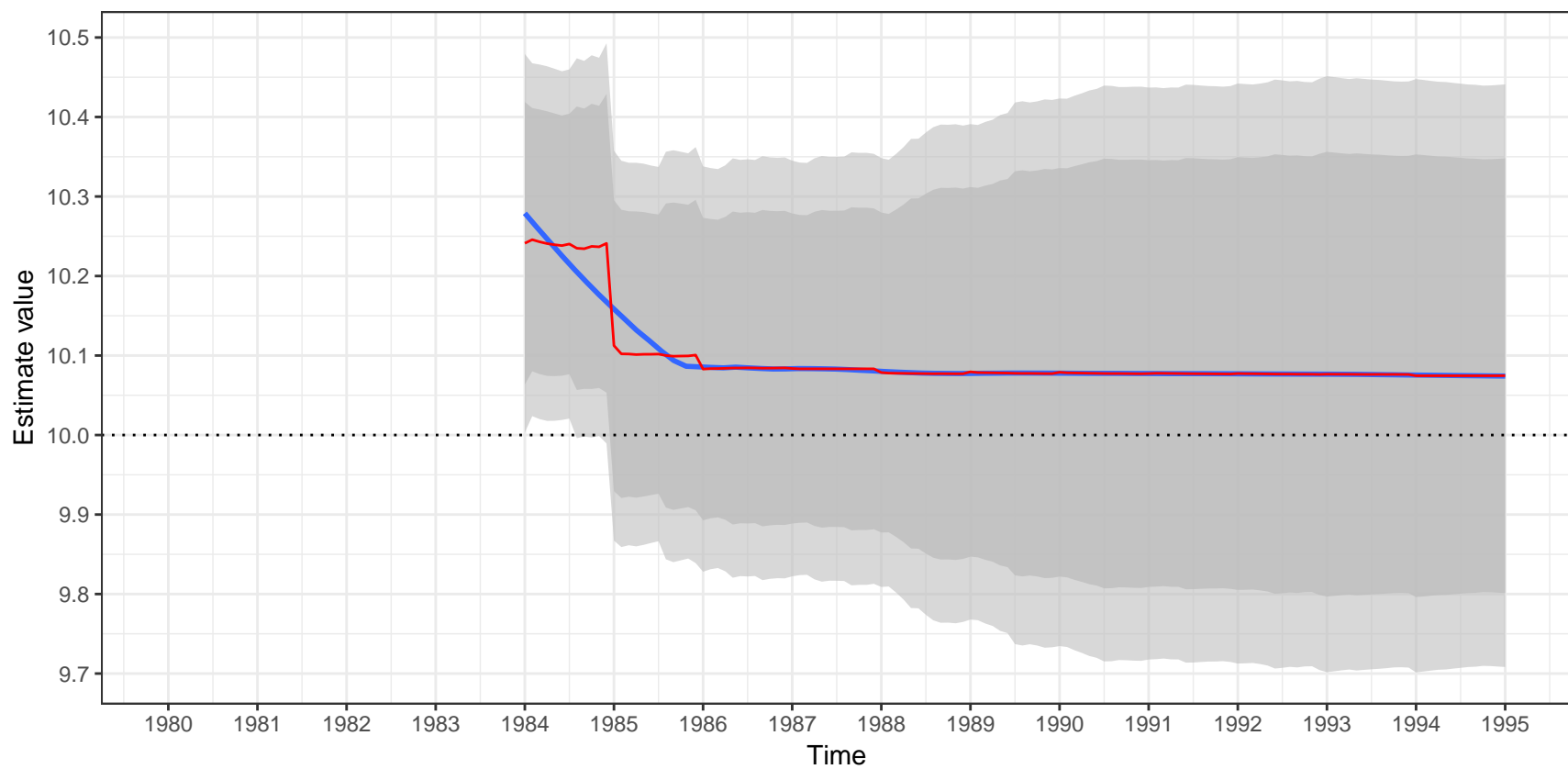


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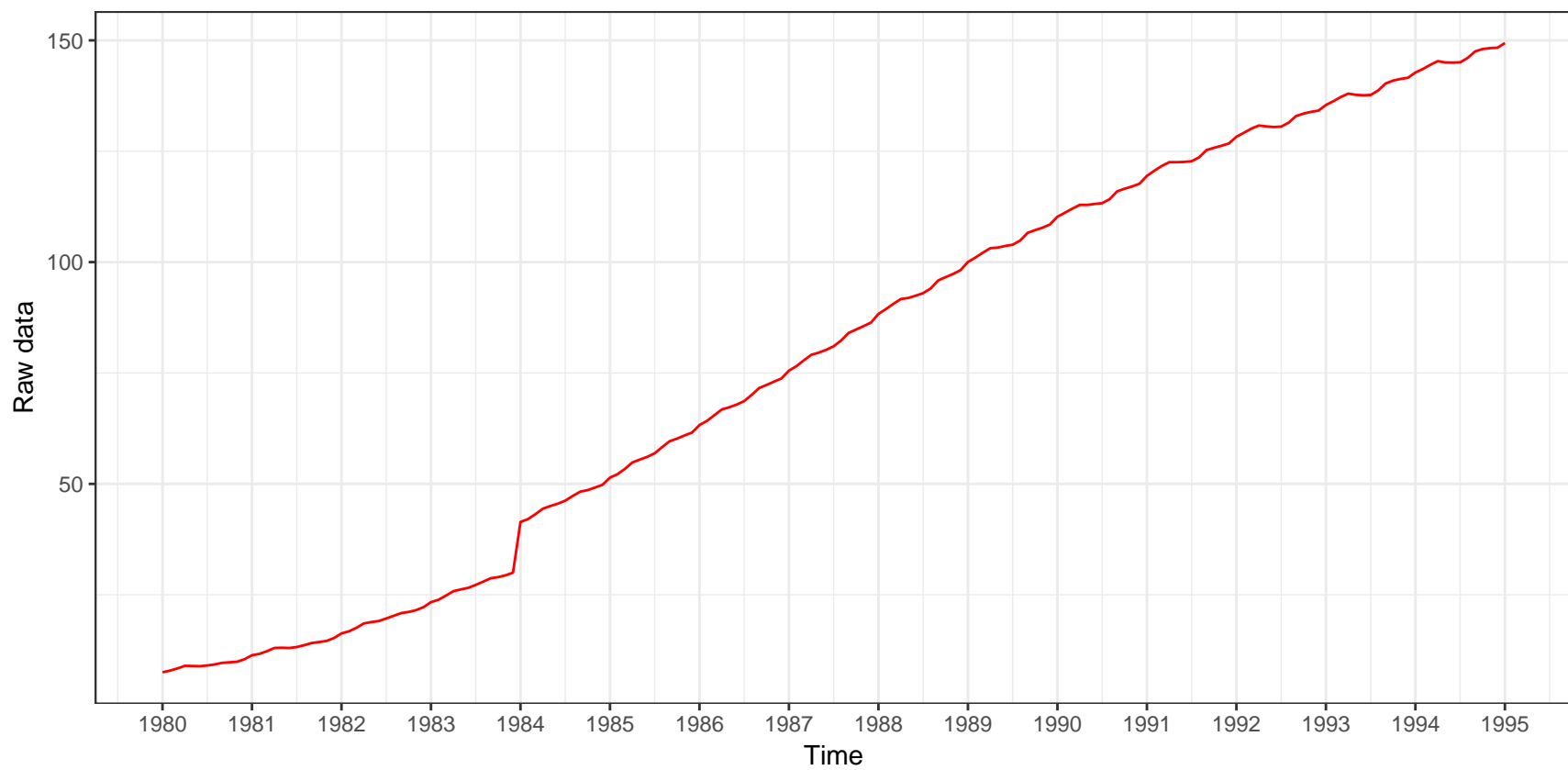


Estimate value of a LS(1984-01)
ARIMA (1,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.7B)X_t=(1-0.5B^{12})a_t$

Estimation of the outlier

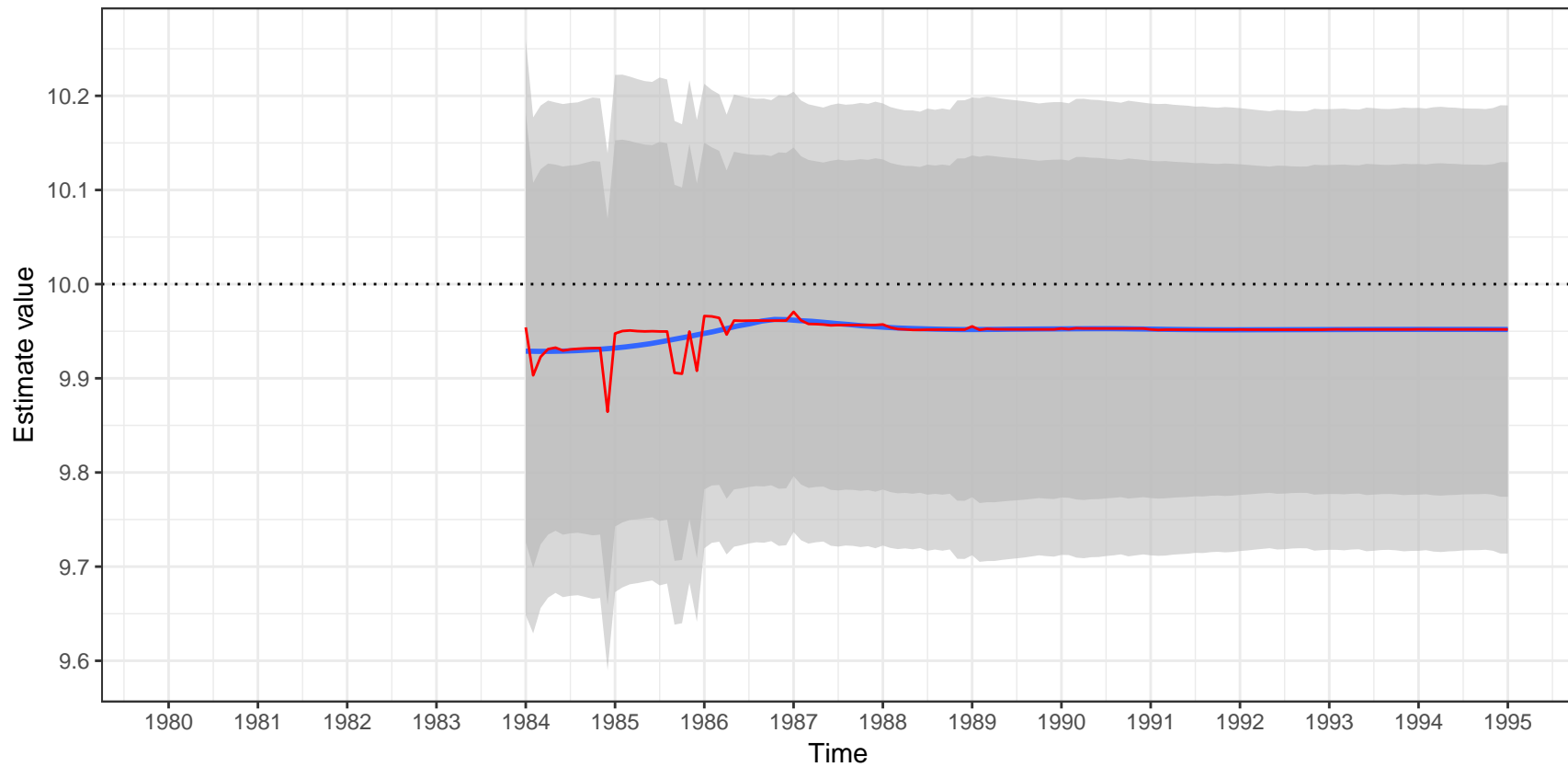


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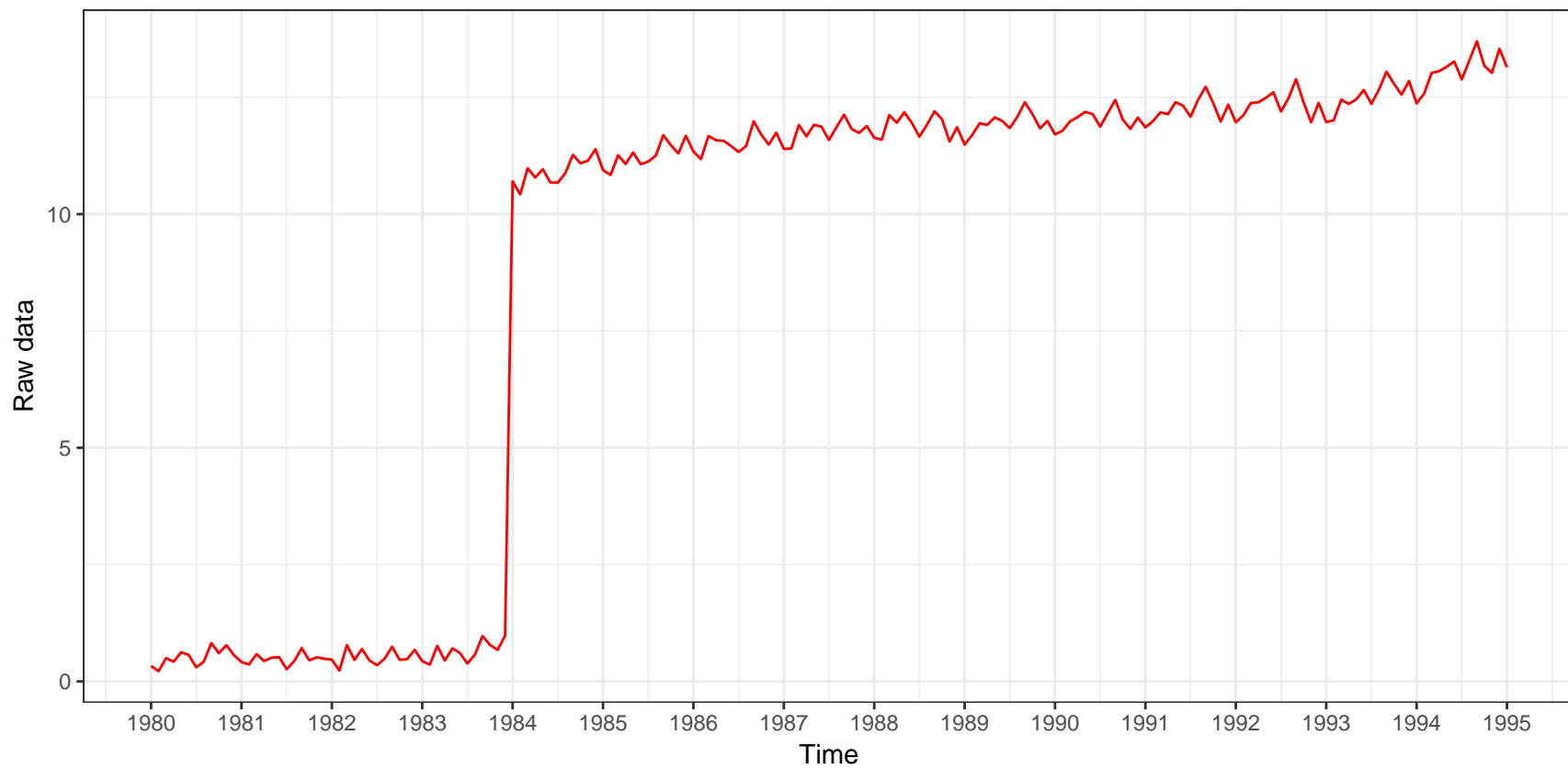


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1+0.4B^{12})X_t=(1-0.5B)(1-0.5B^{12})a_t$

Estimation of the outlier

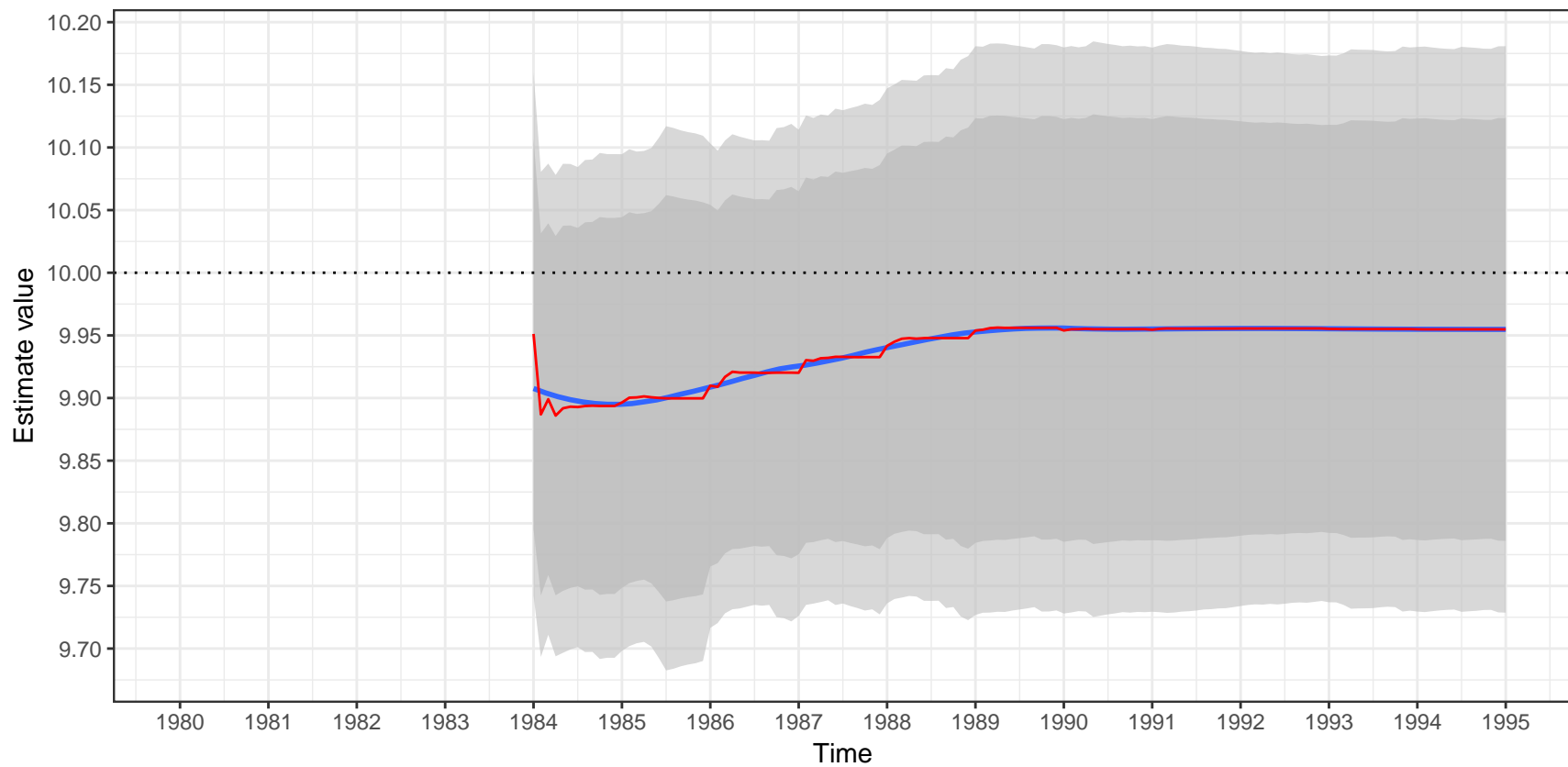


Raw data



Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
 $(1-B)(1-B_{12})(1+0.4B_{12})X_t=(1-0.5B)(1-0.5B_{12})a_t$

Estimation of the outlier

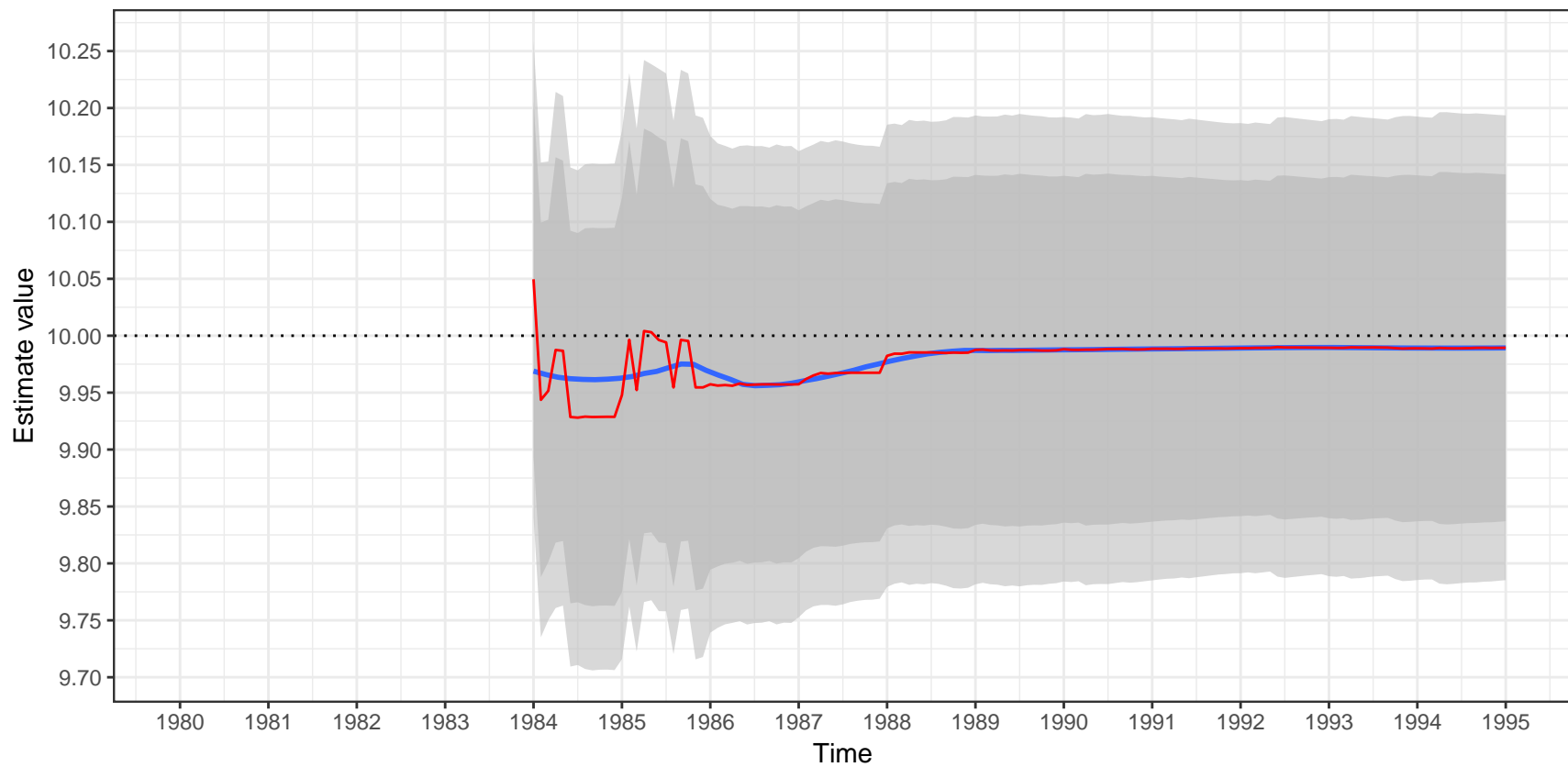


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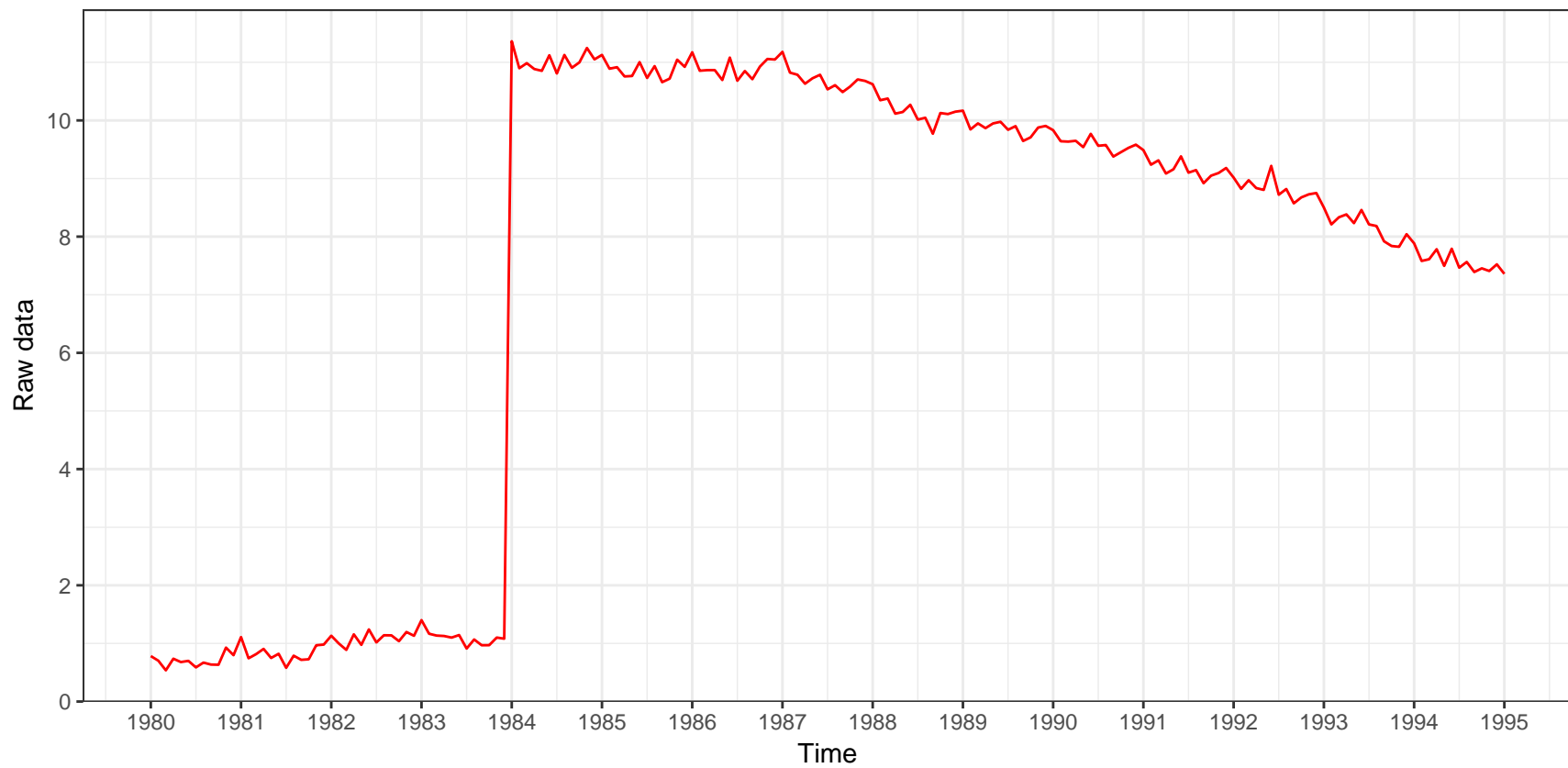


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
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Estimation of the outlier

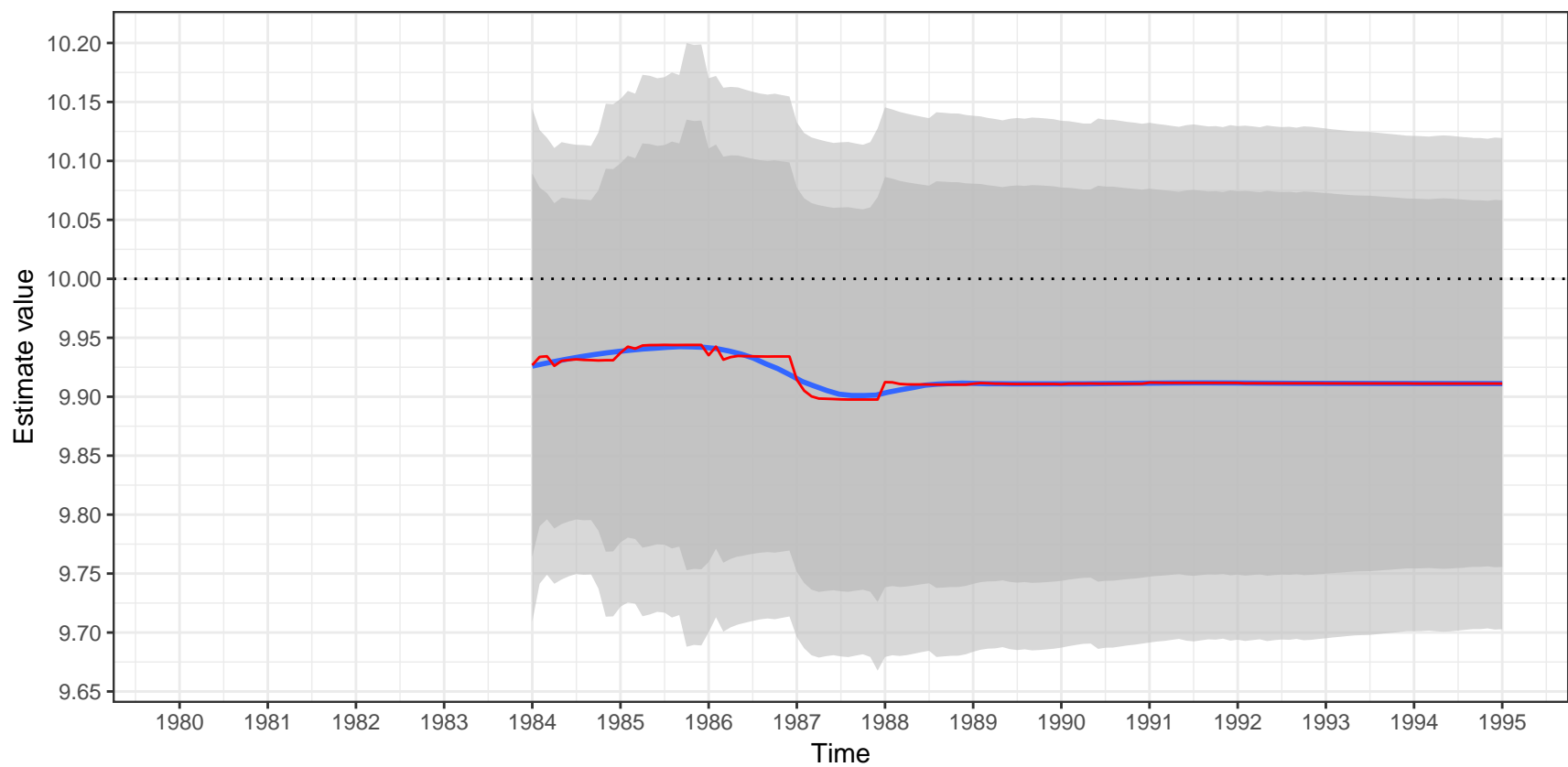


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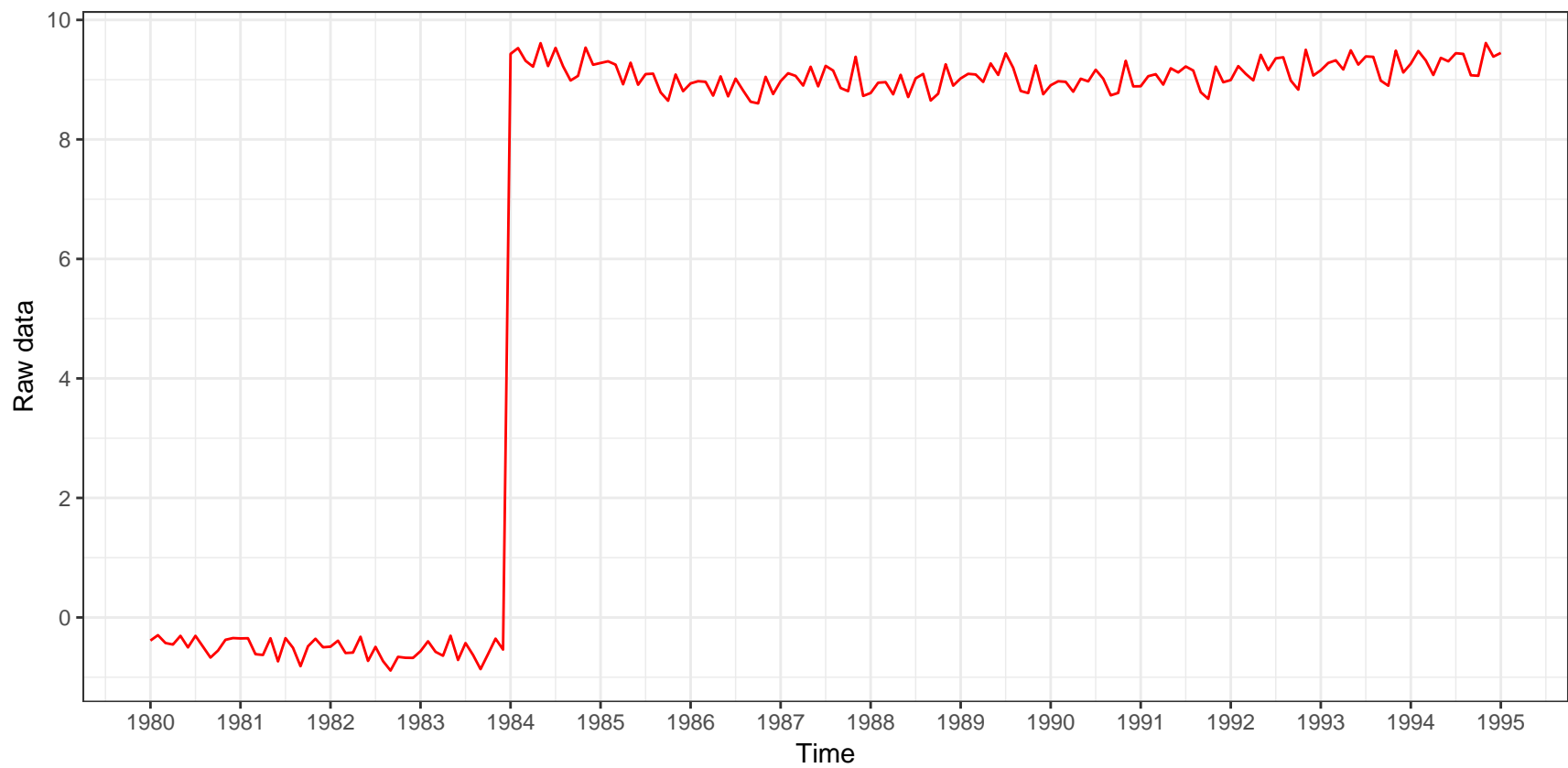


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
 $(1-B)(1-B_{12})(1+0.4B_{12})X_t=(1-0.5B)(1-0.5B_{12})a_t$

Estimation of the outlier

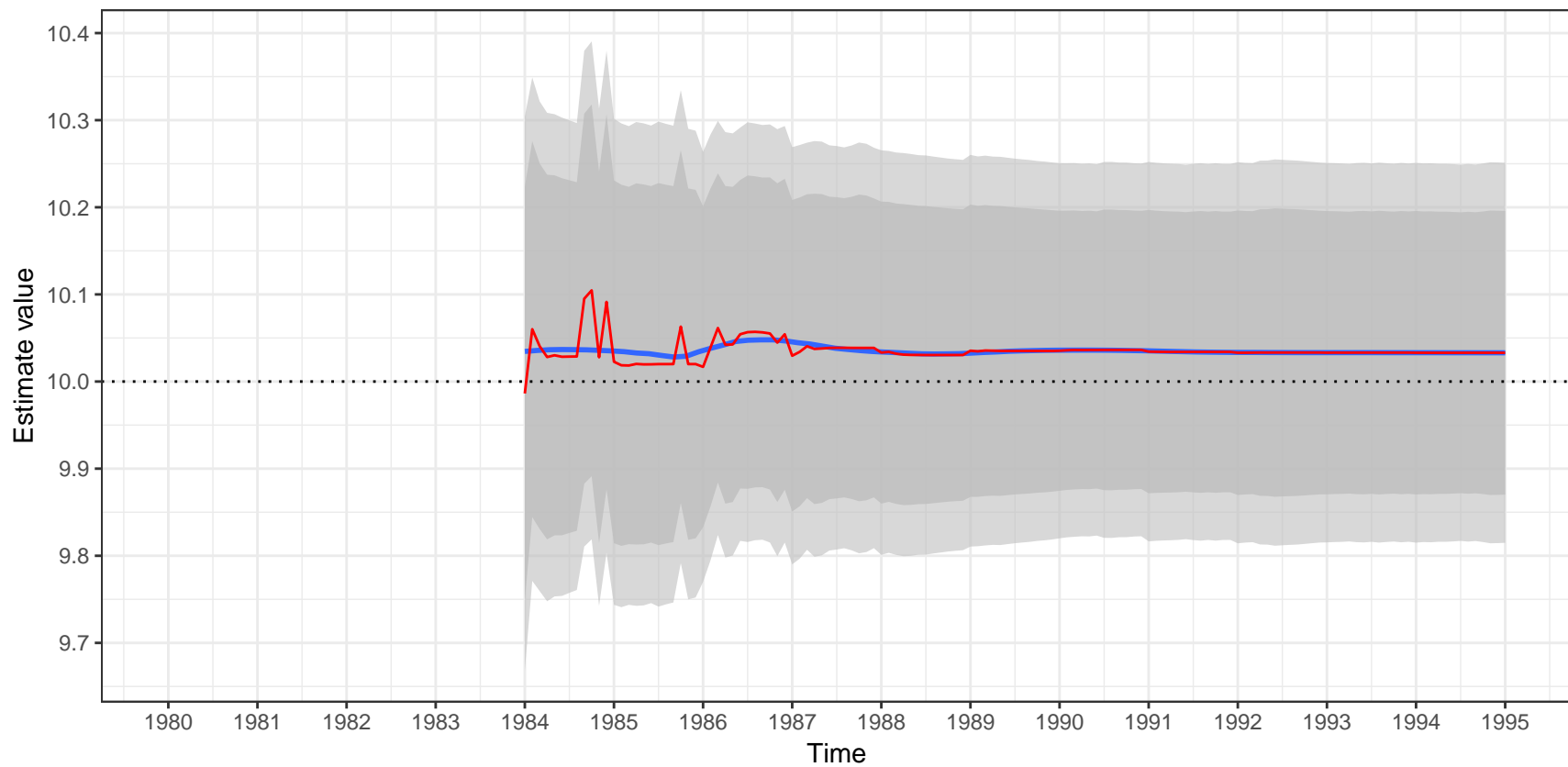


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Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
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Estimation of the outlier

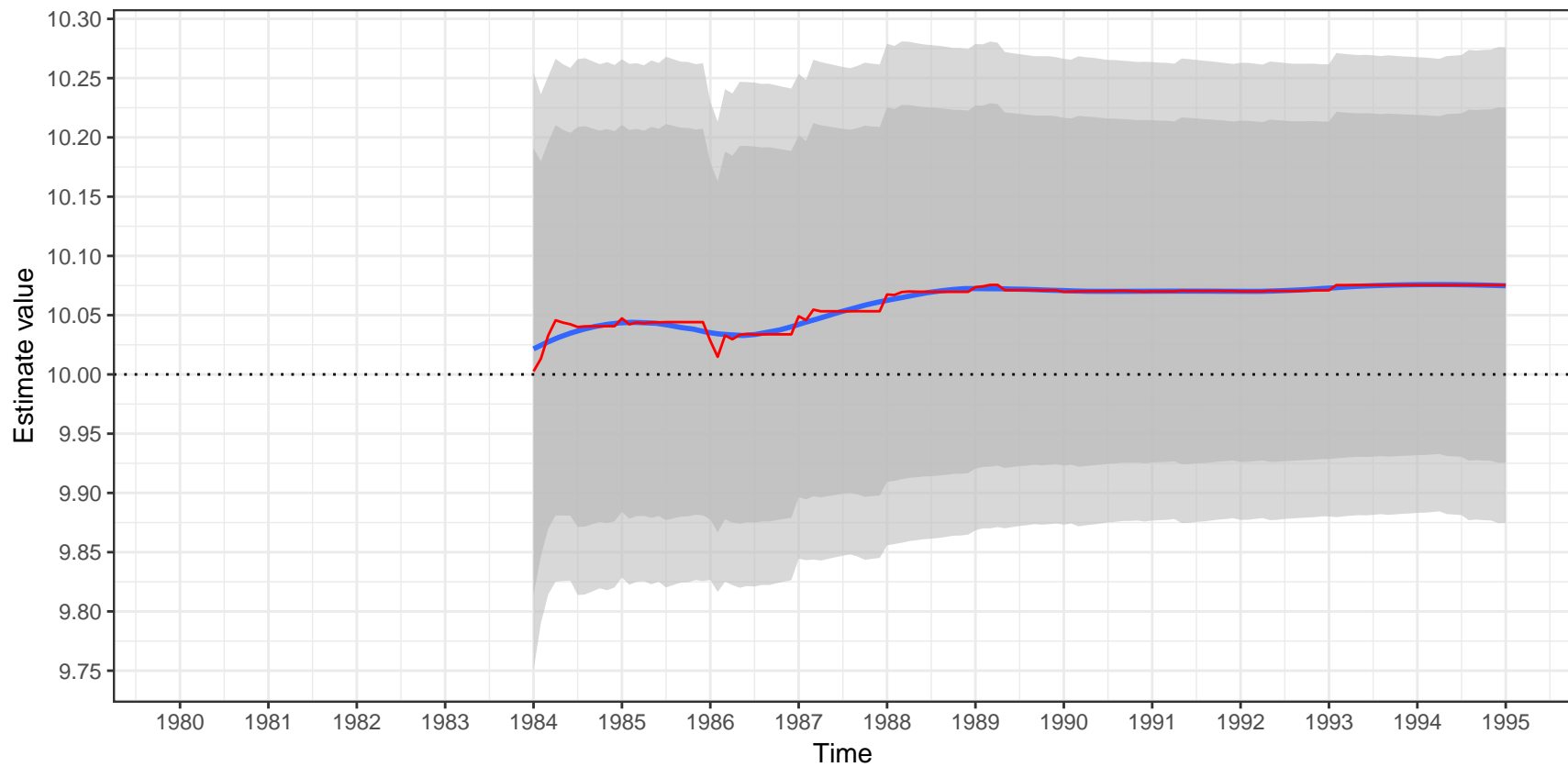


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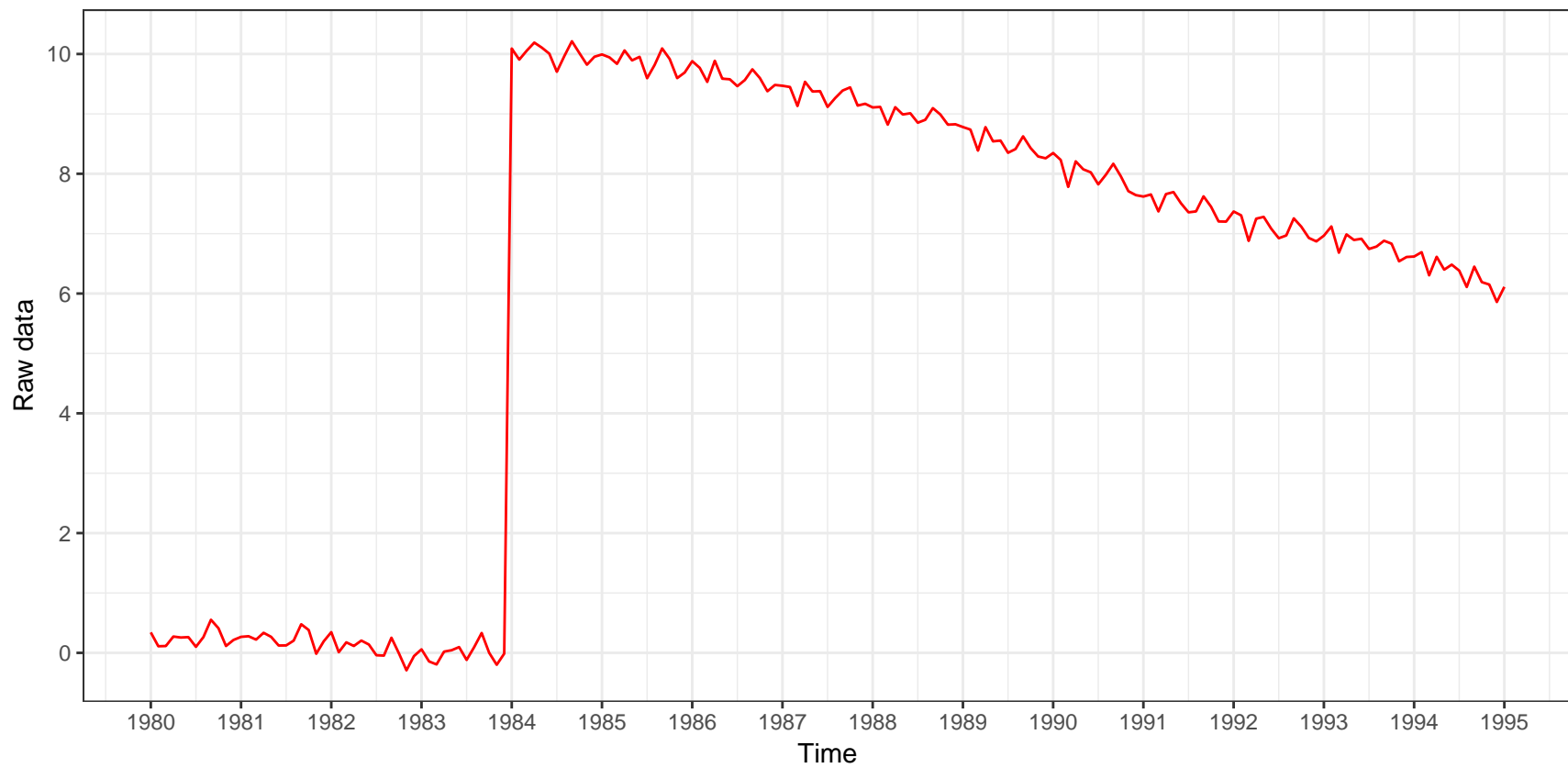


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
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Estimation of the outlier

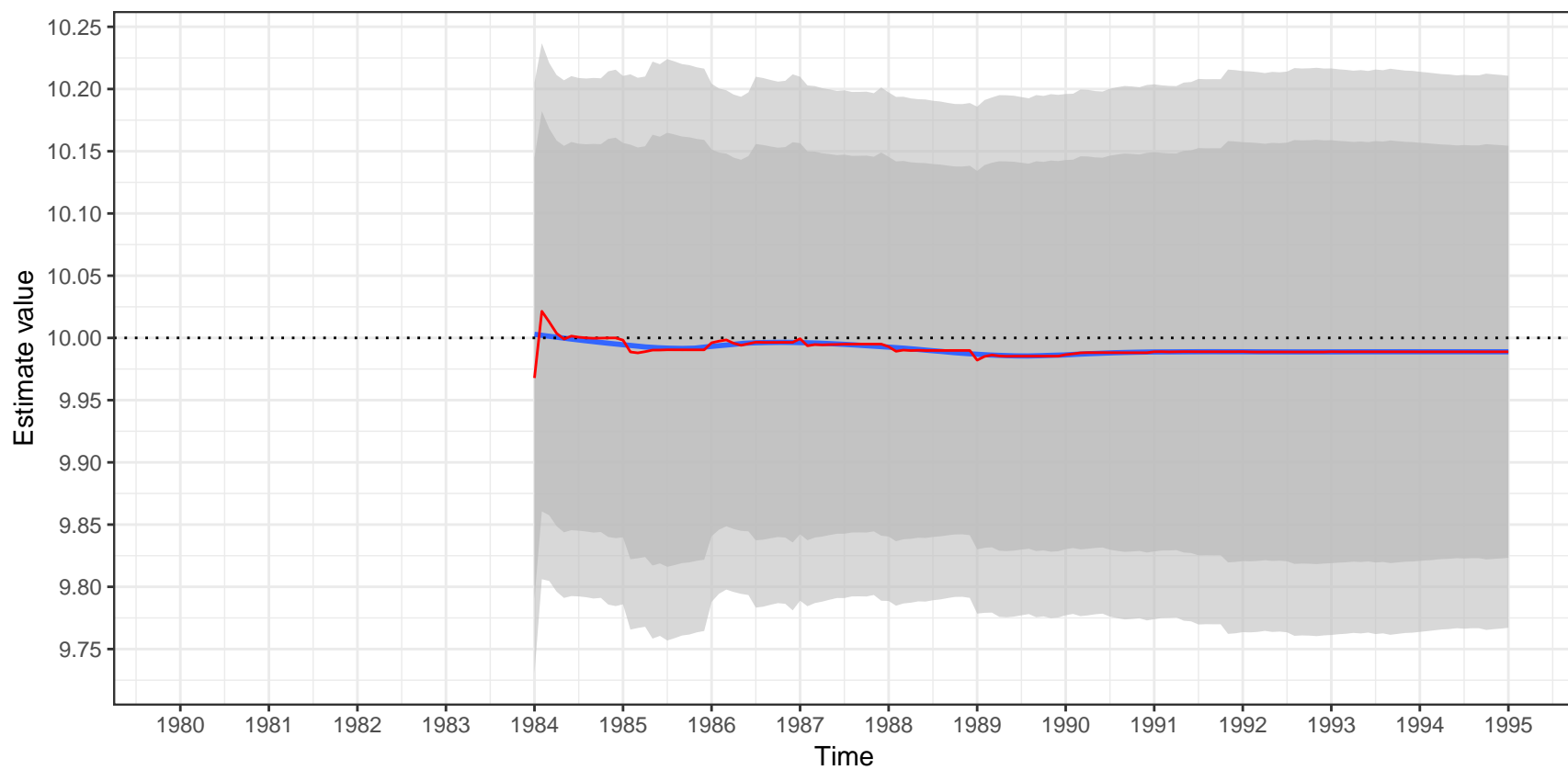


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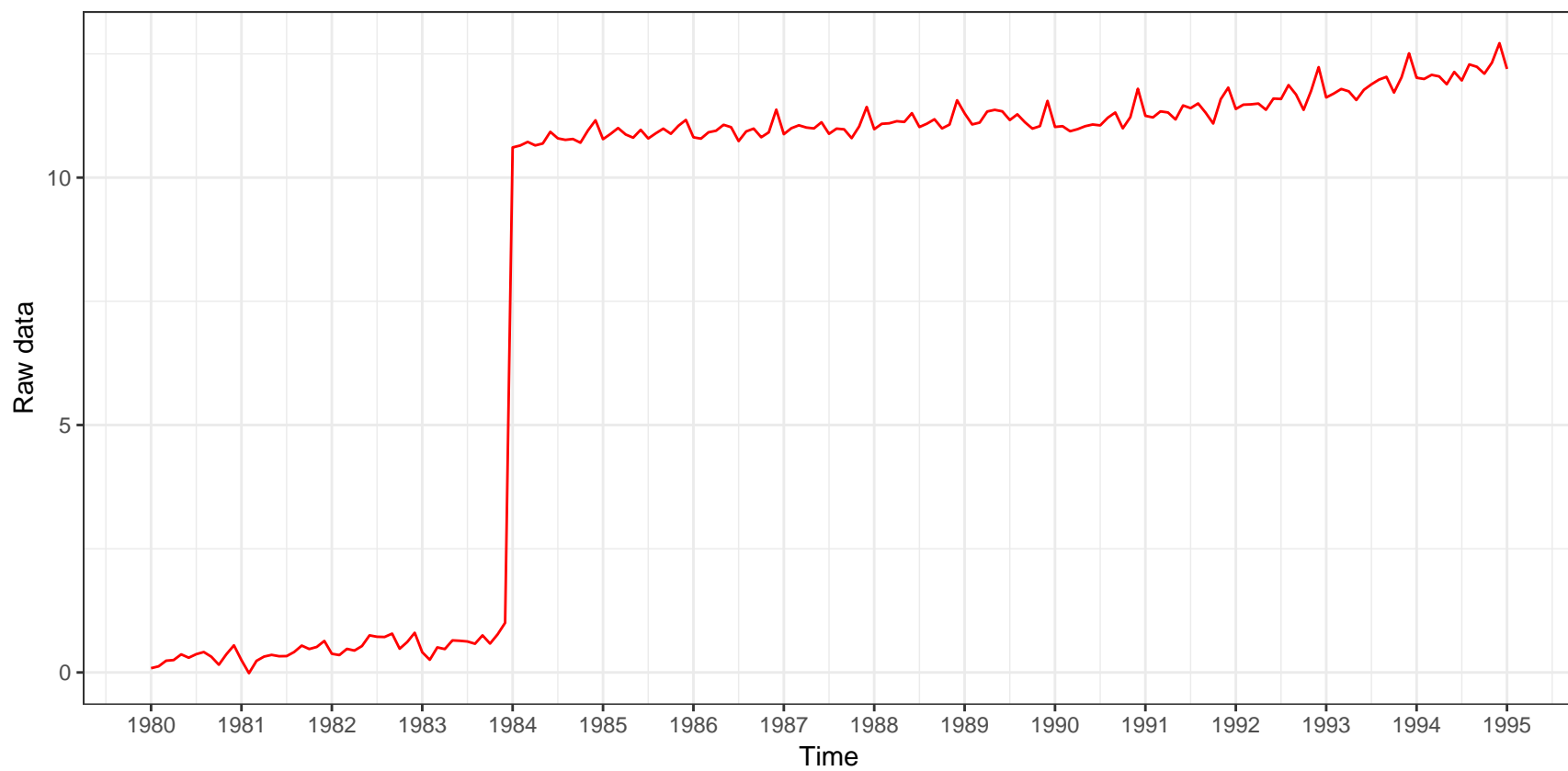


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
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Estimation of the outlier

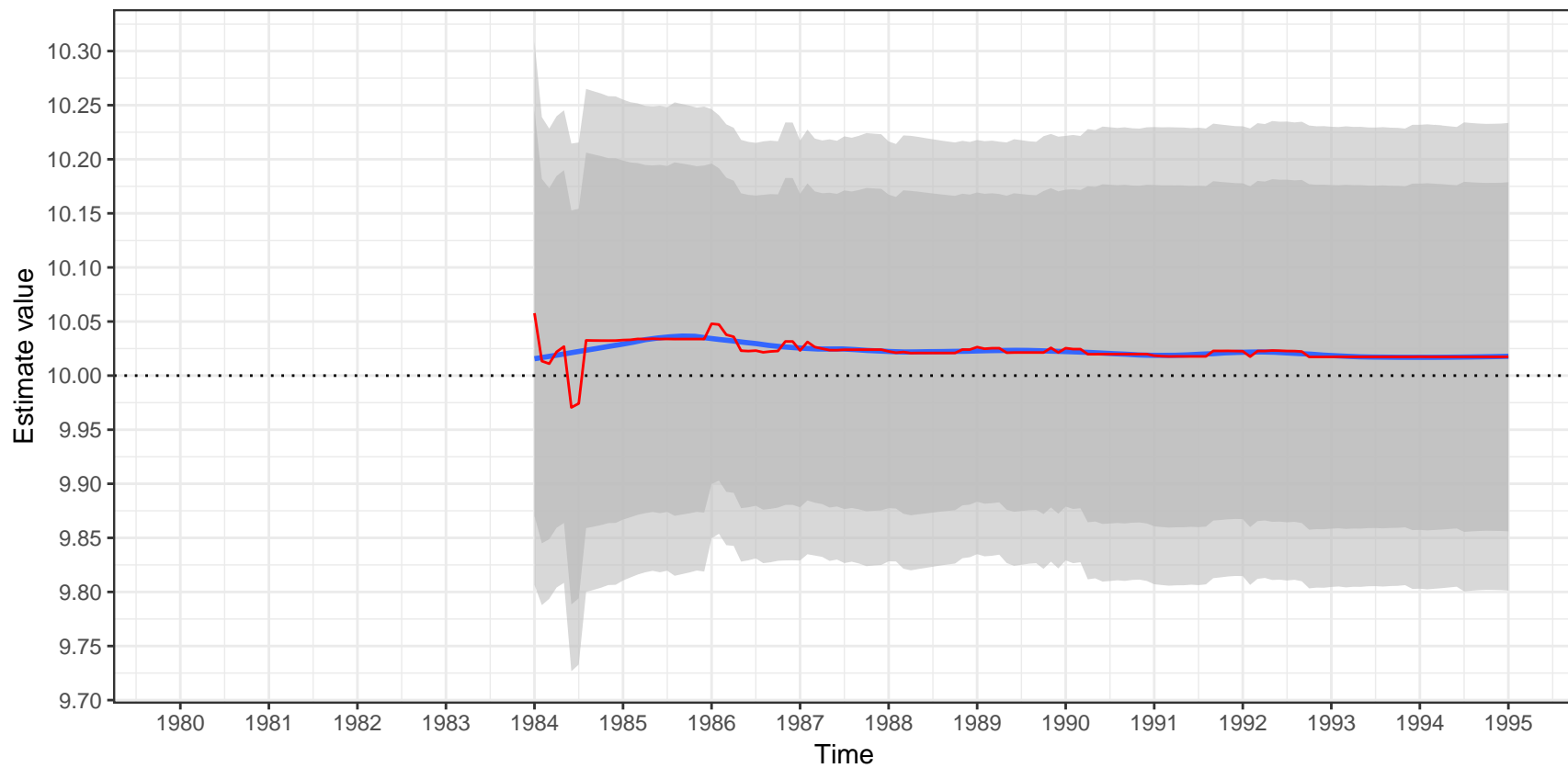


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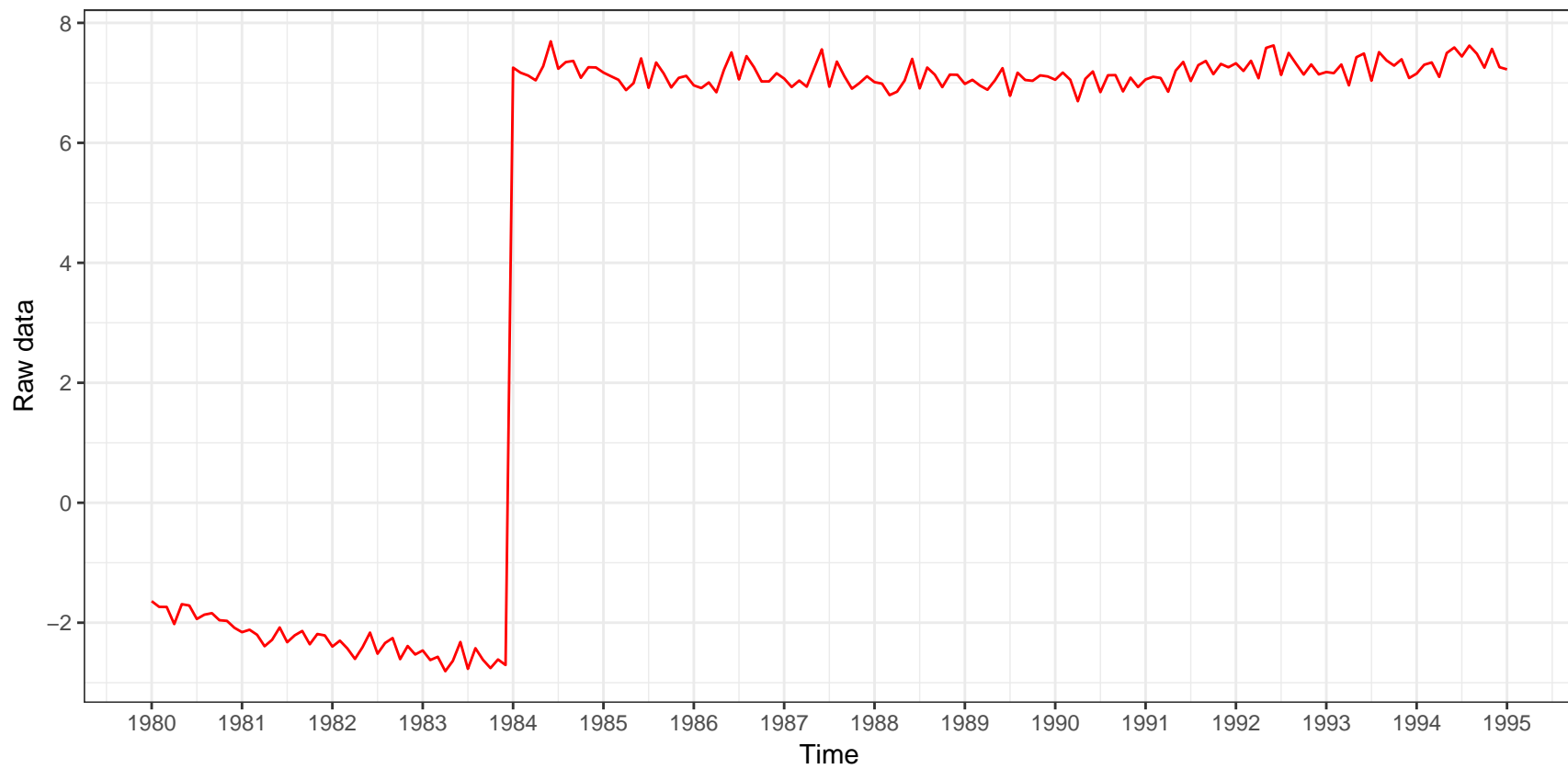


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
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Estimation of the outlier

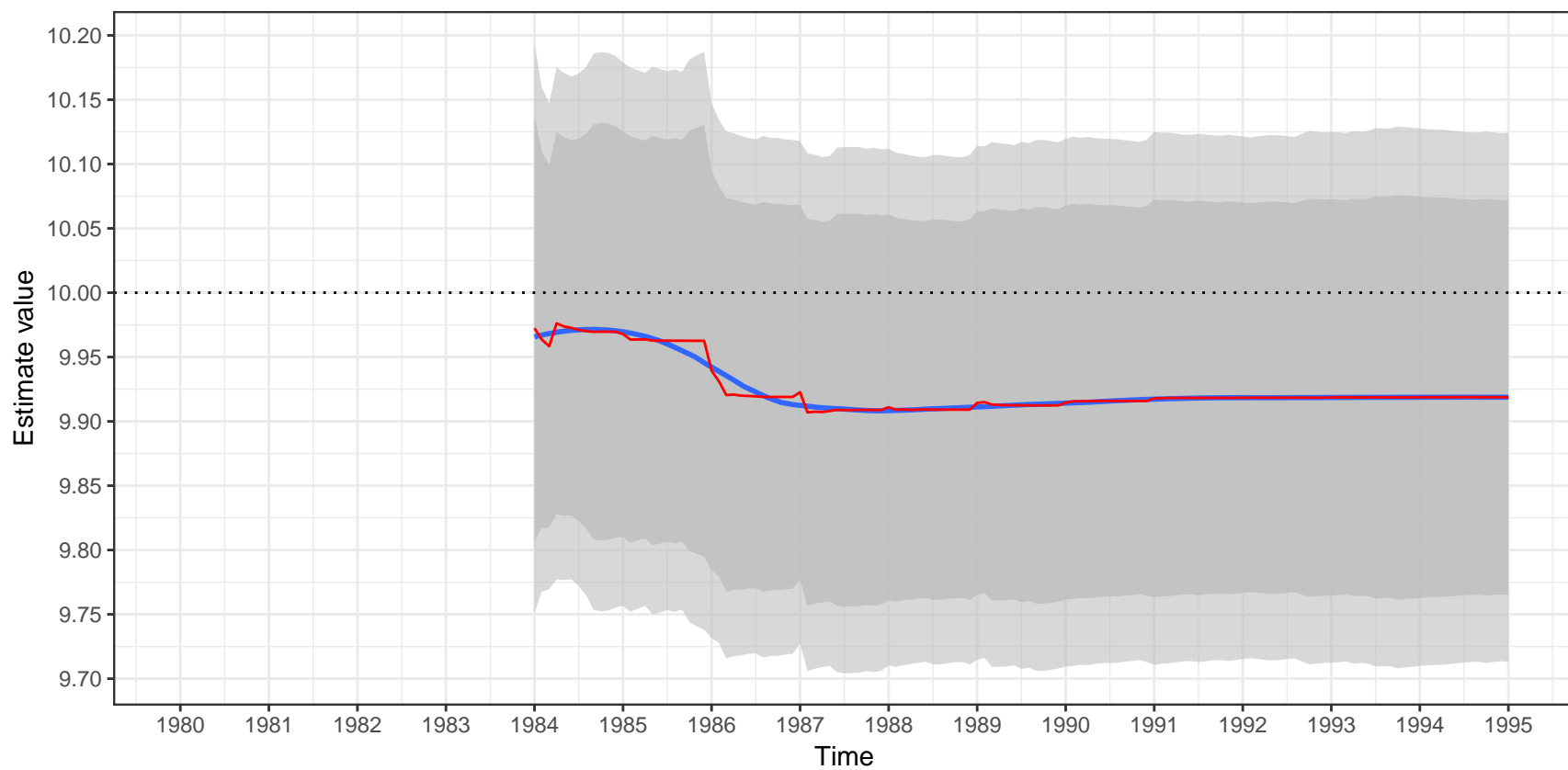


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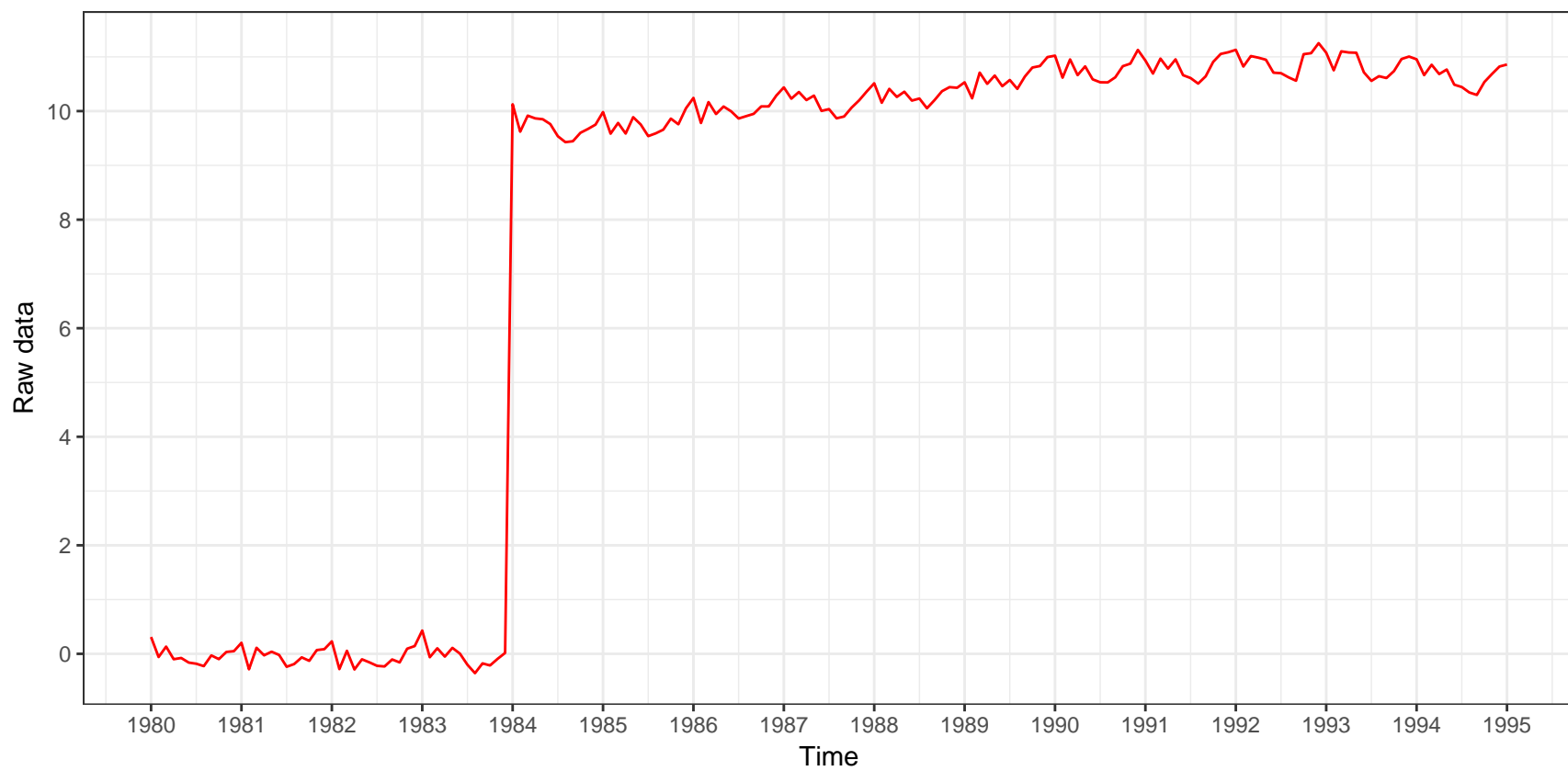


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Estimation of the outlier

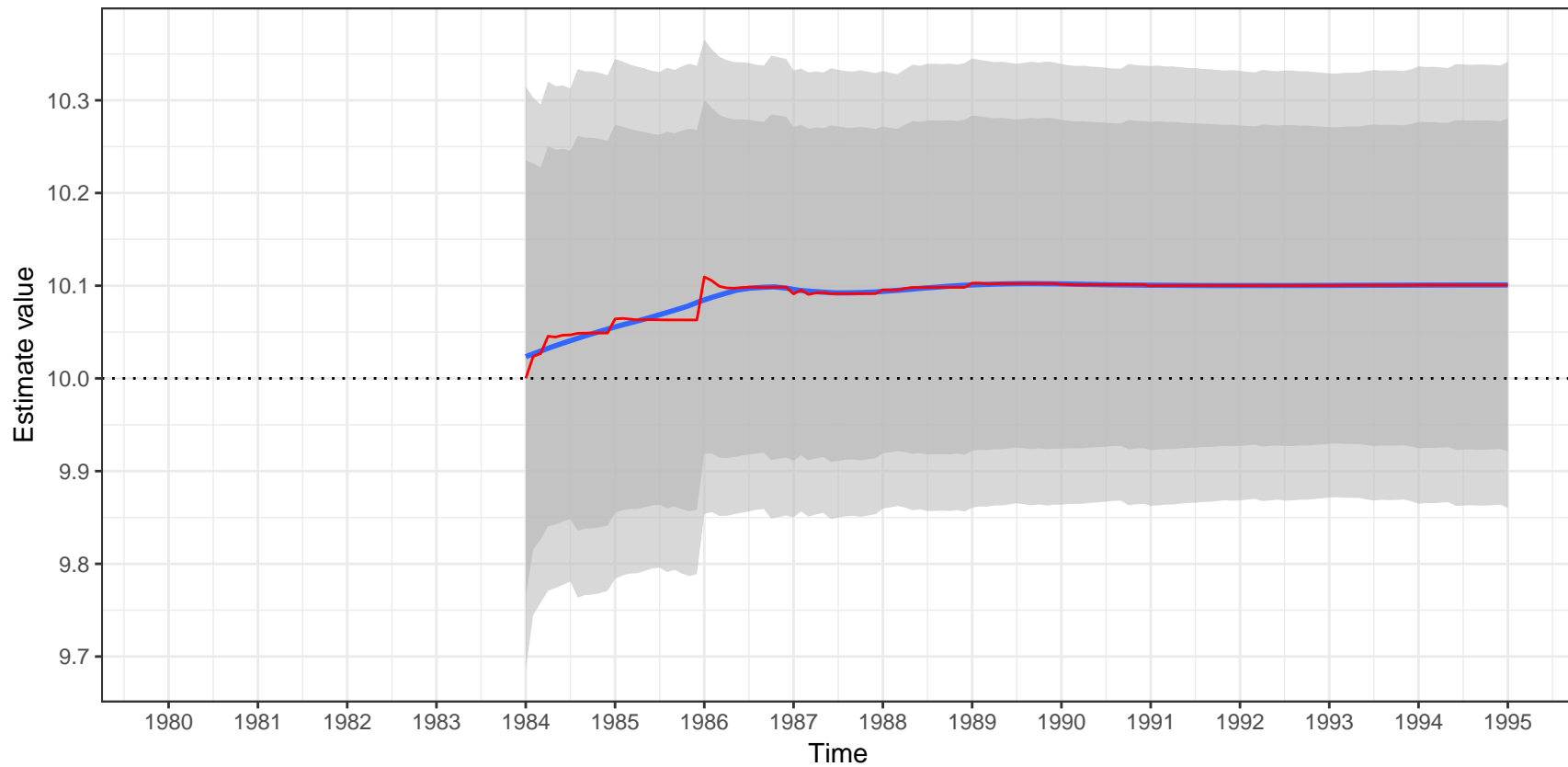


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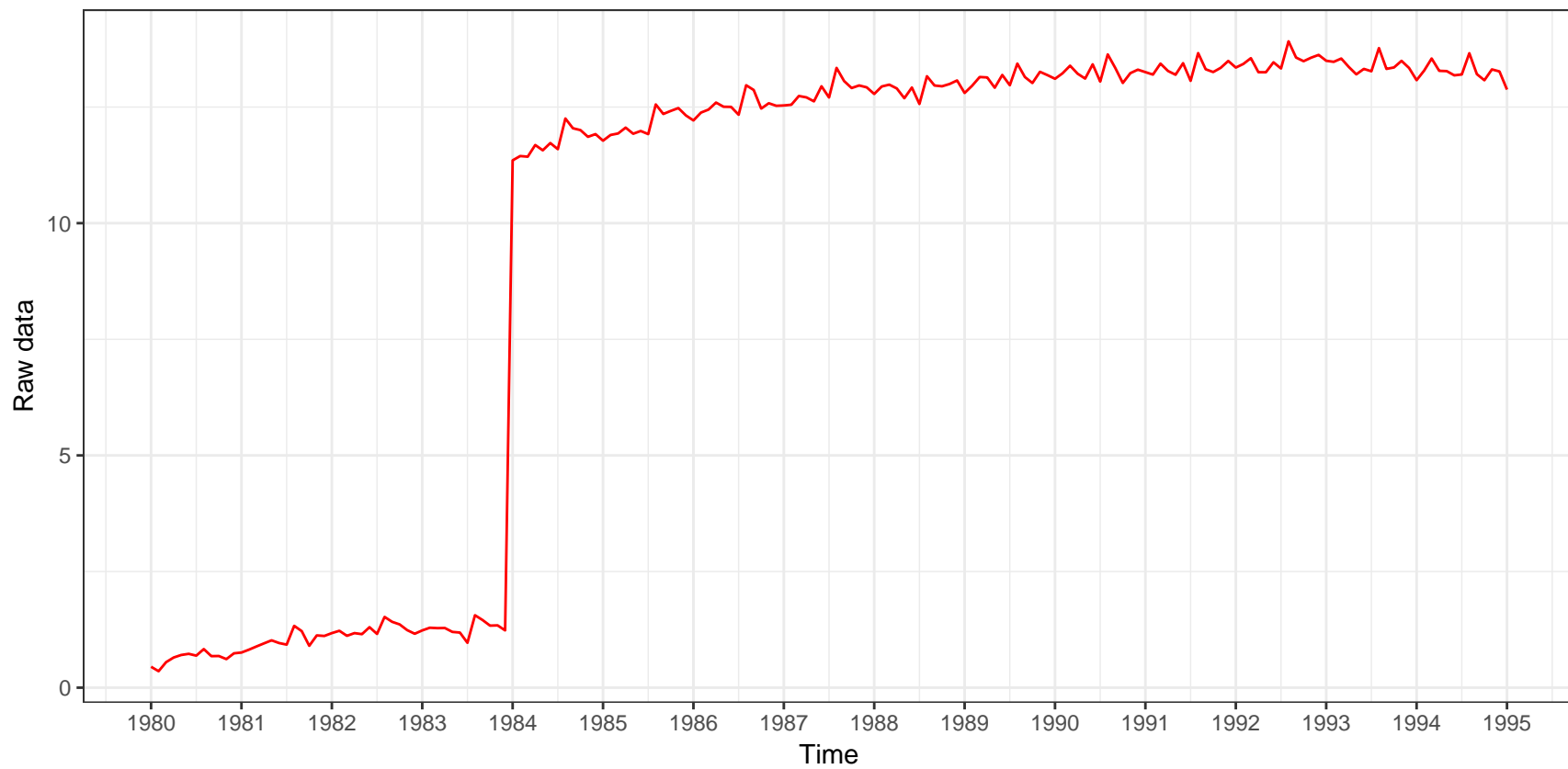


Estimate value of a LS(1984-01)
ARIMA (0,1,1)(1,1,1) – additive decomposition
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Estimation of the outlier

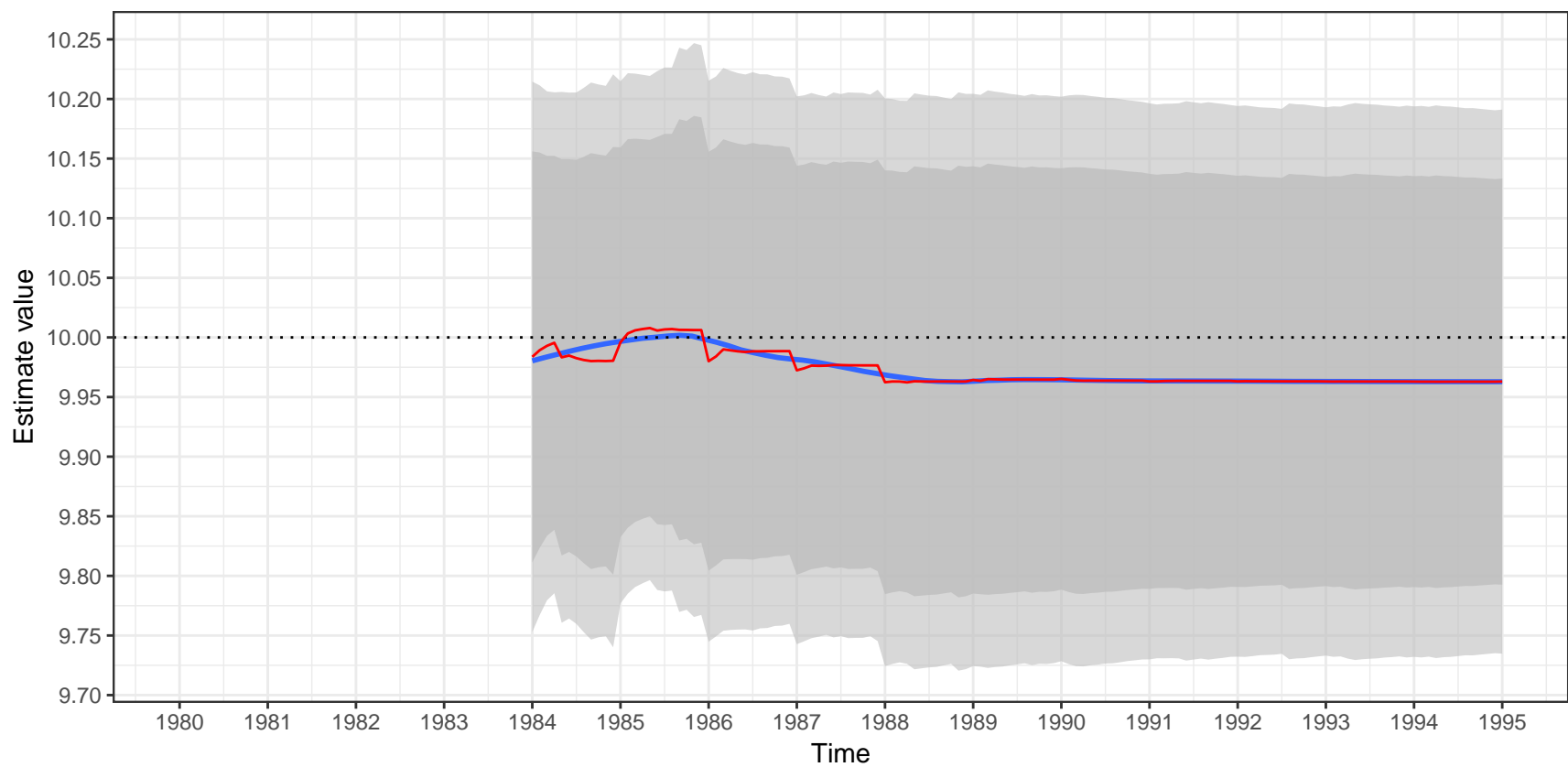


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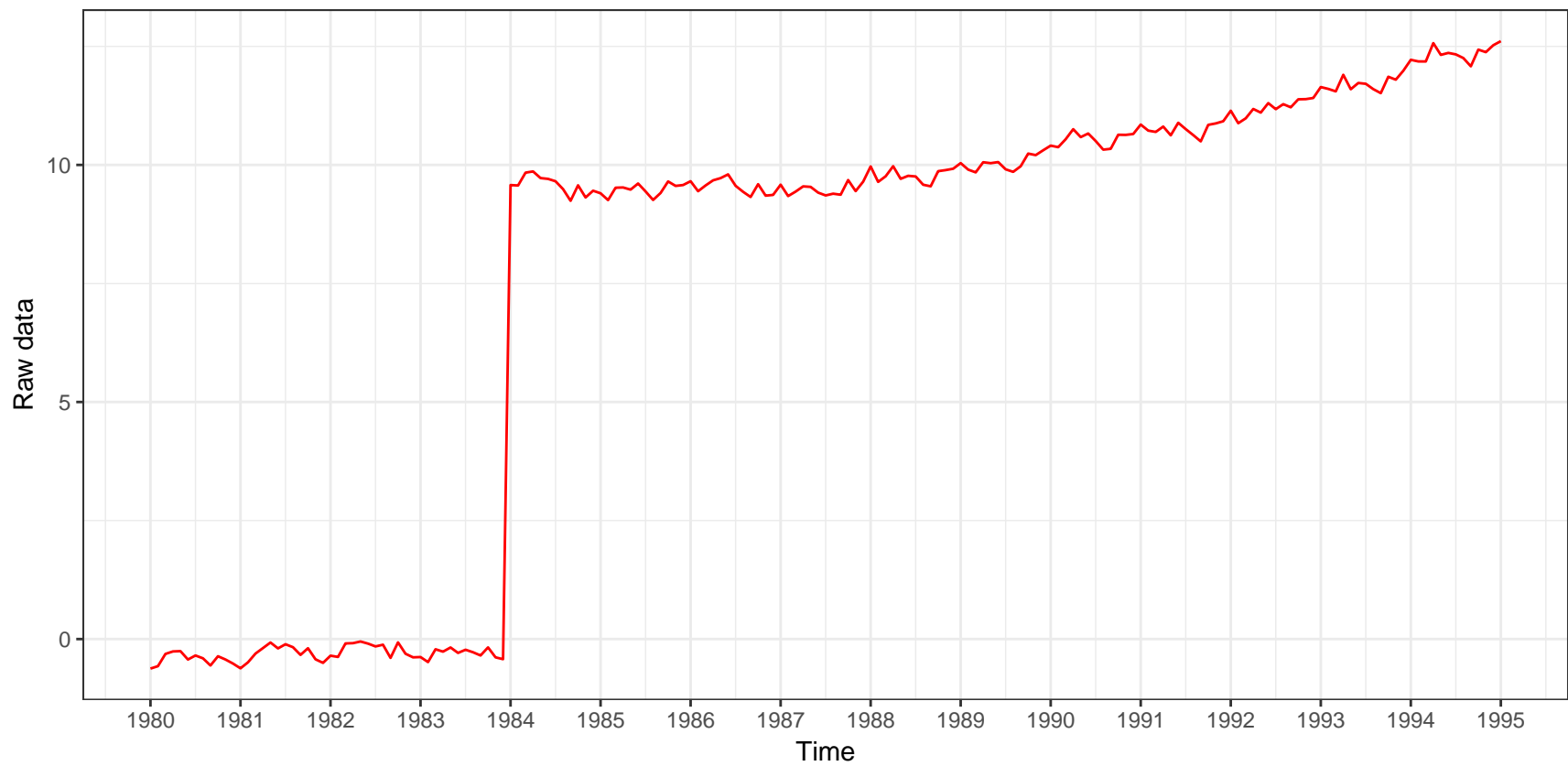


Estimate value of a LS(1984-01)
ARIMA (0,1,2)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})X_t=(1-0.23B-0.19B^2)(1-0.56B^{12})a_t$

Estimation of the outlier

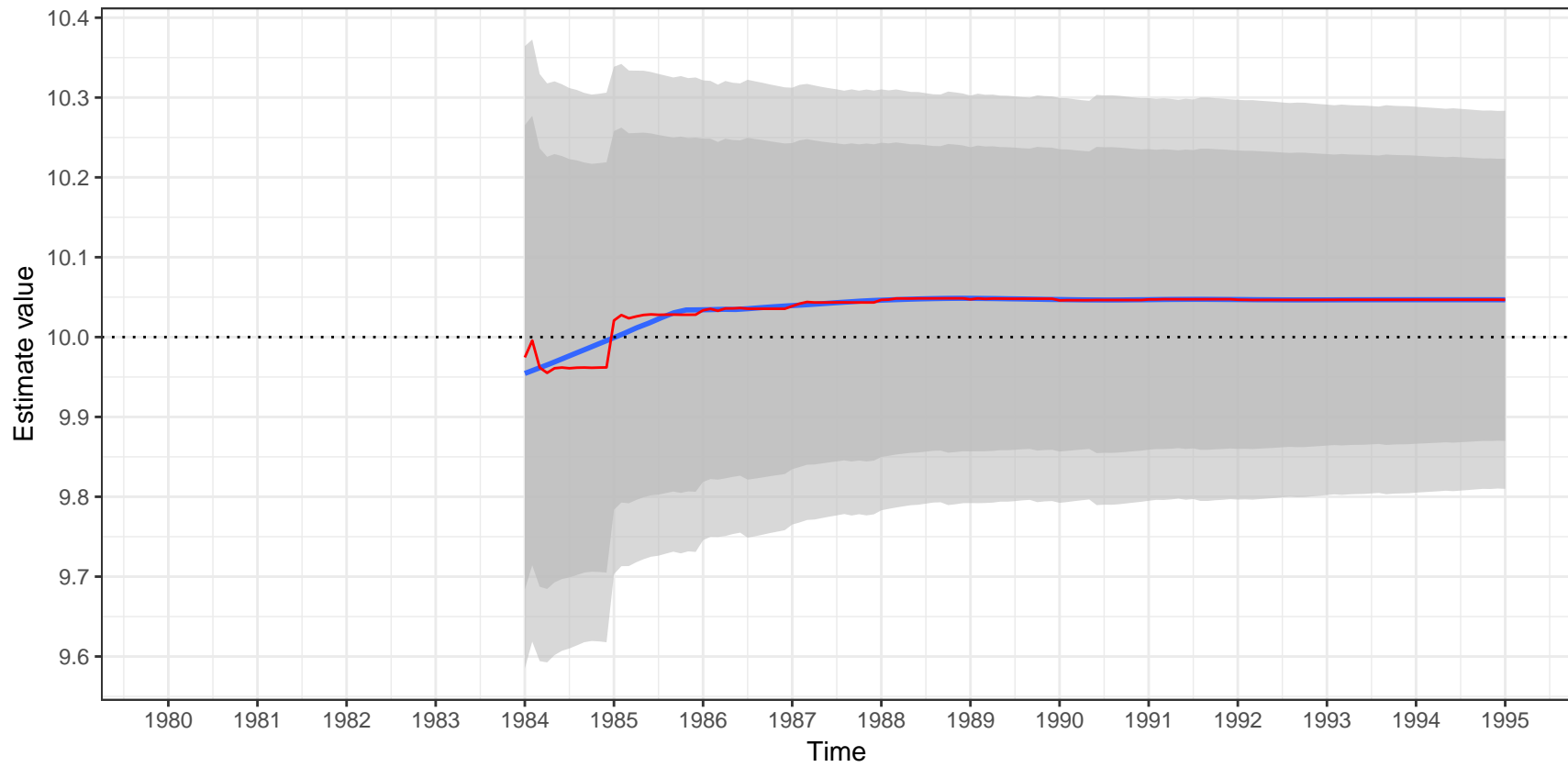


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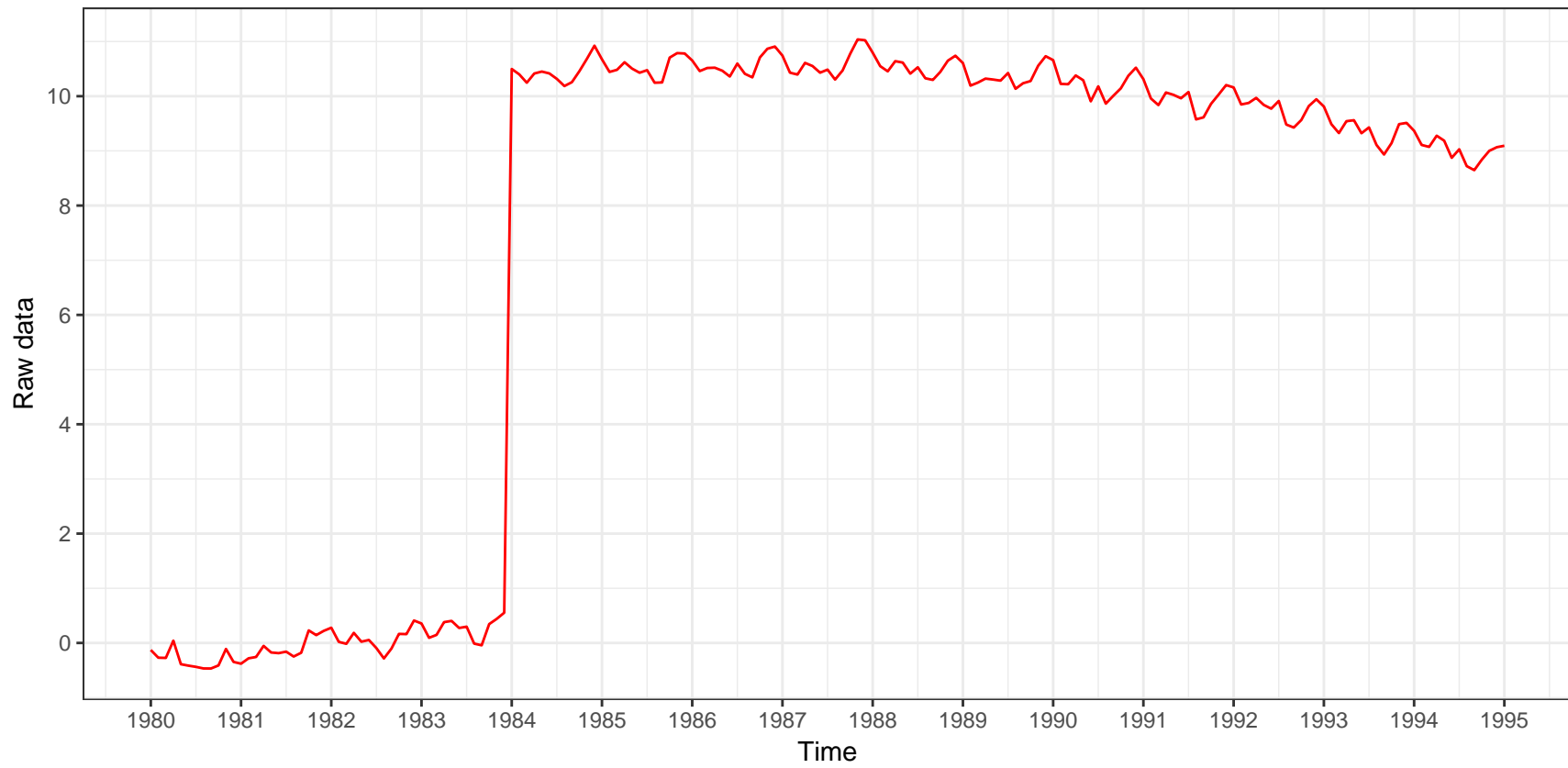


Estimate value of a LS(1984-01)
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Estimation of the outlier

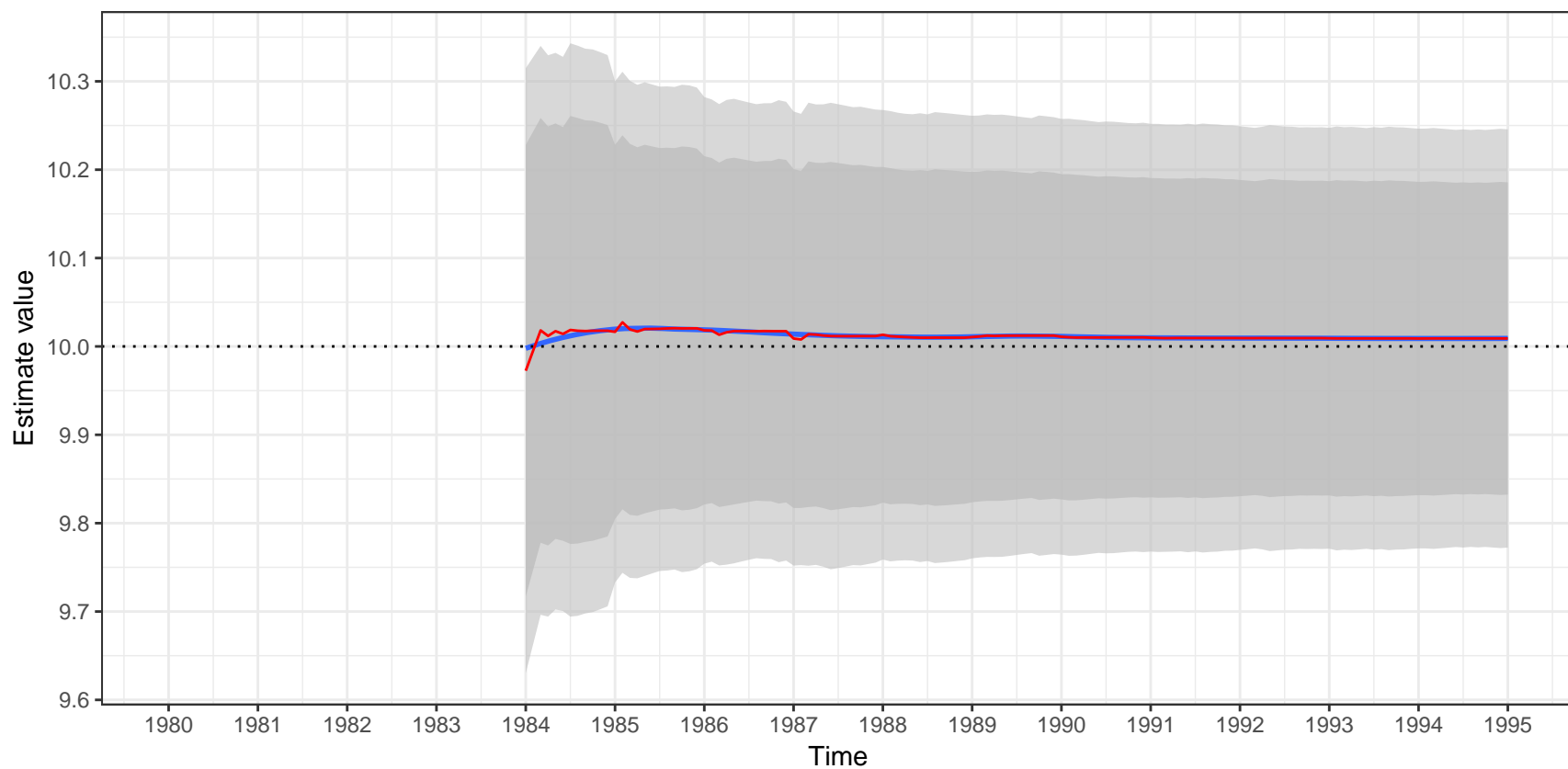


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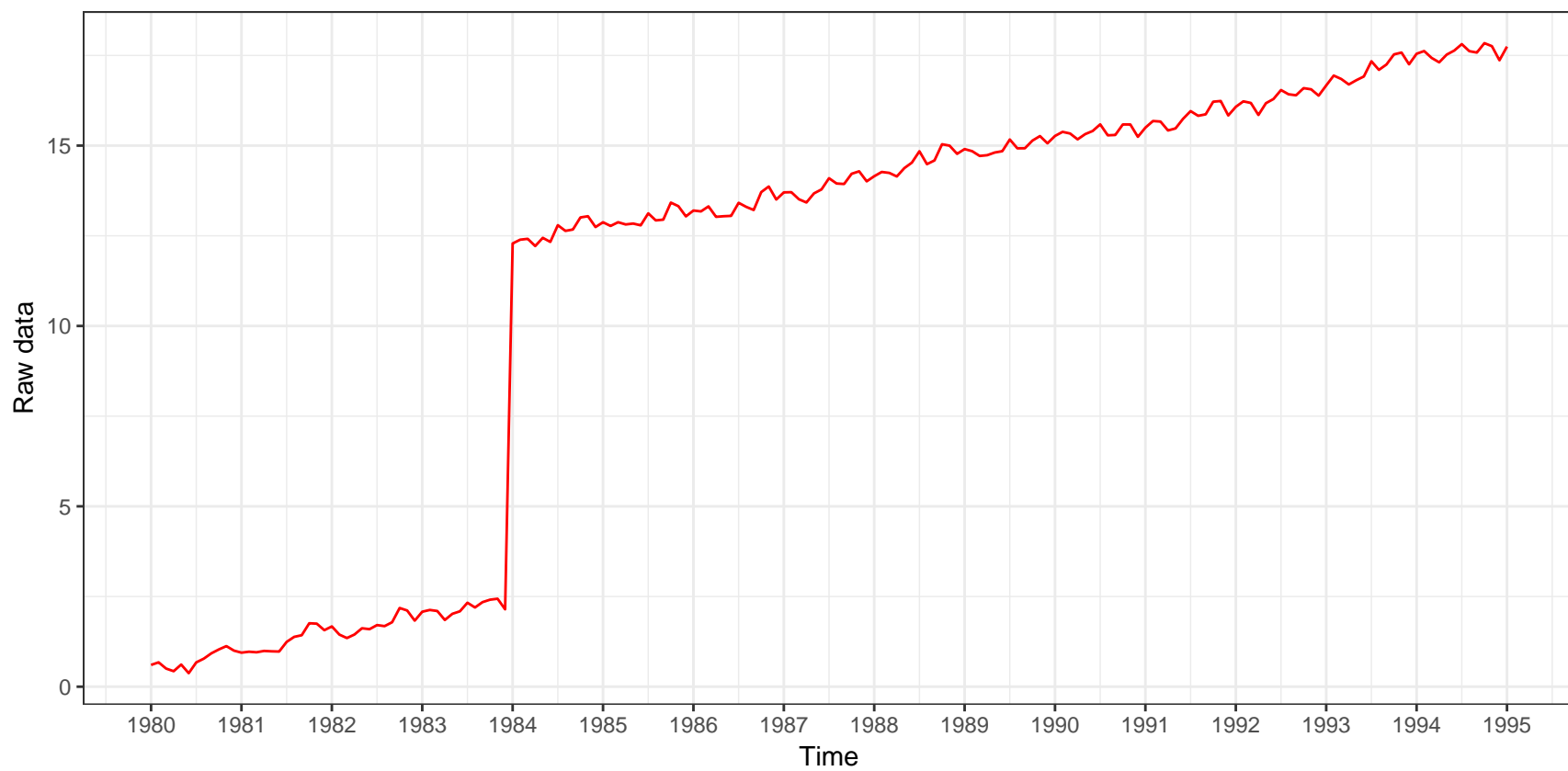


Estimate value of a LS(1984-01)
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Estimation of the outlier

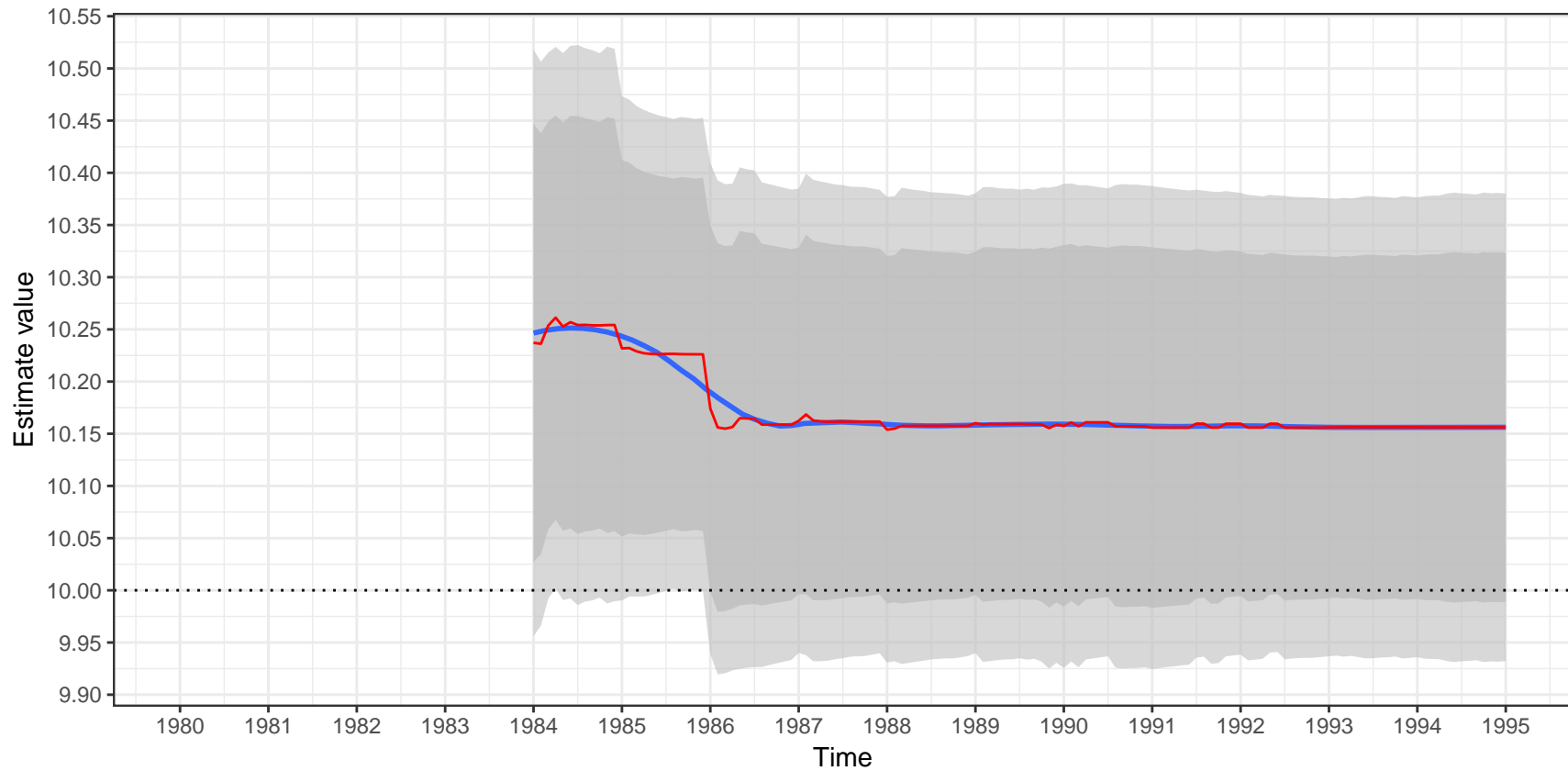


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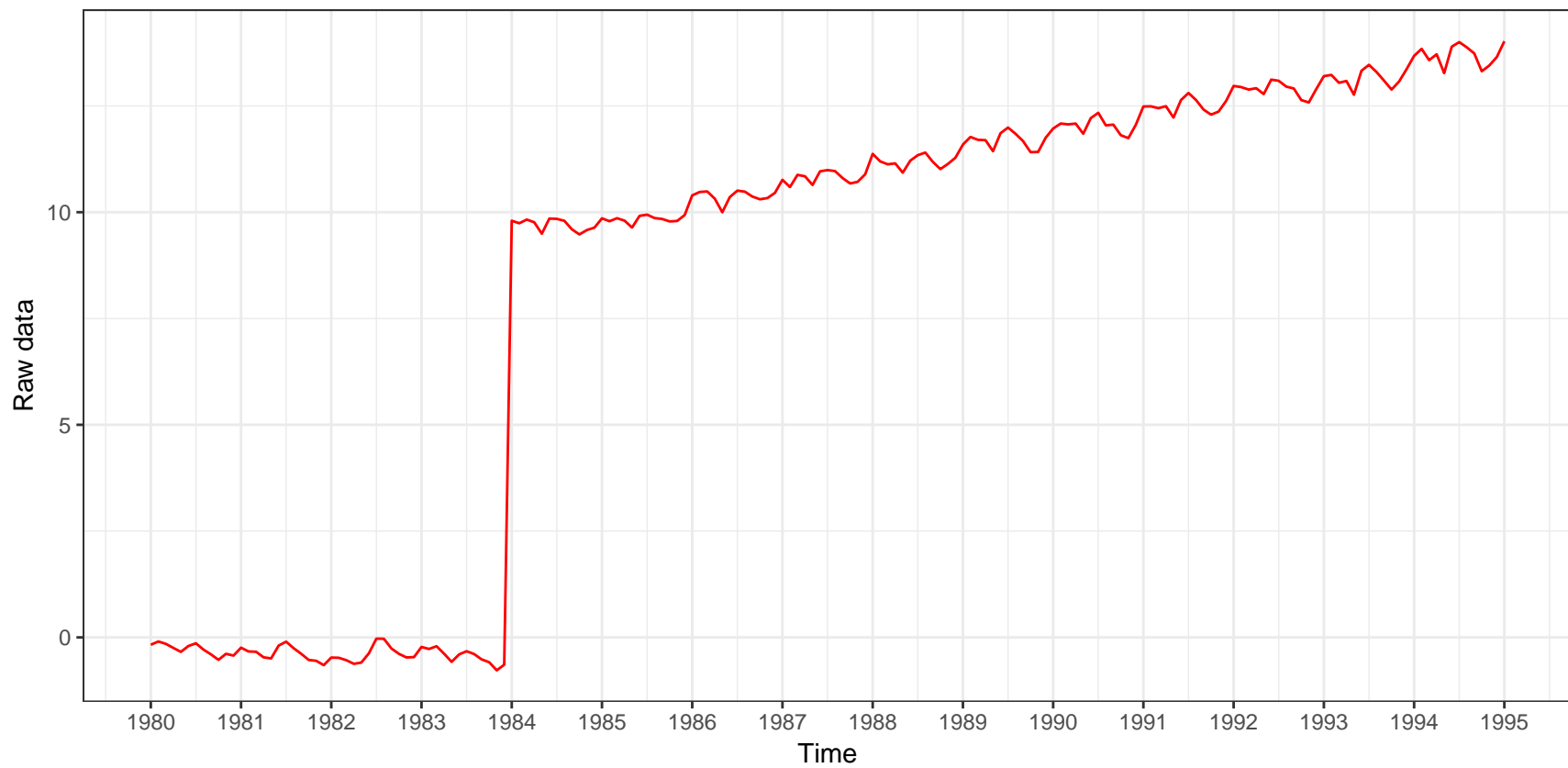


Estimate value of a LS(1984-01)
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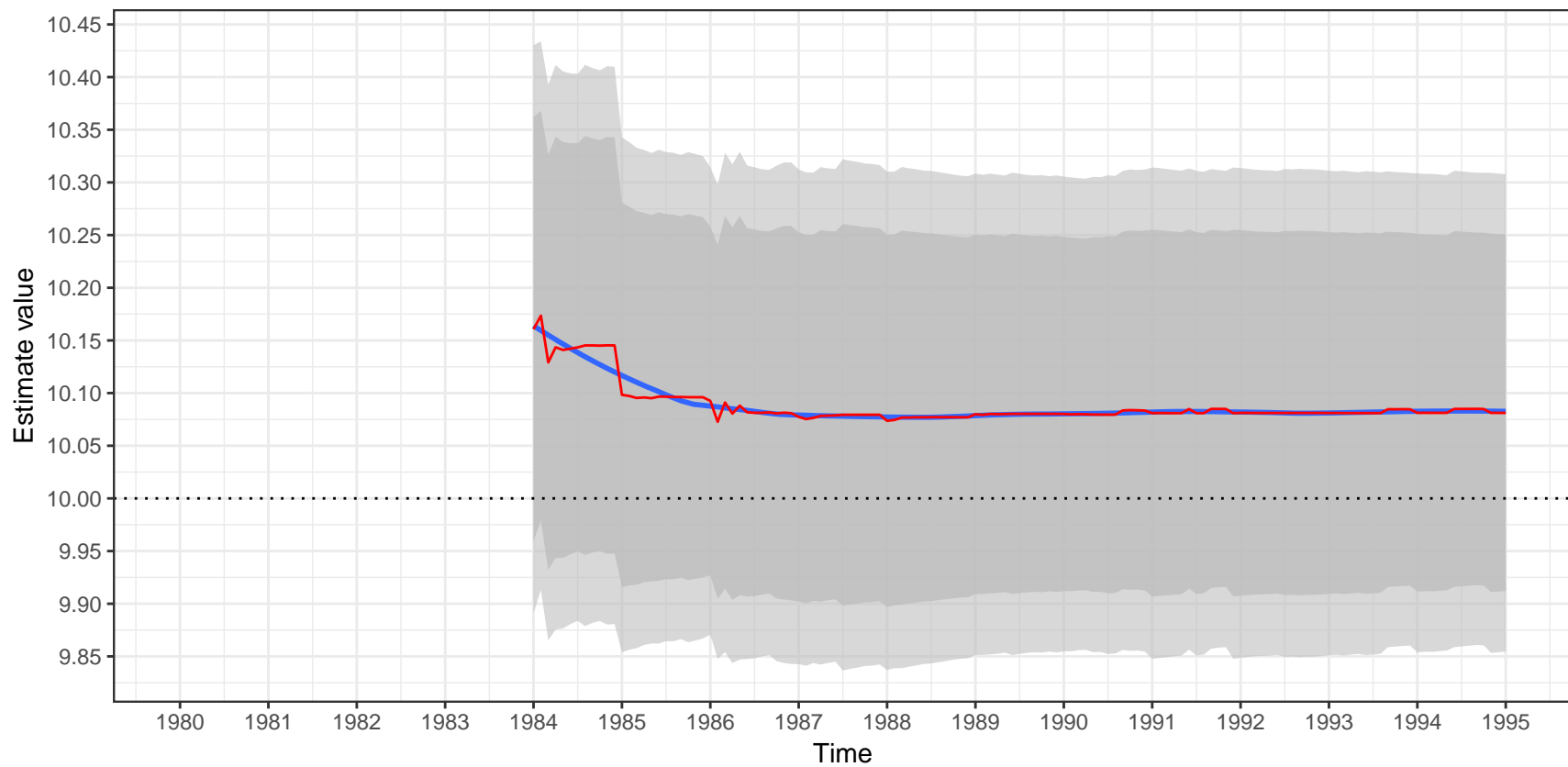


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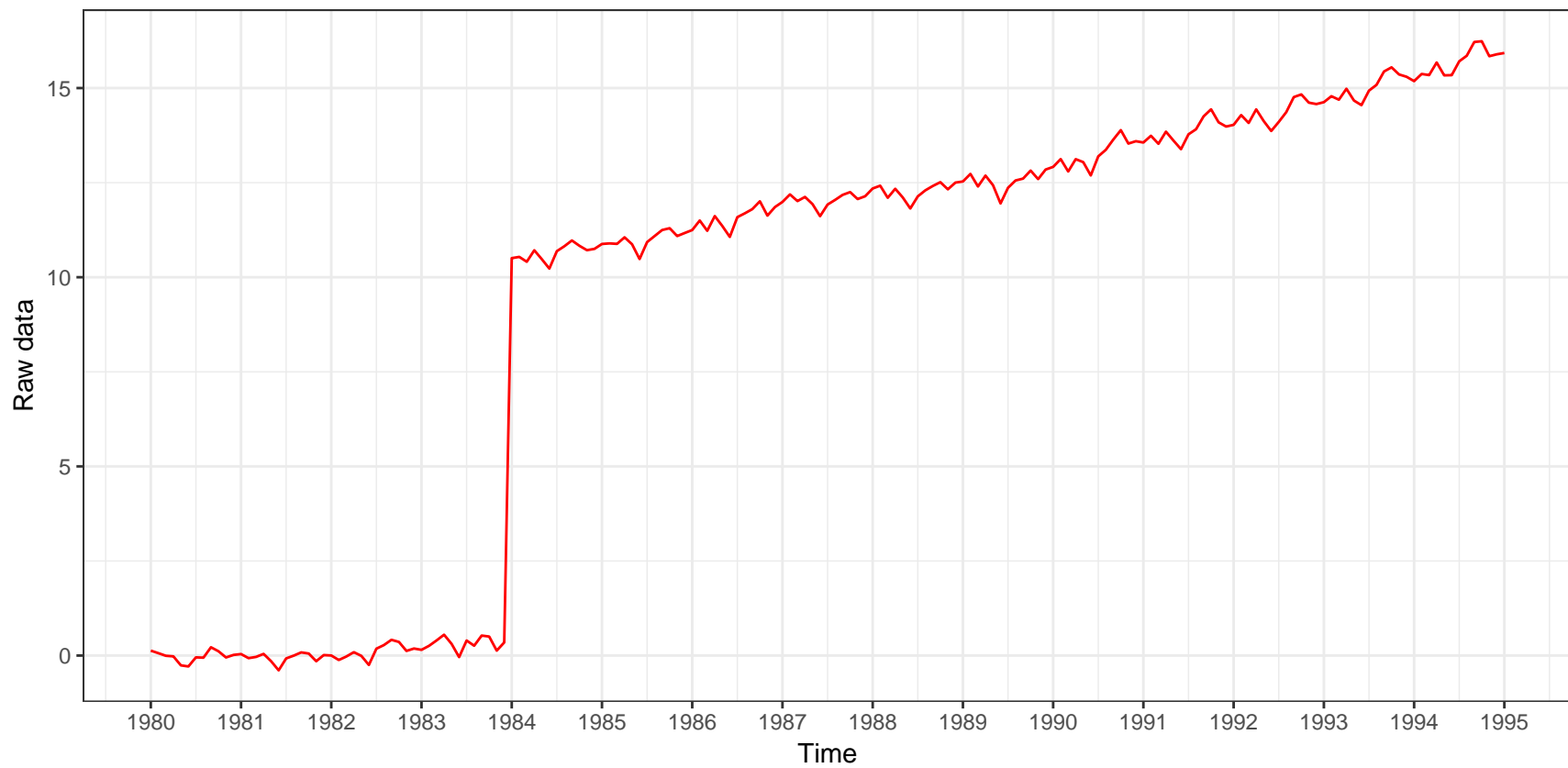


Estimate value of a LS(1984-01)
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Estimation of the outlier

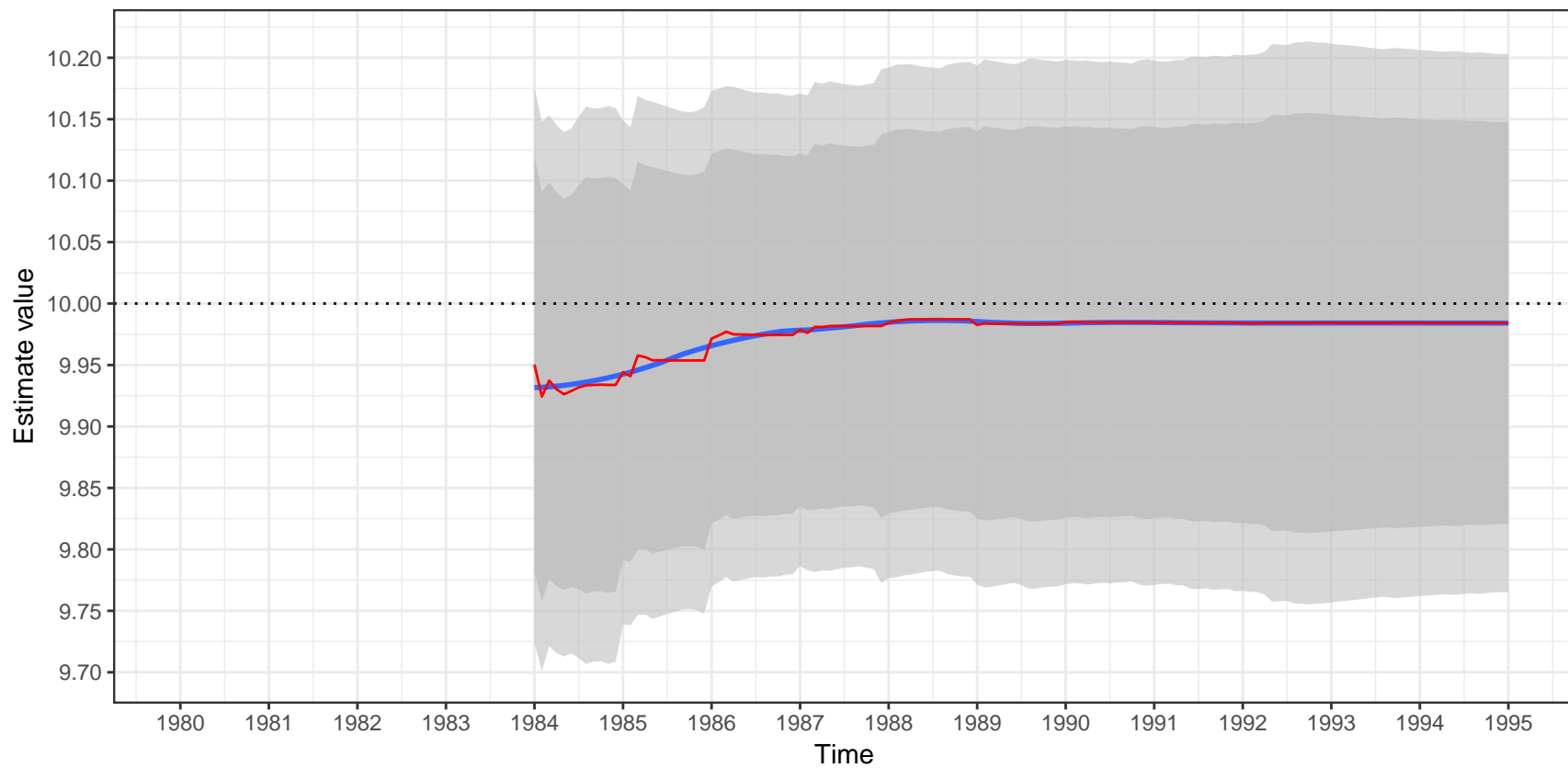


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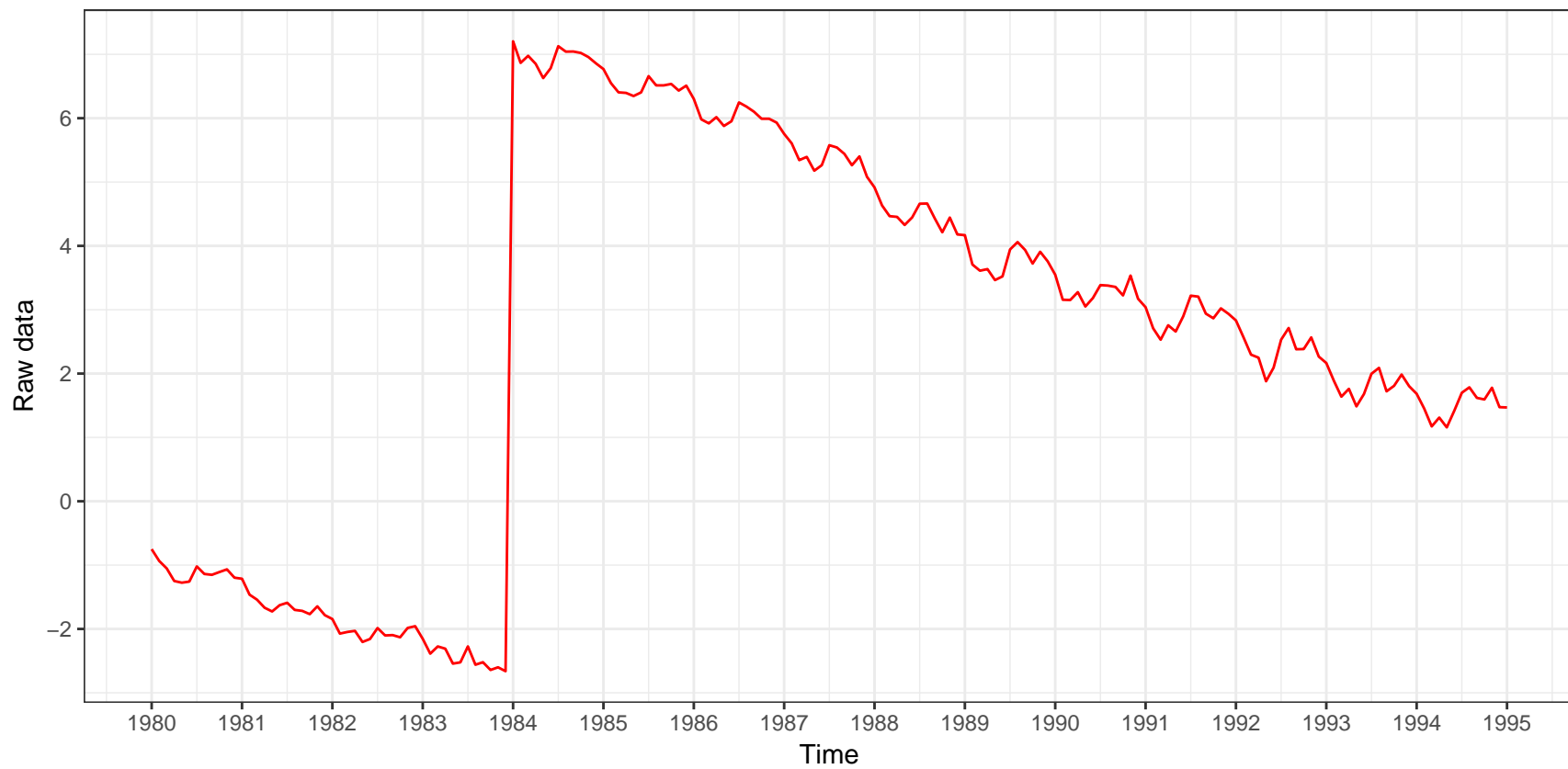


Estimate value of a LS(1984-01)
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Estimation of the outlier

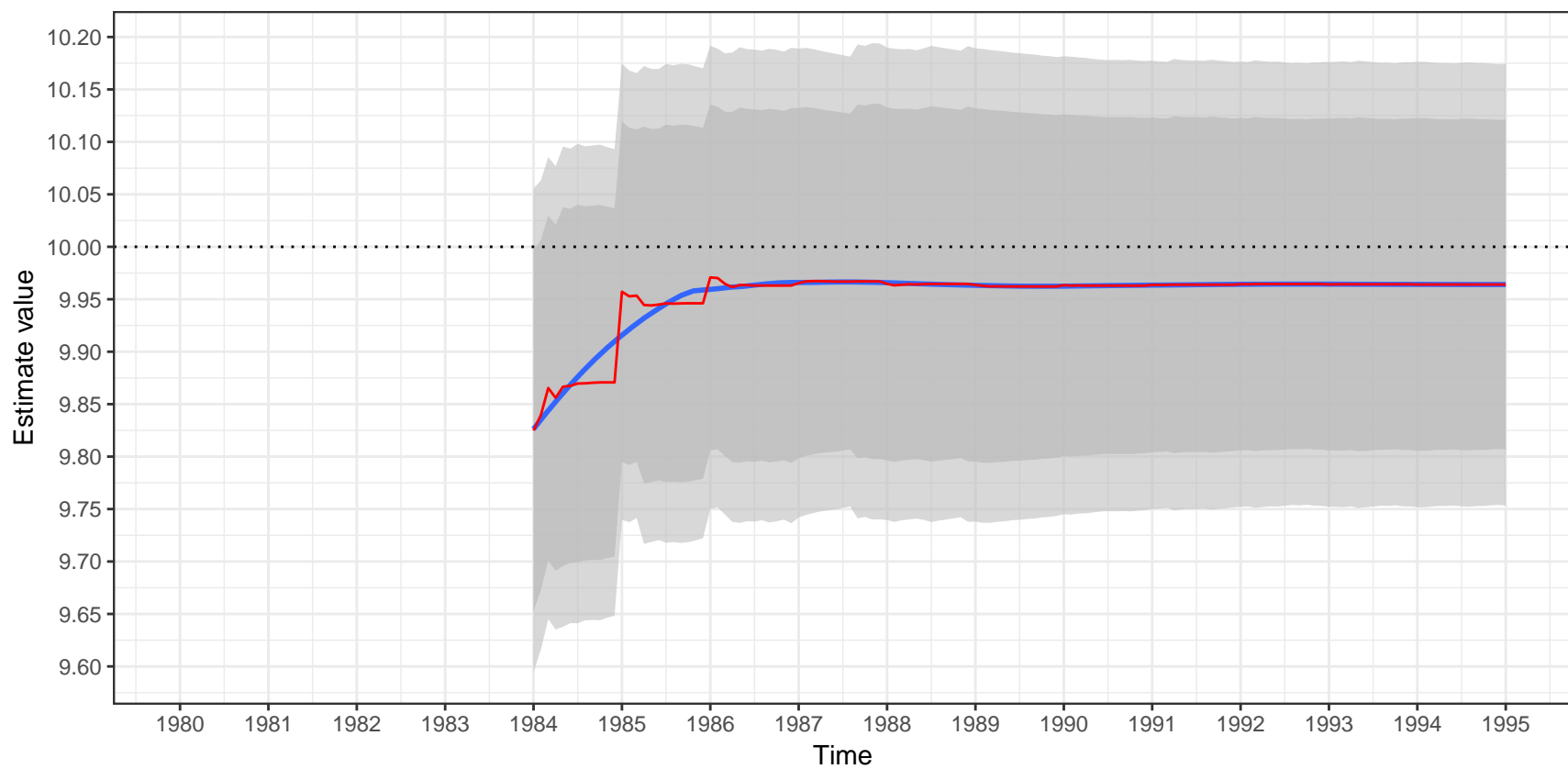


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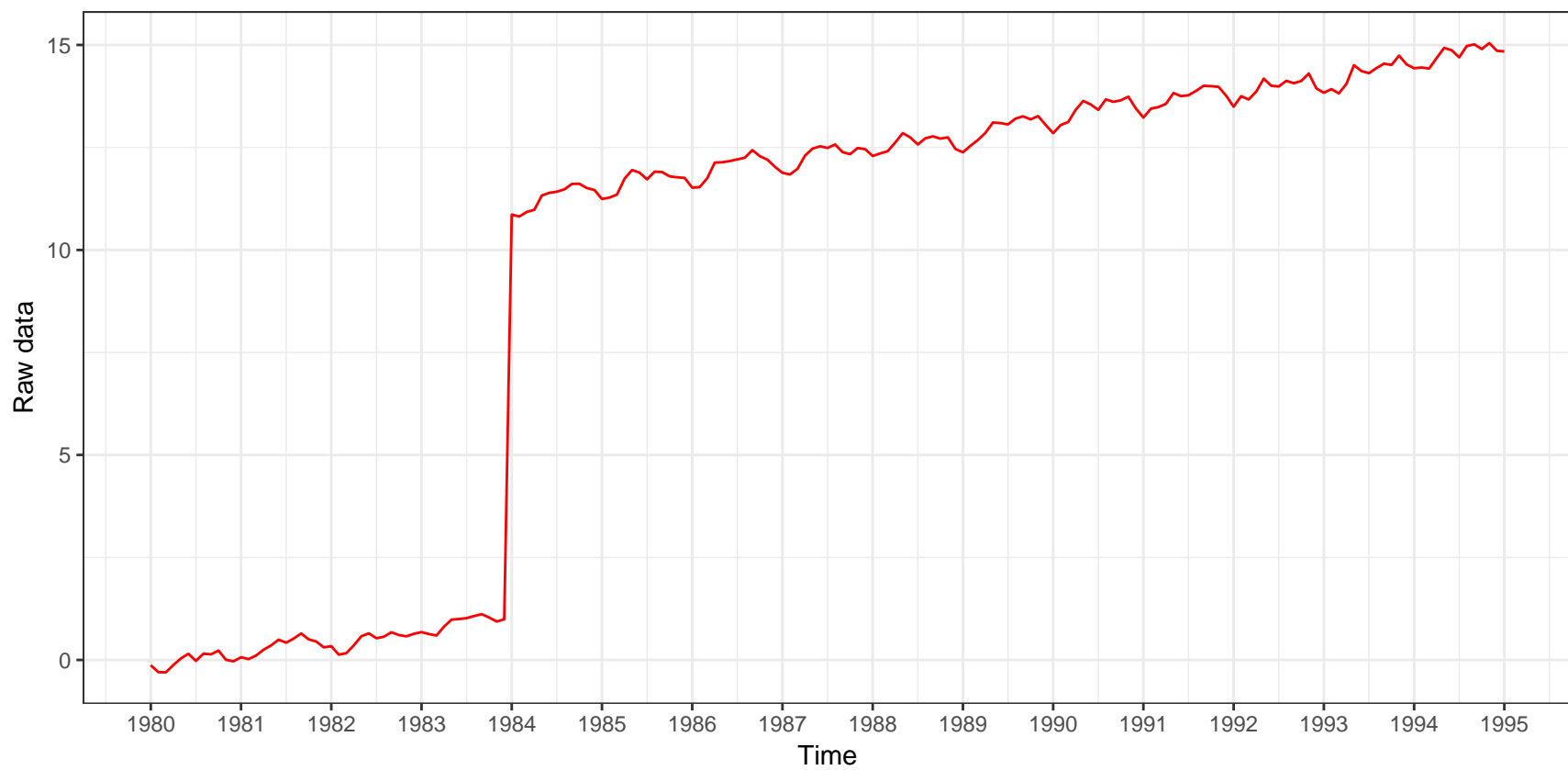


Estimate value of a LS(1984-01)
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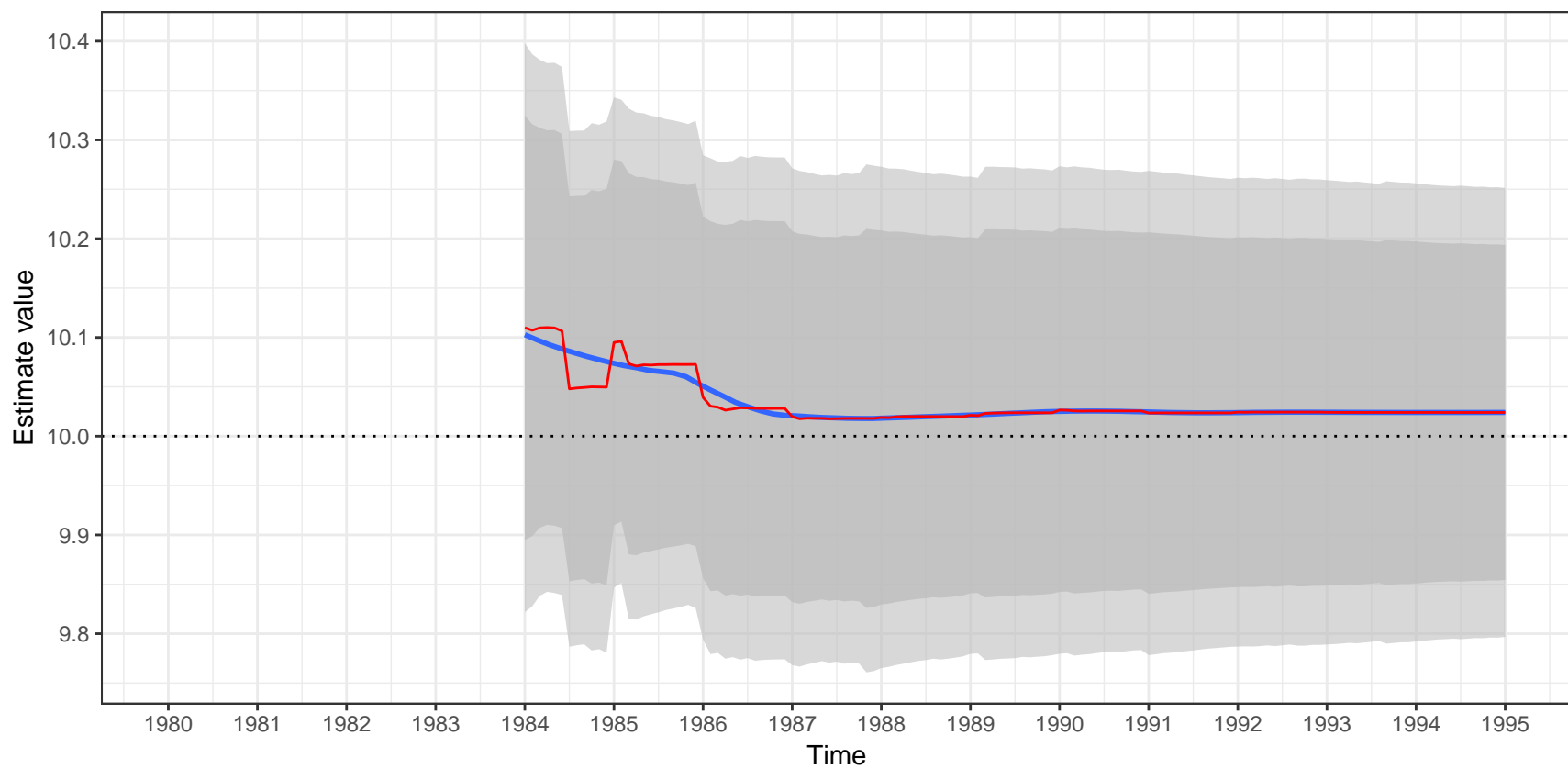


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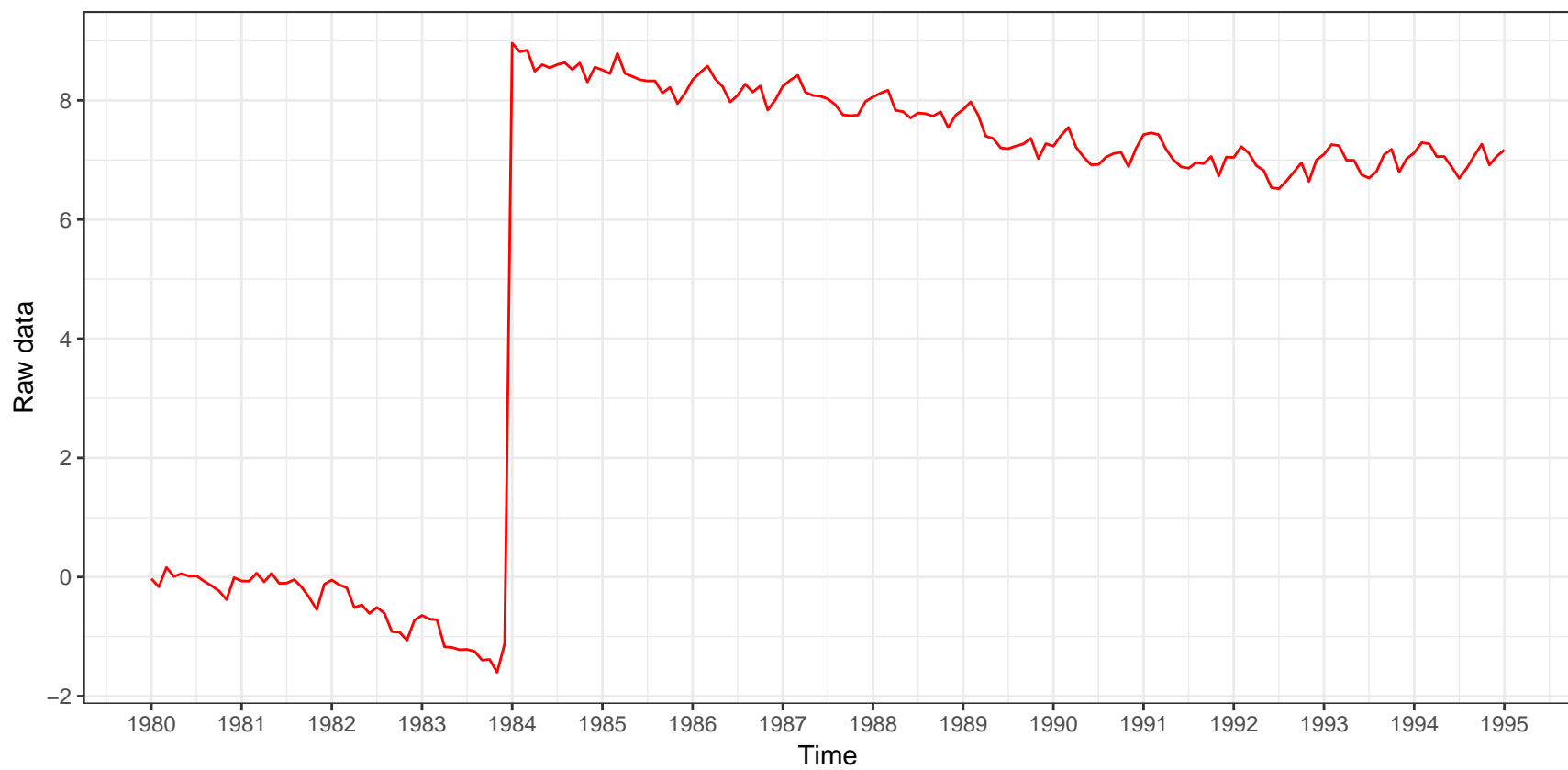


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Estimation of the outlier

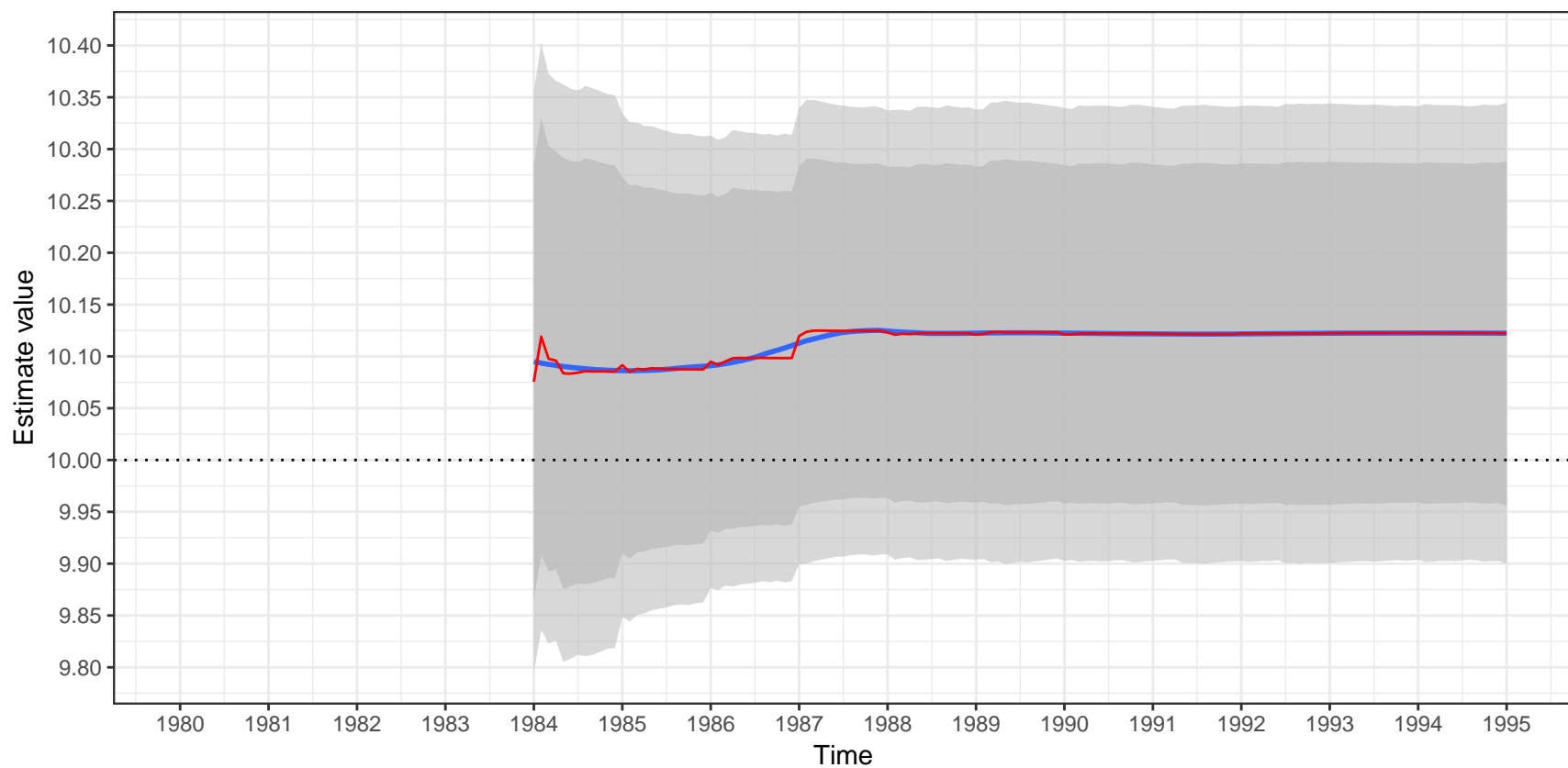


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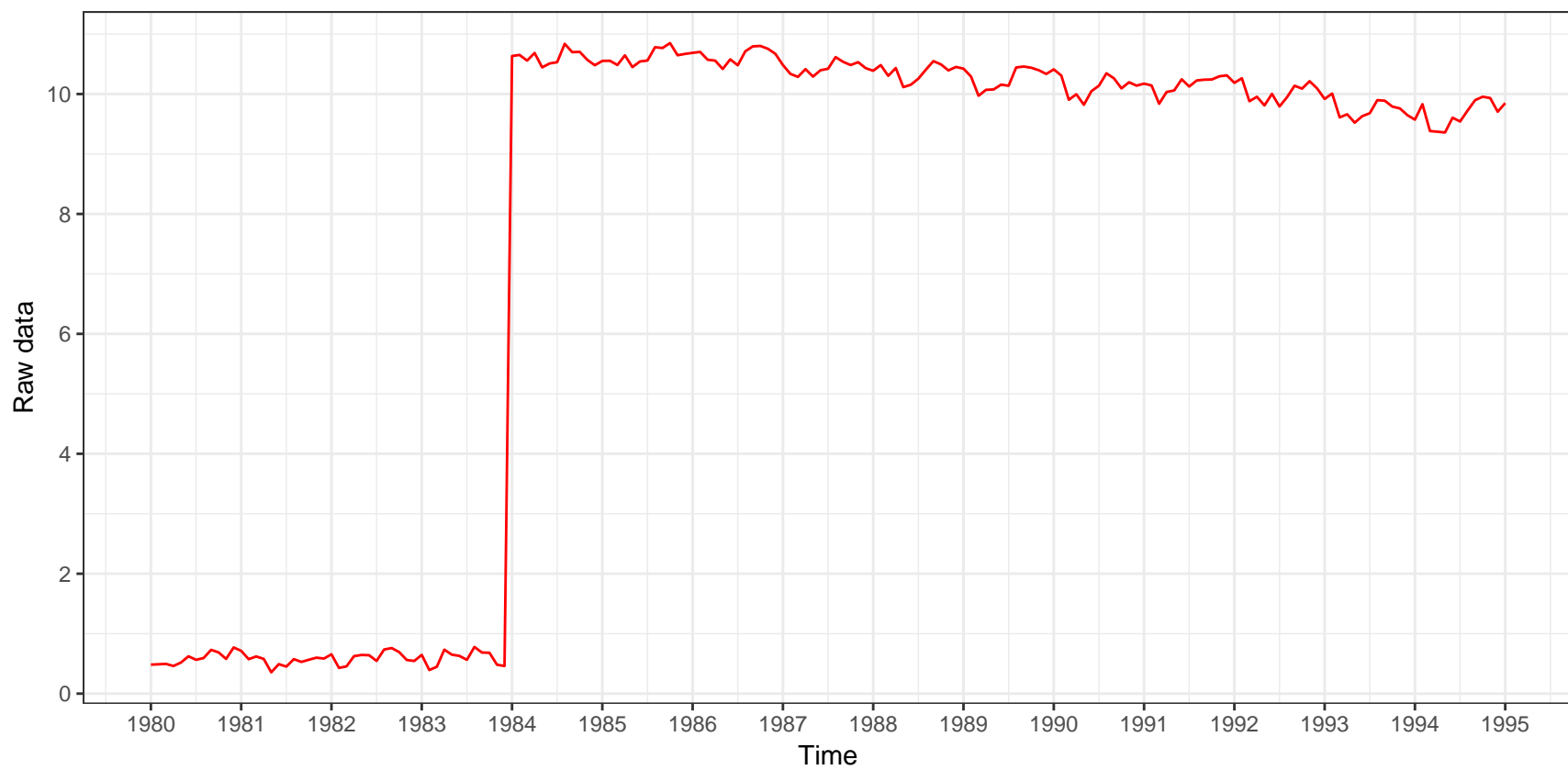


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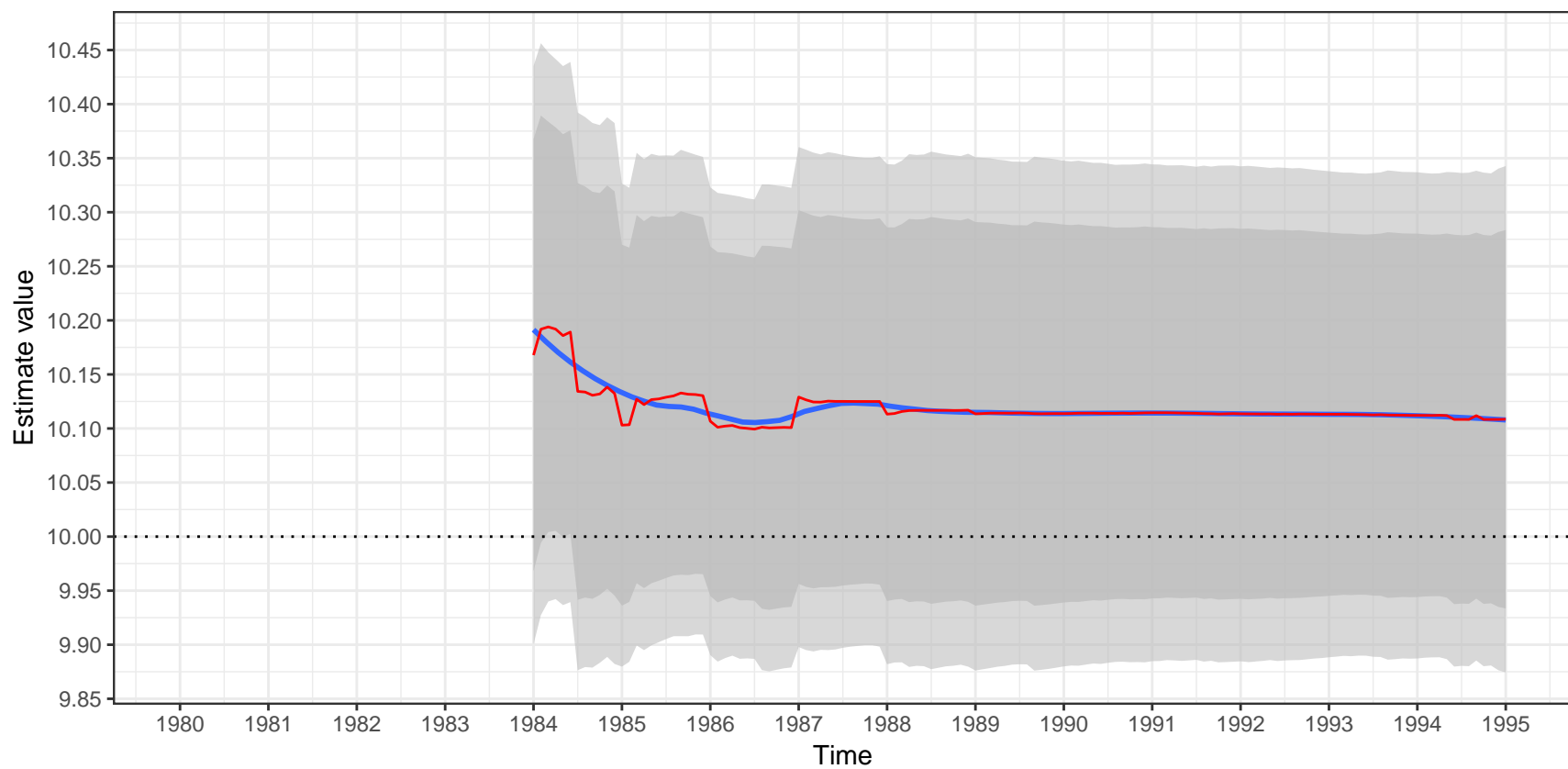


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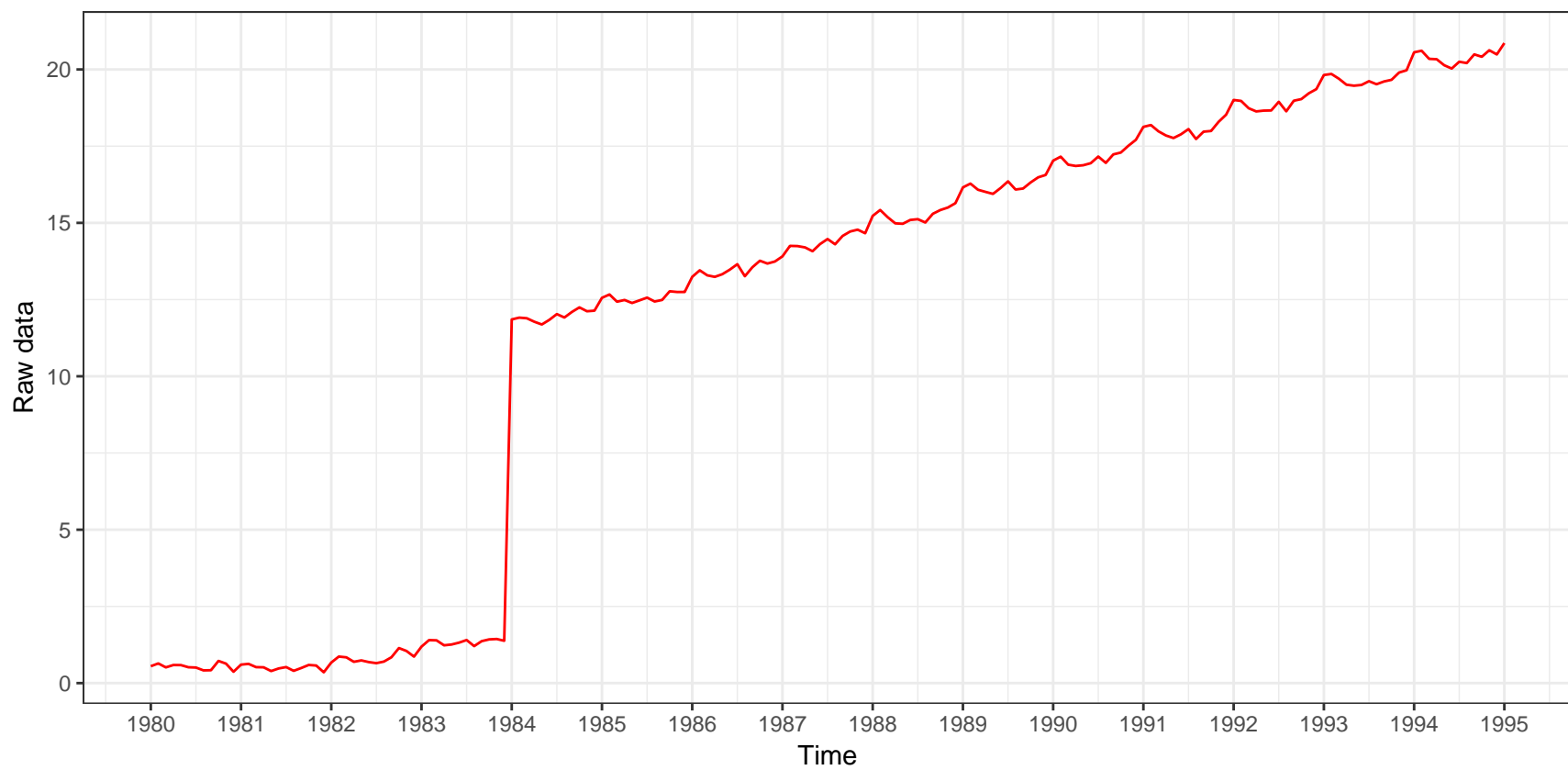


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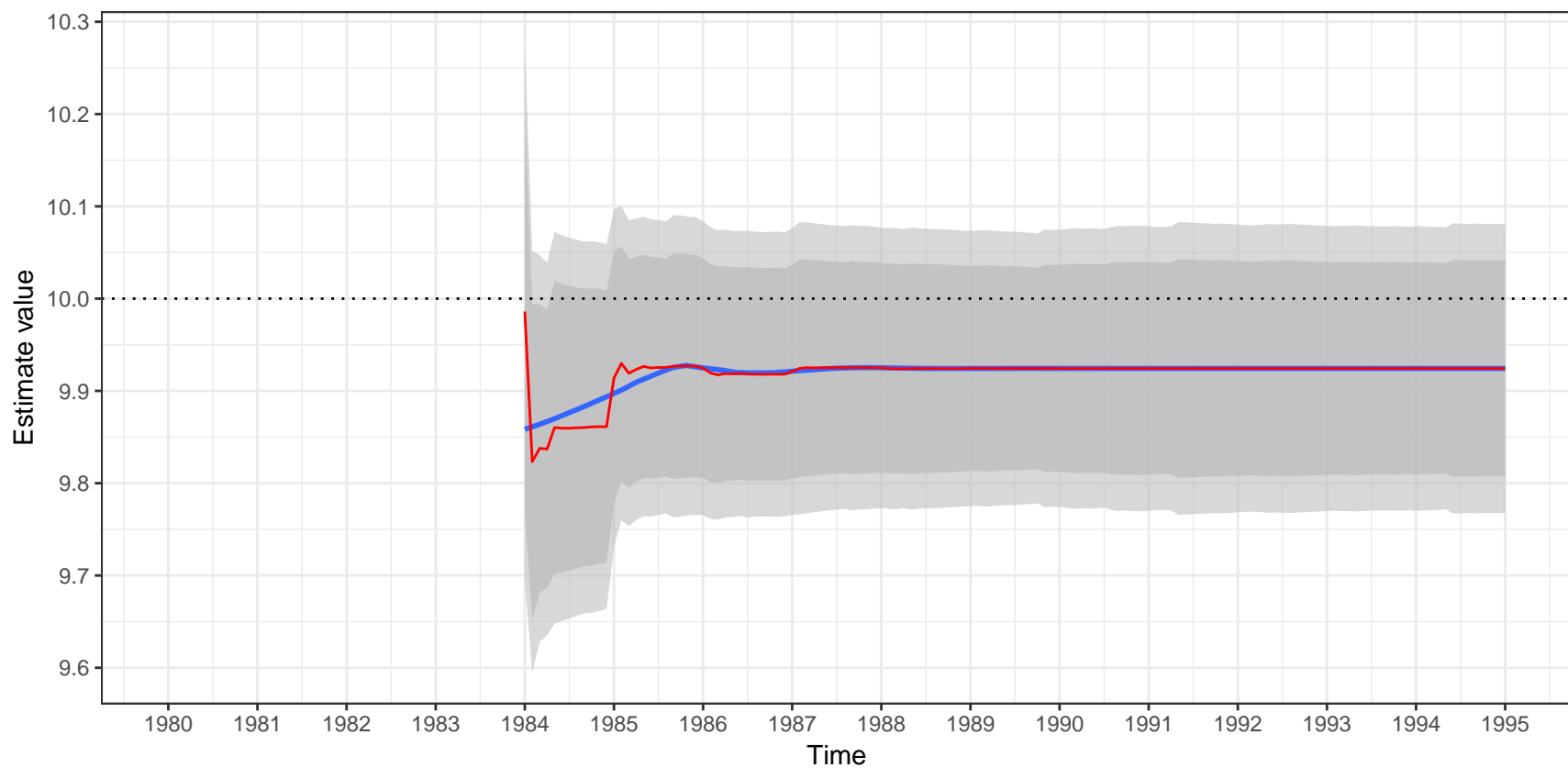


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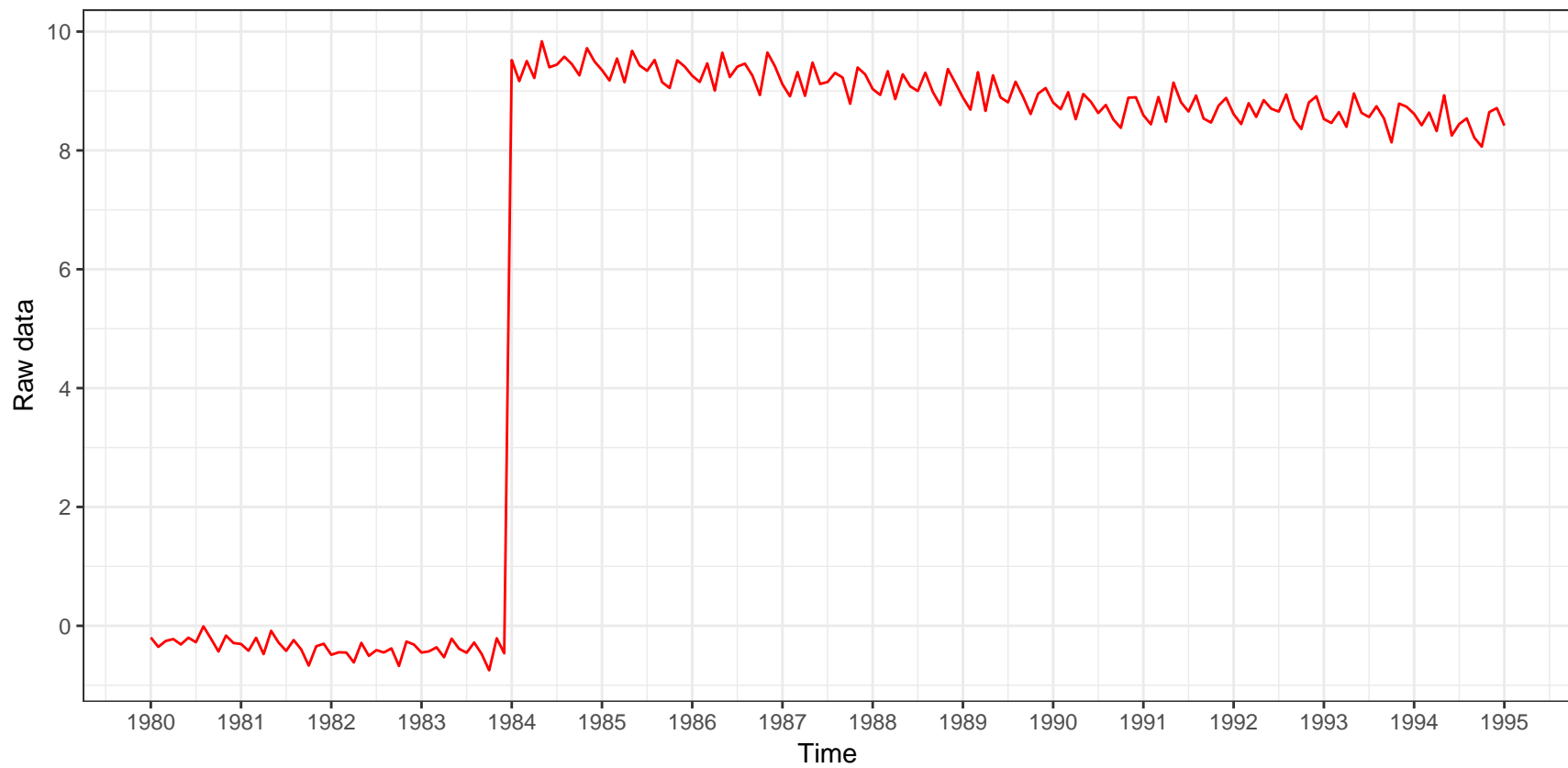


Estimate value of a LS(1984-01)
ARIMA (1,1,1)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1+0.3B)X_t=(1-0.6B)(1-0.3B^{12})a_t$

Estimation of the outlier

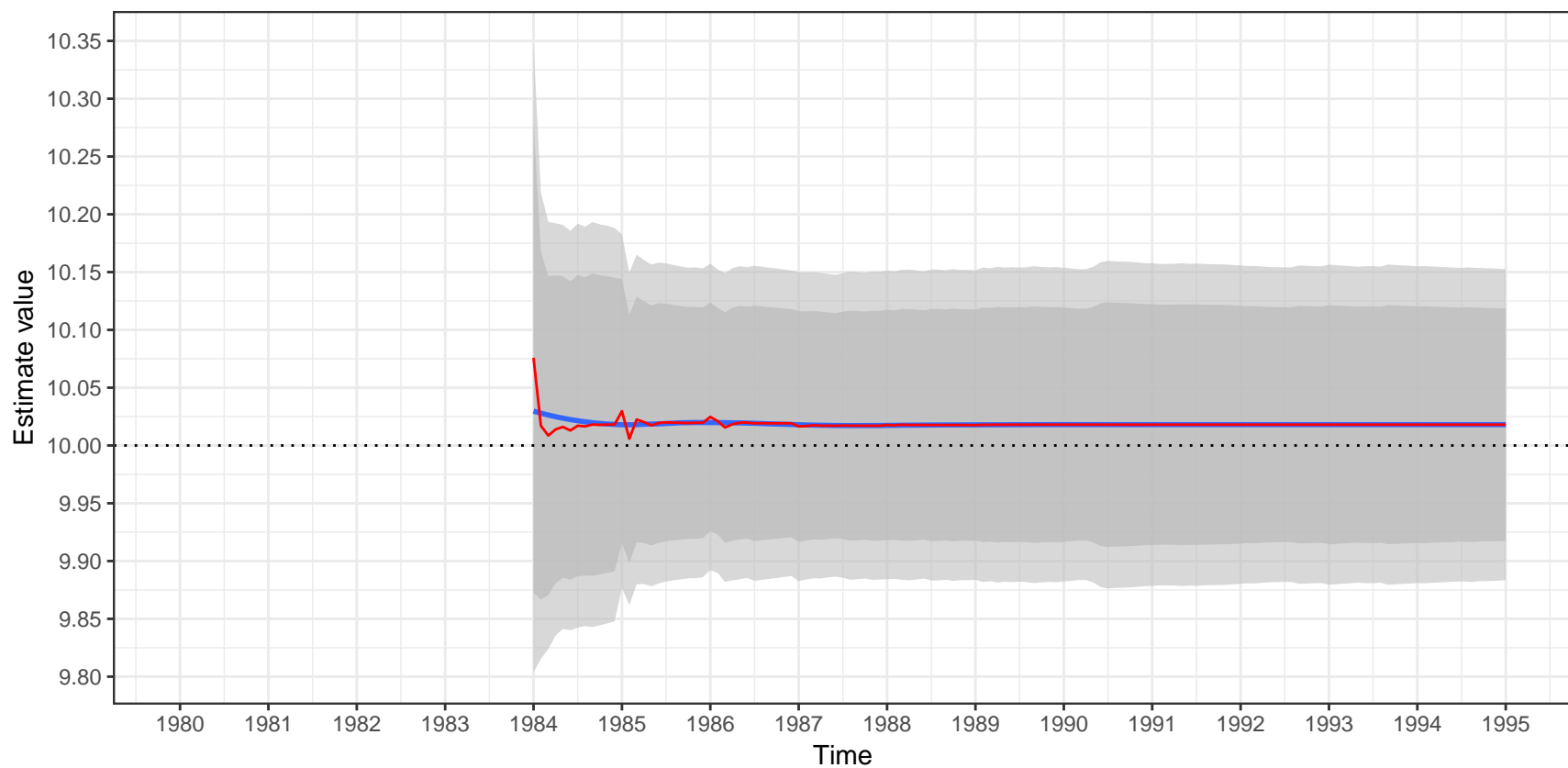


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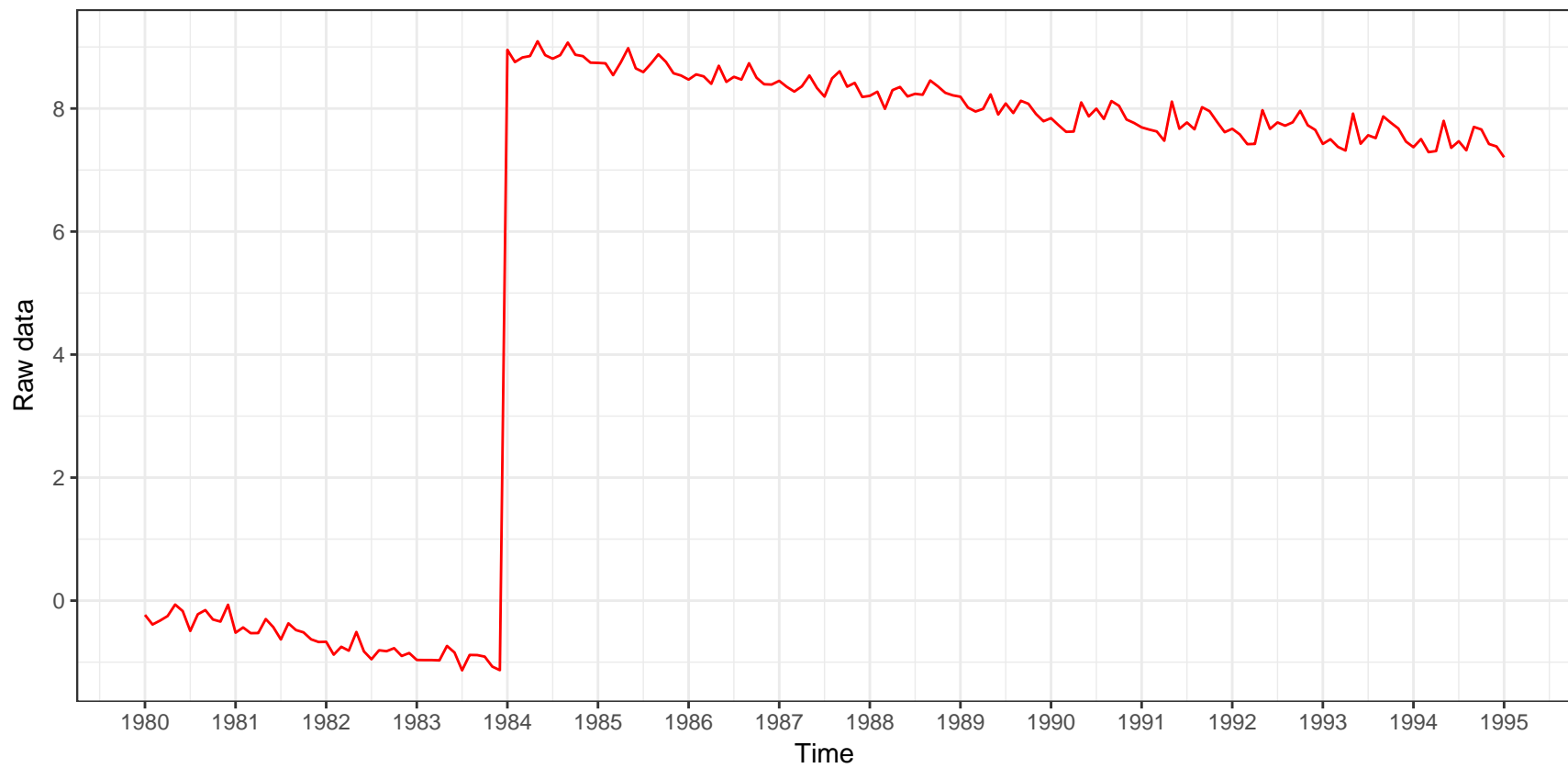


Estimate value of a LS(1984-01)
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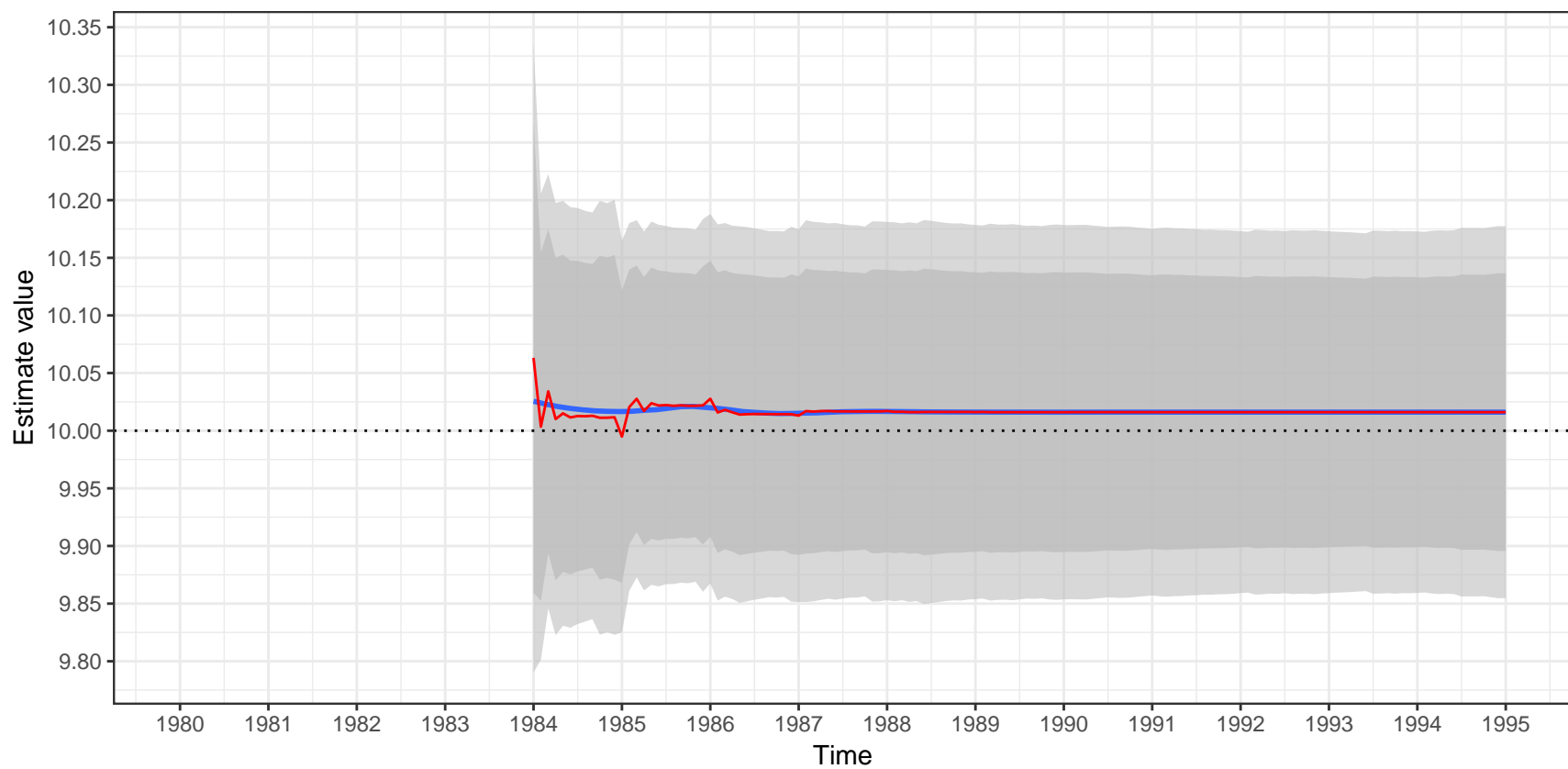


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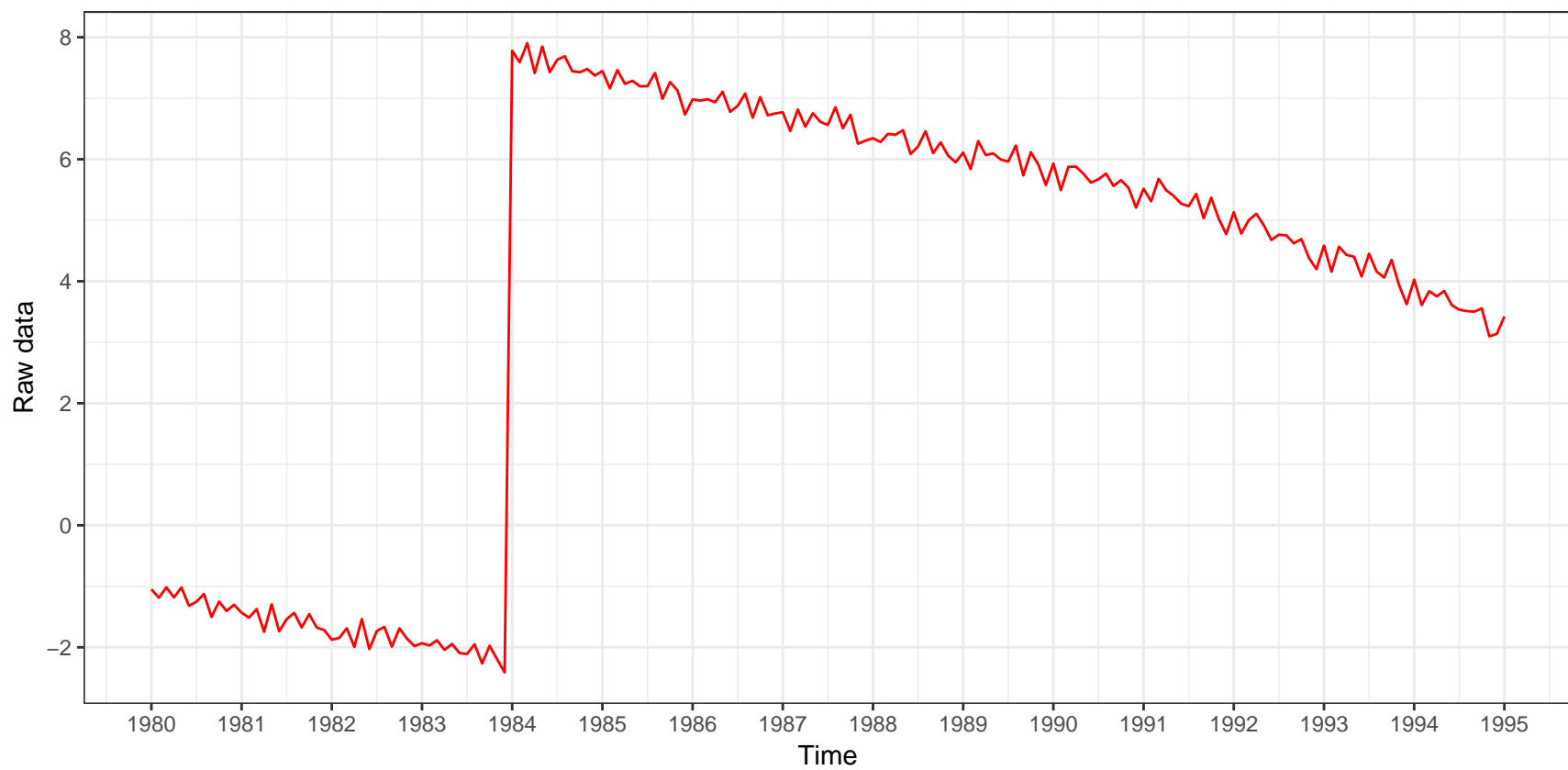


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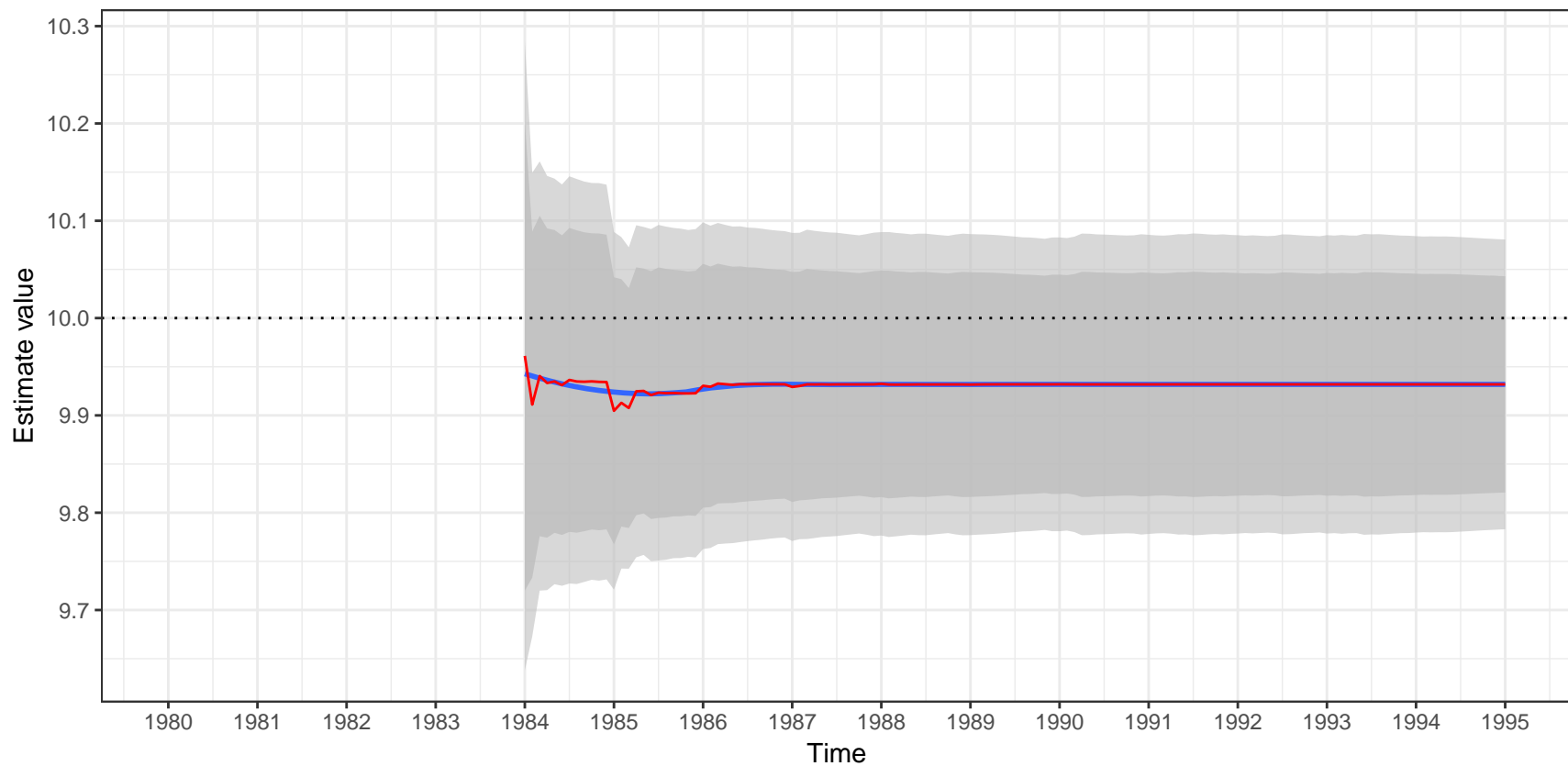


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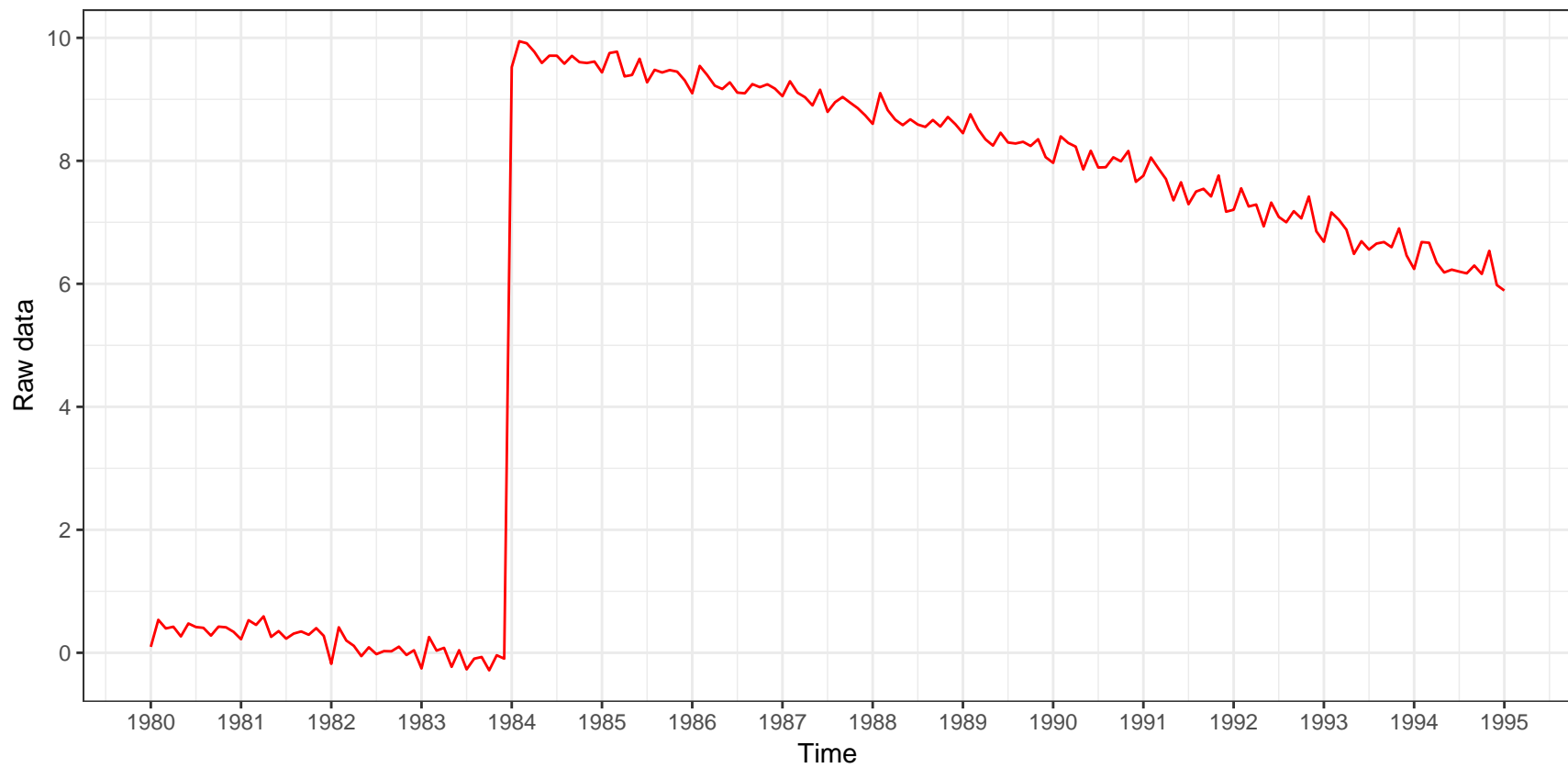


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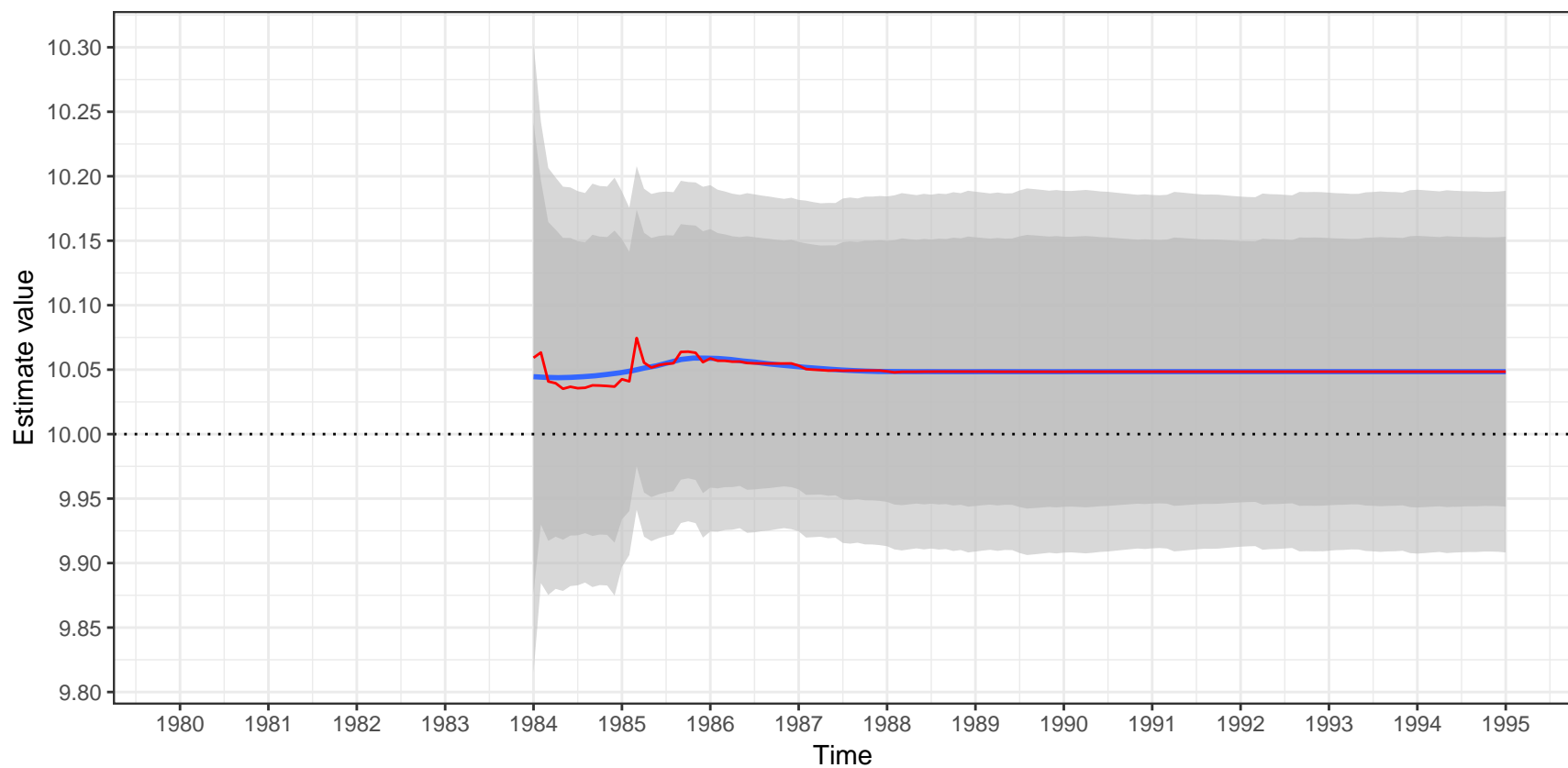


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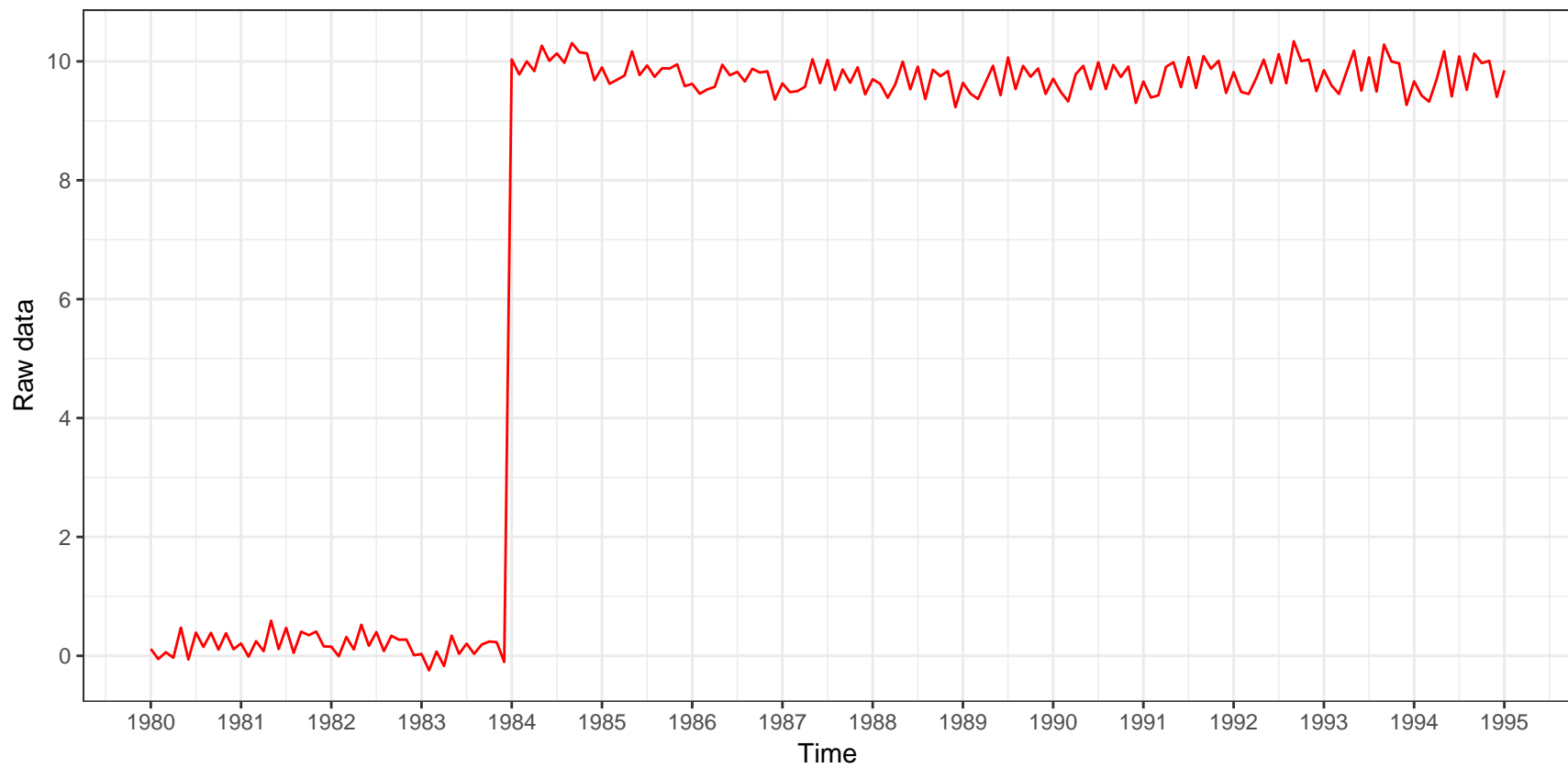


Estimate value of a LS(1984-01)
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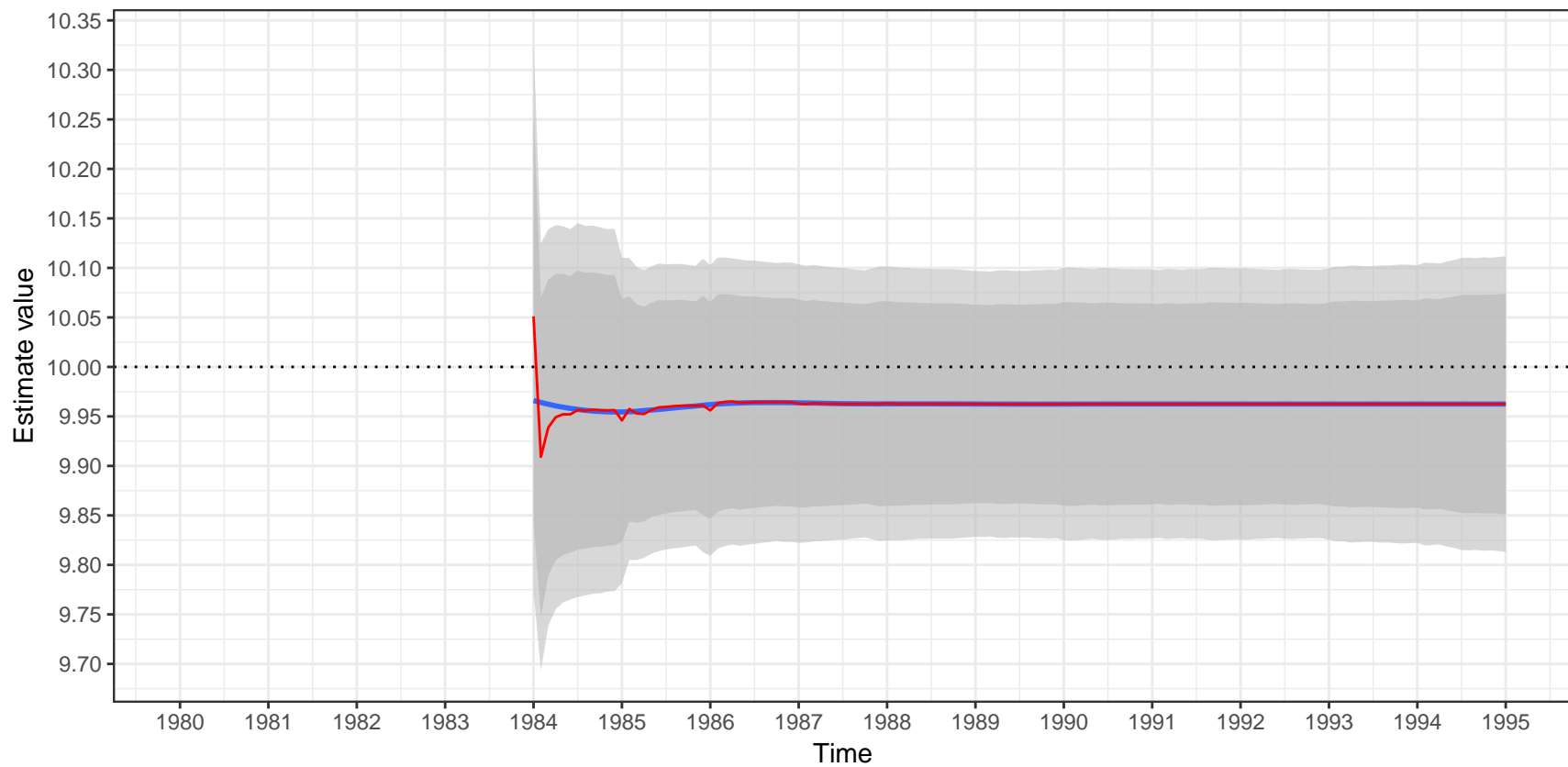


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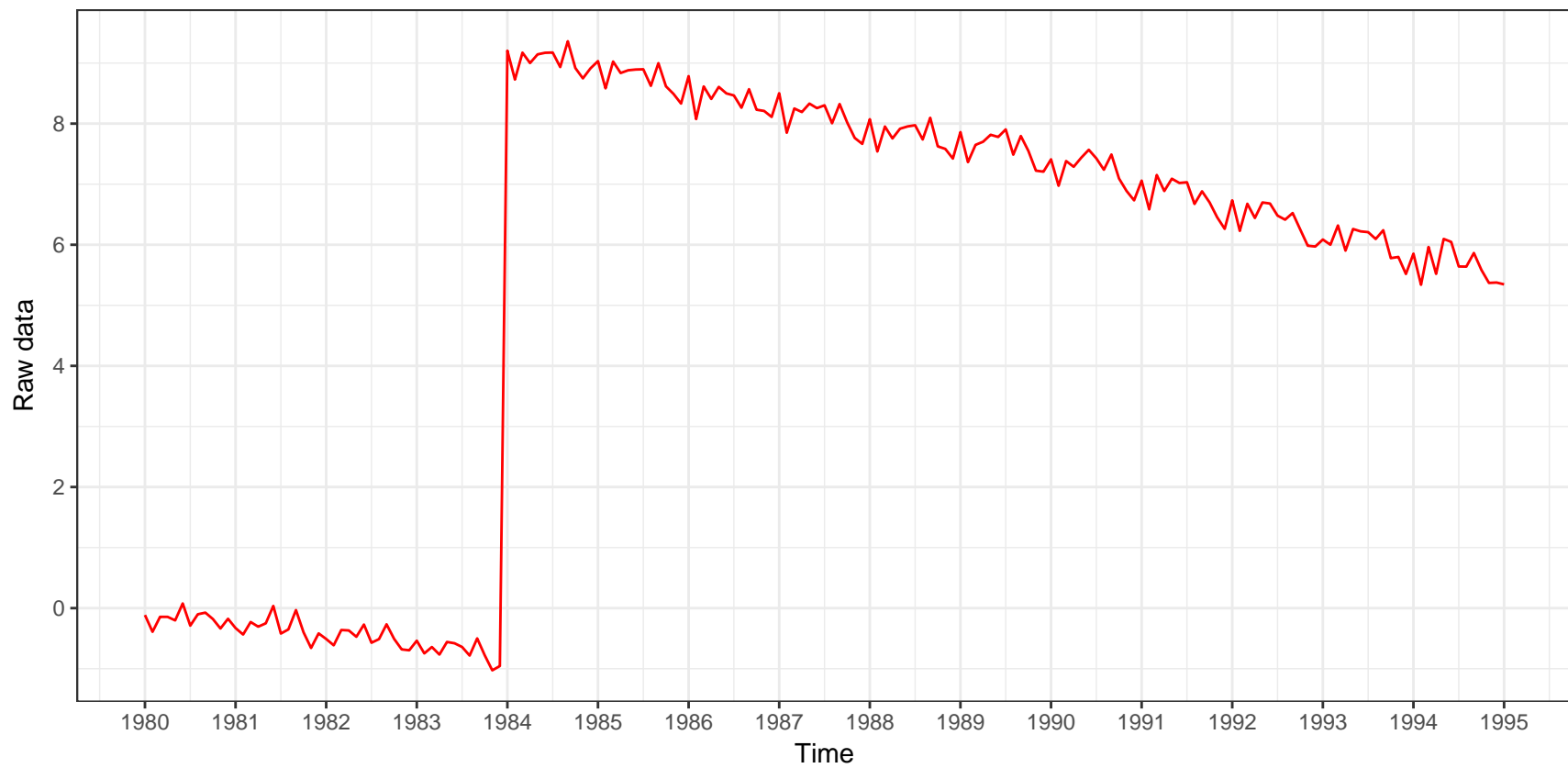


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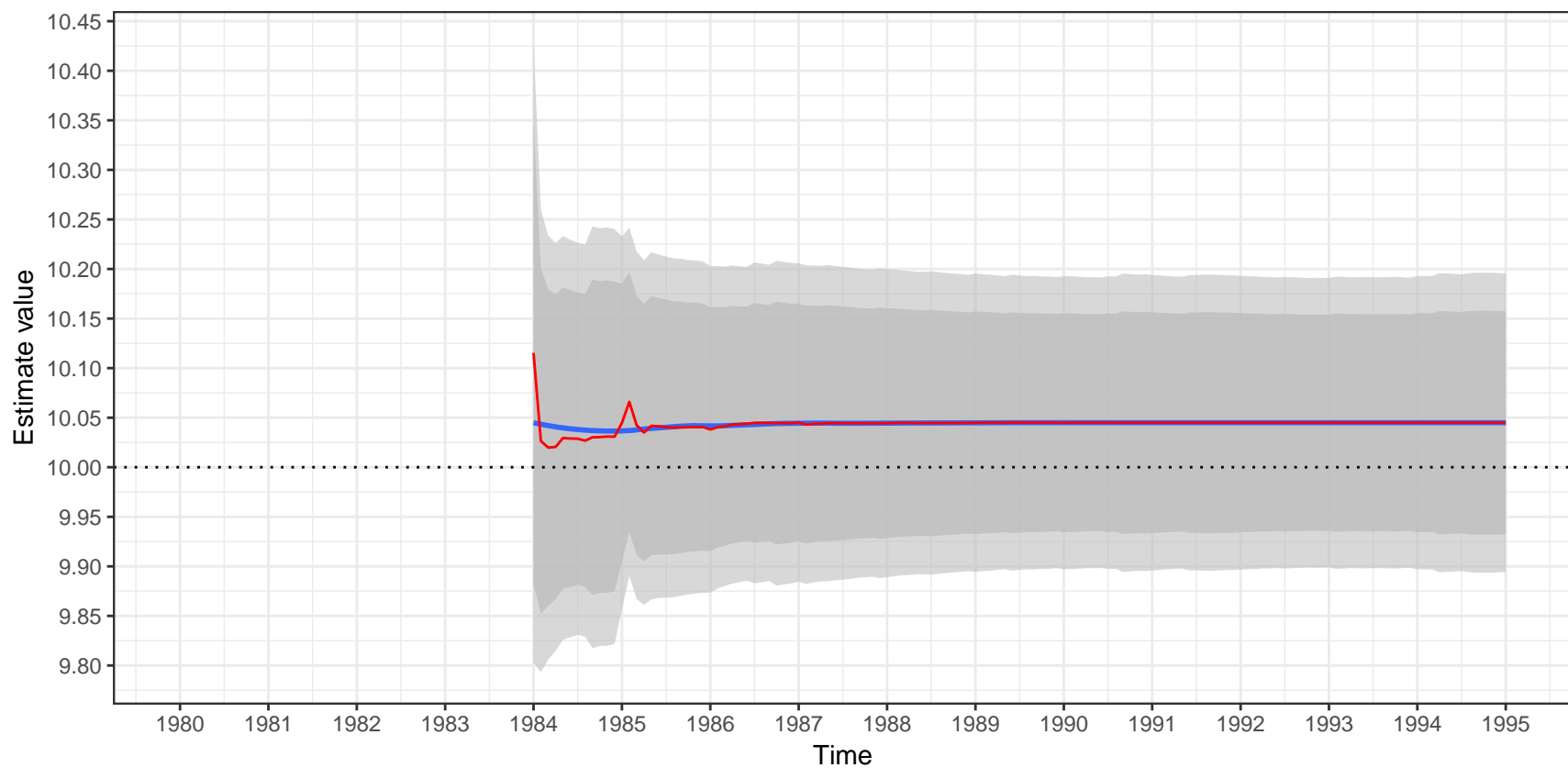


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Estimate value of a LS(1984-01)
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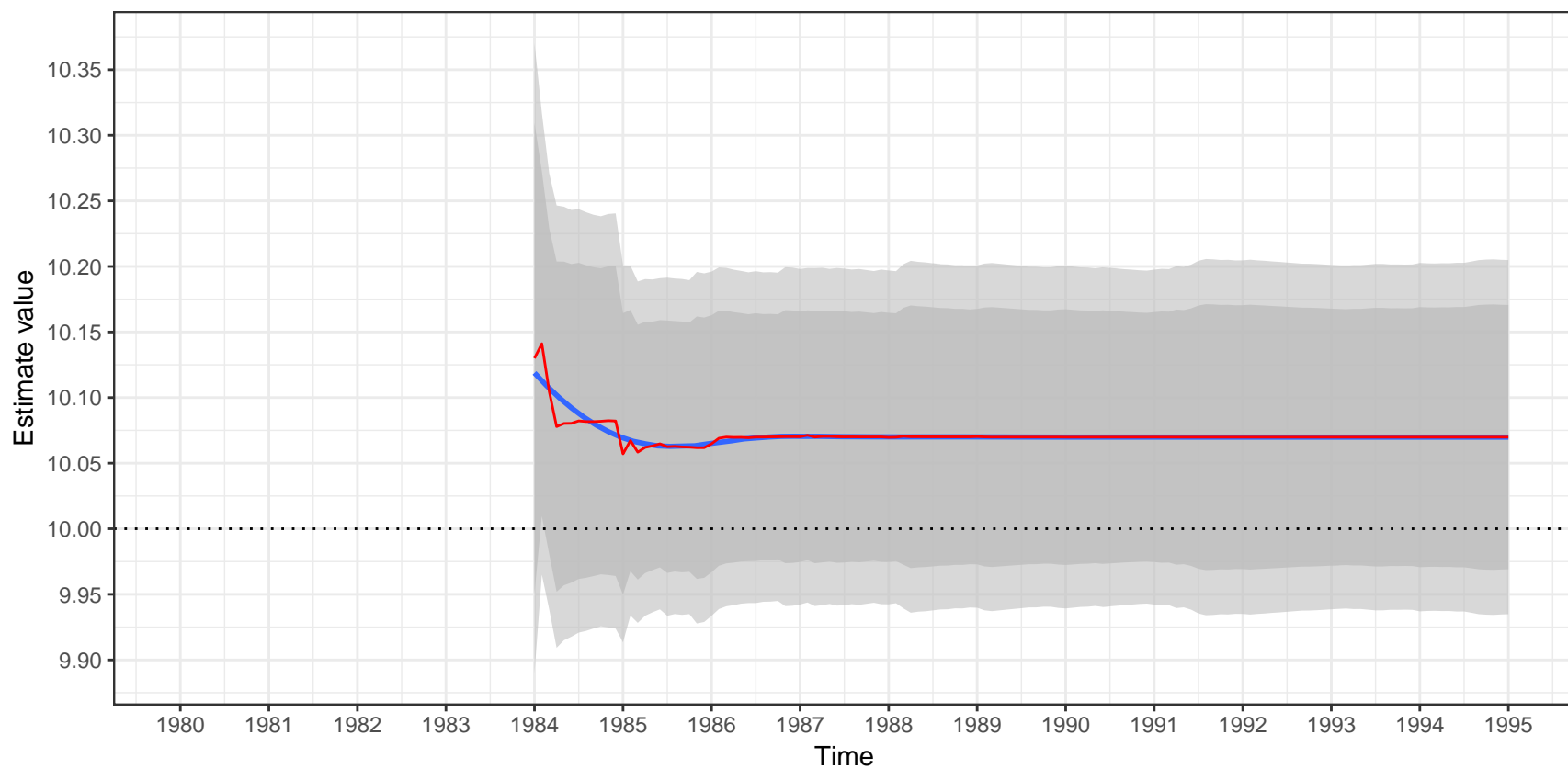


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Estimate value of a LS(1984-01)
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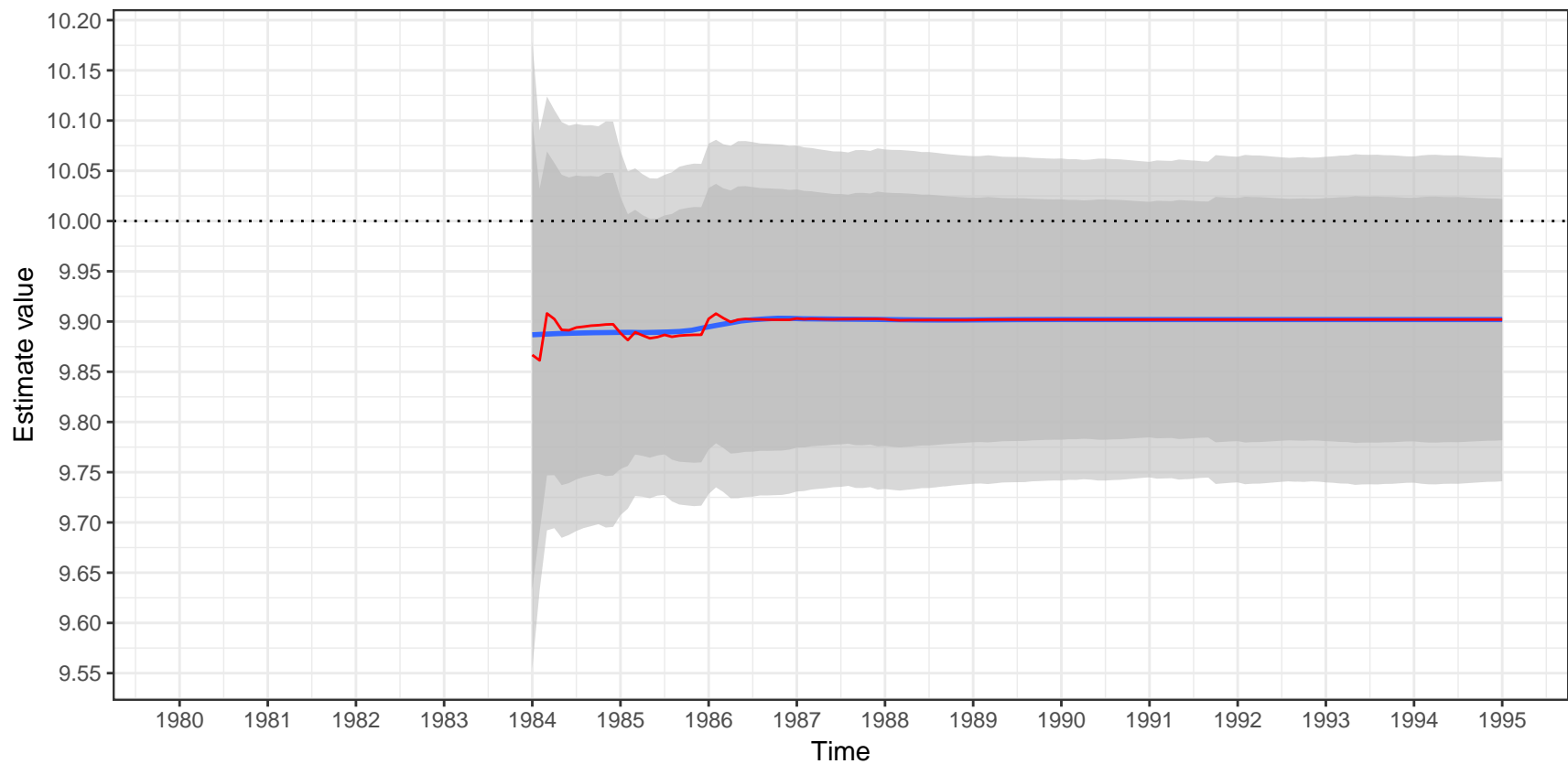


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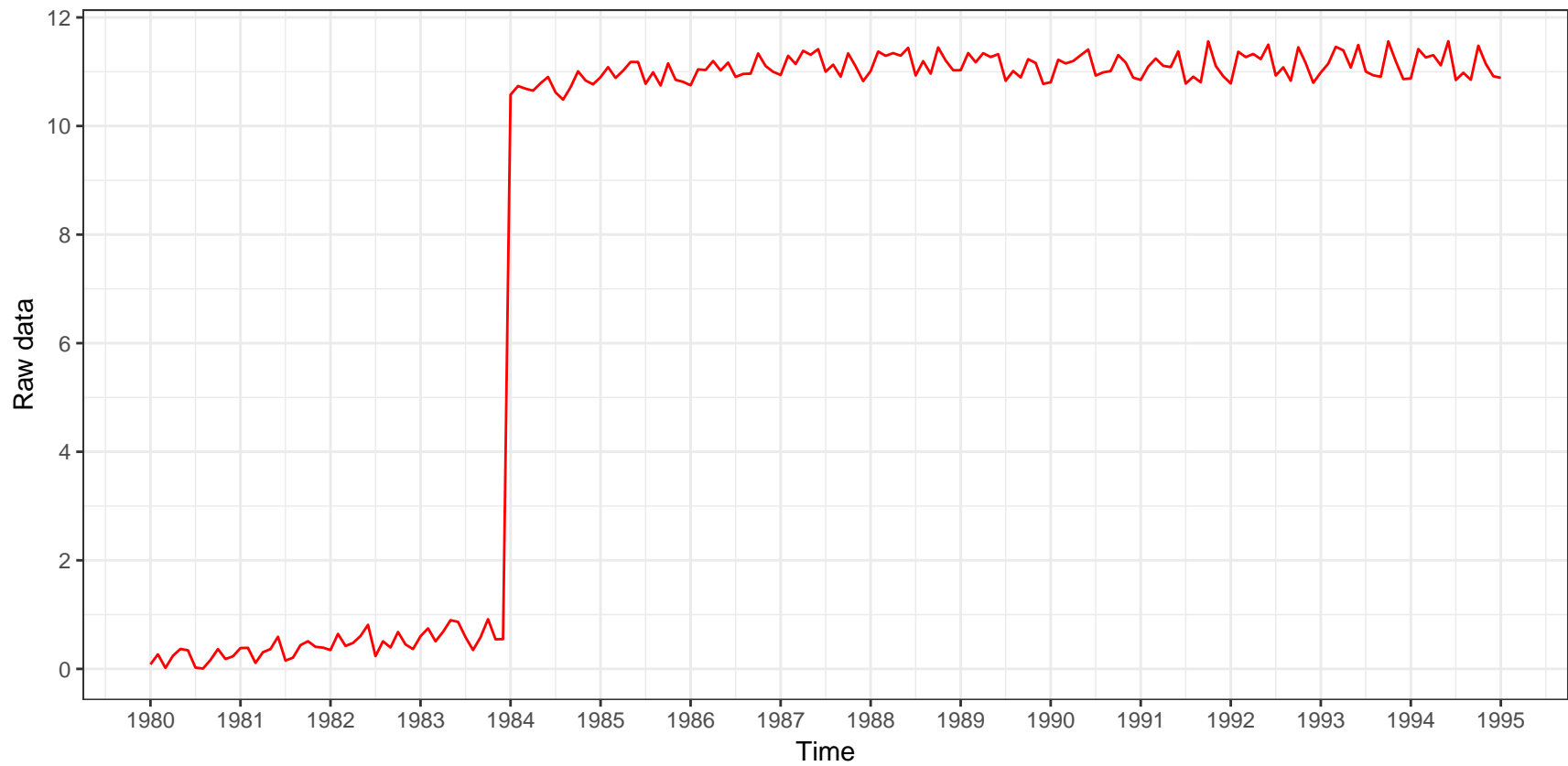


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Estimation of the outlier

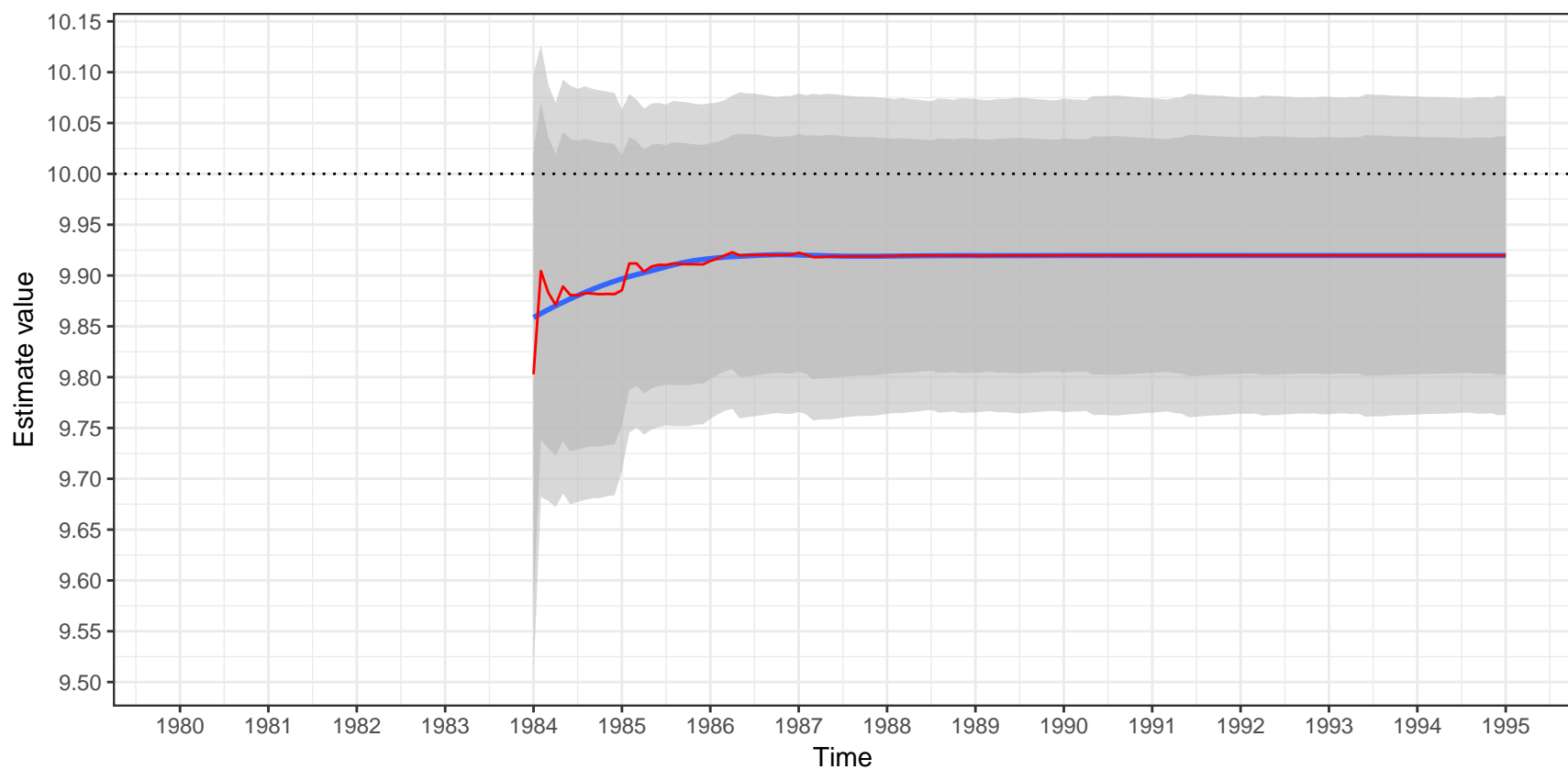


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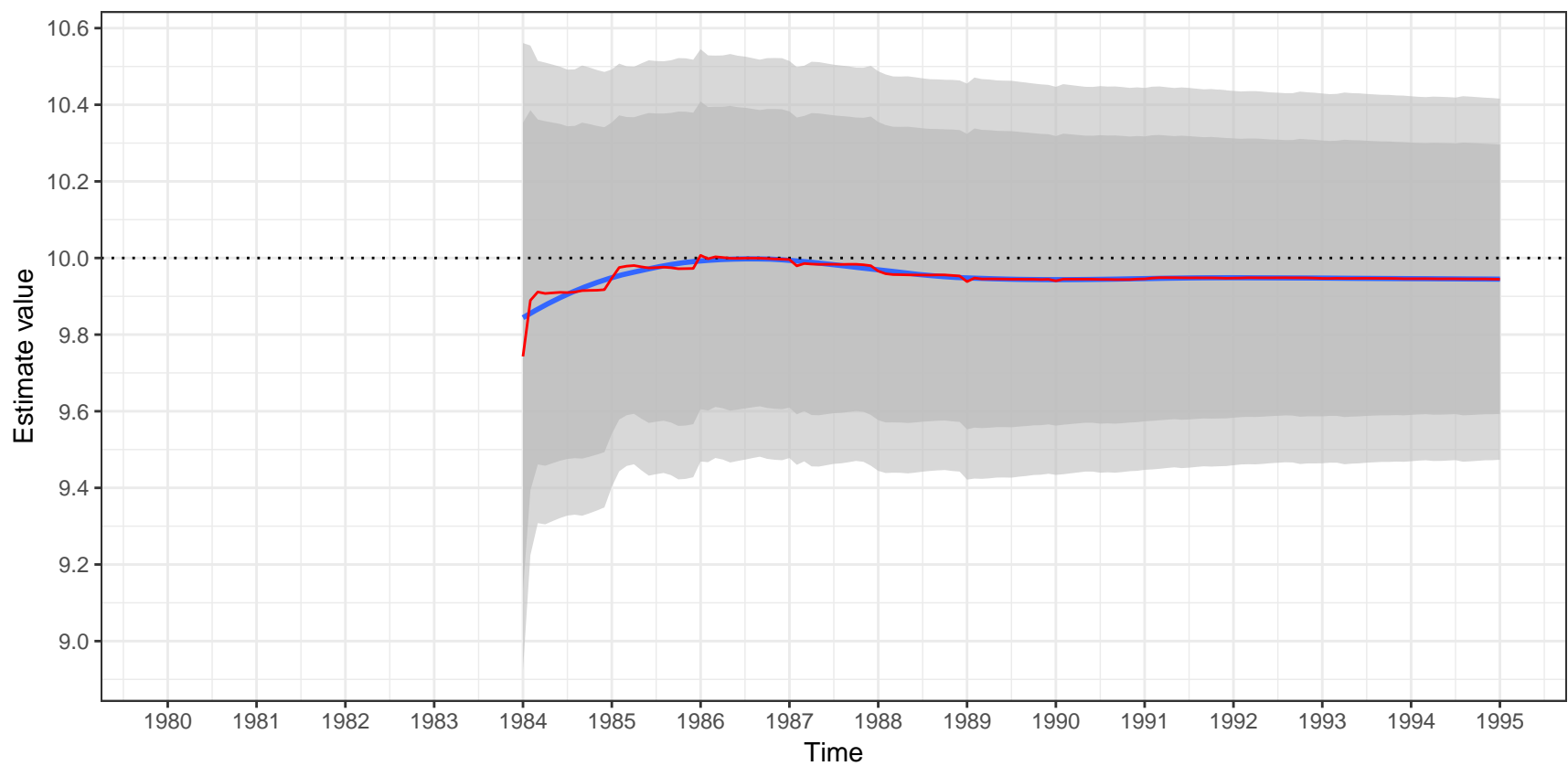


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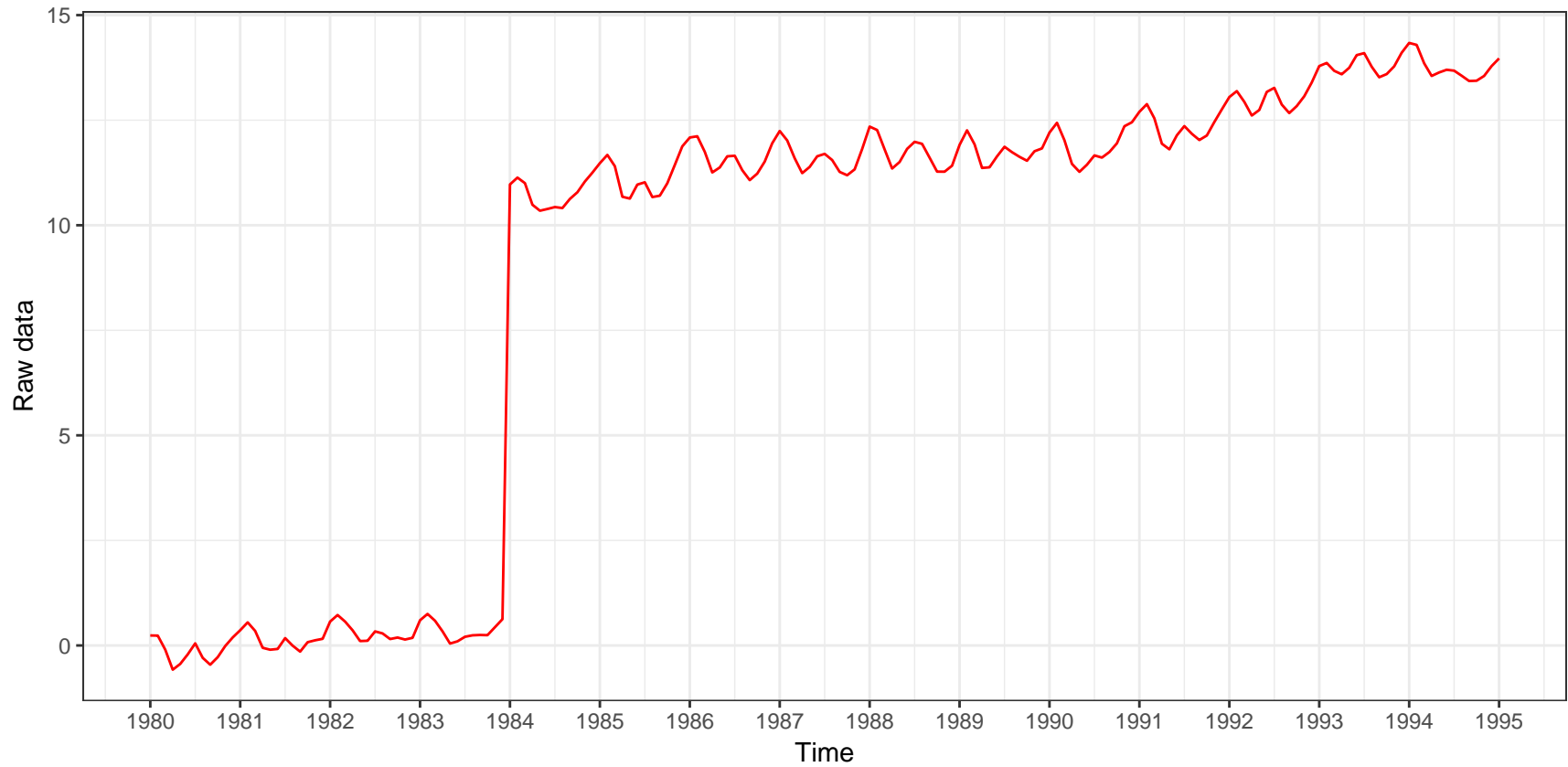


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.6B+0.5B^2)X_t=(1-0.8B^{12})a_t$

Estimation of the outlier

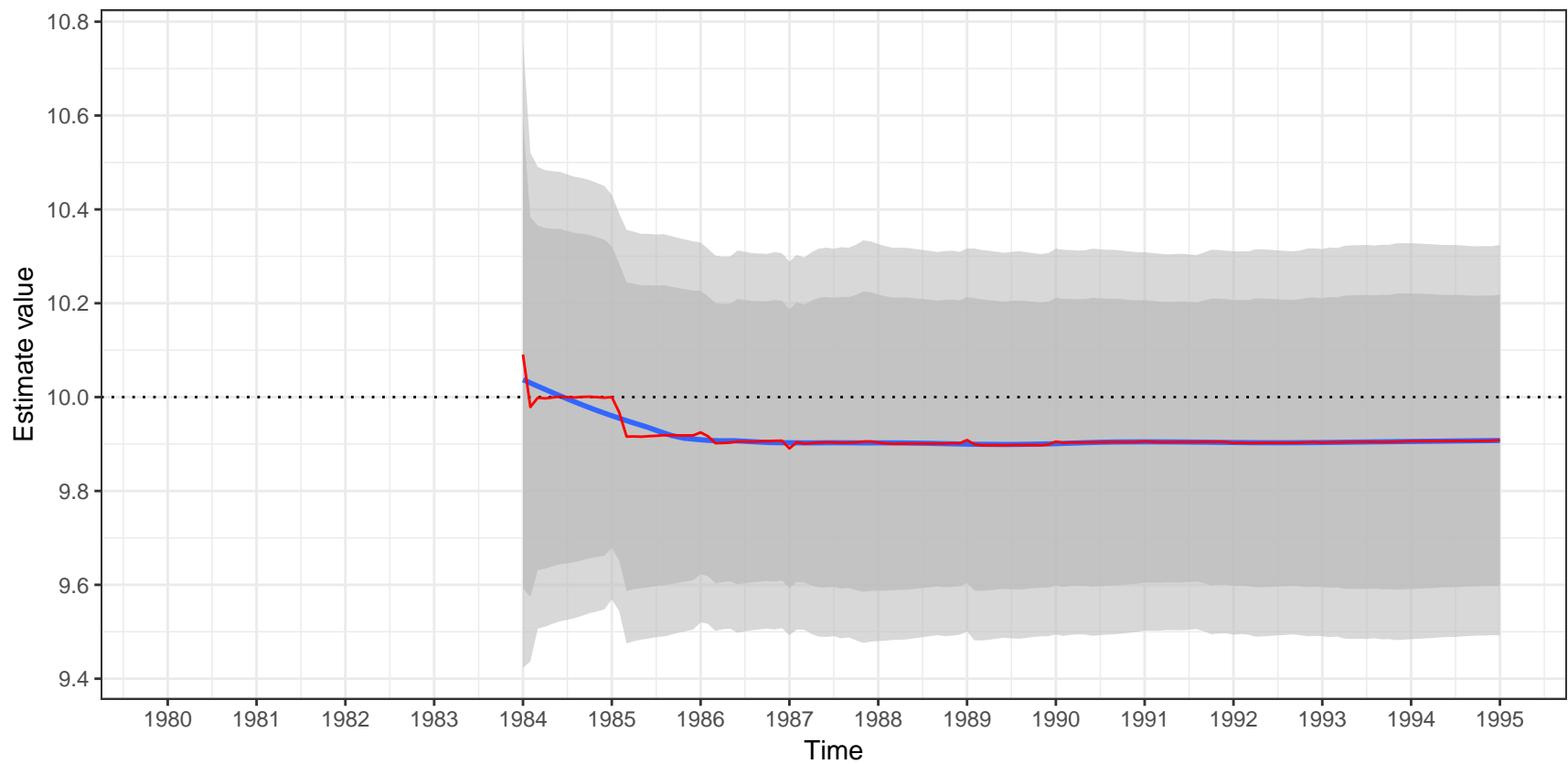


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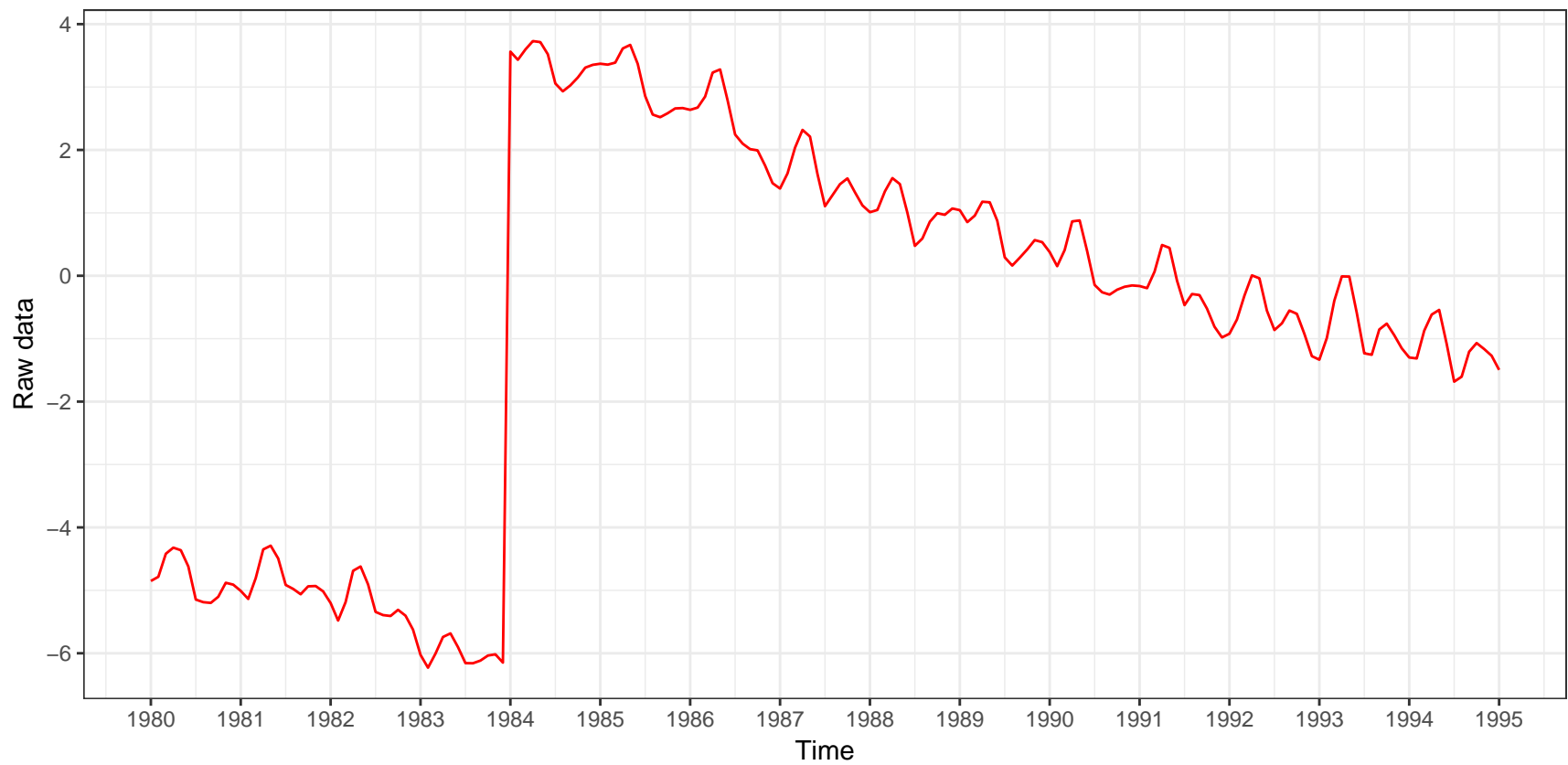


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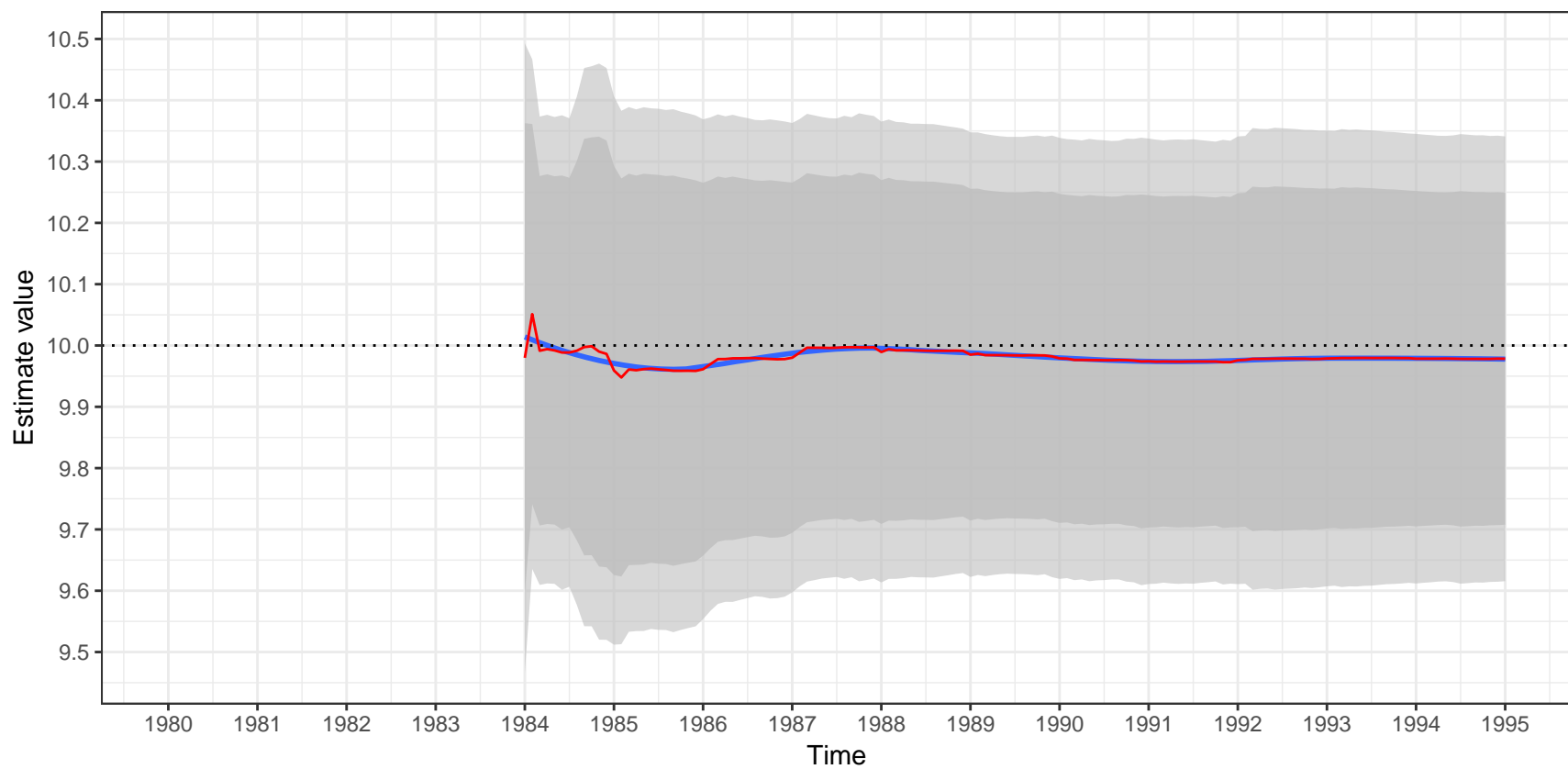


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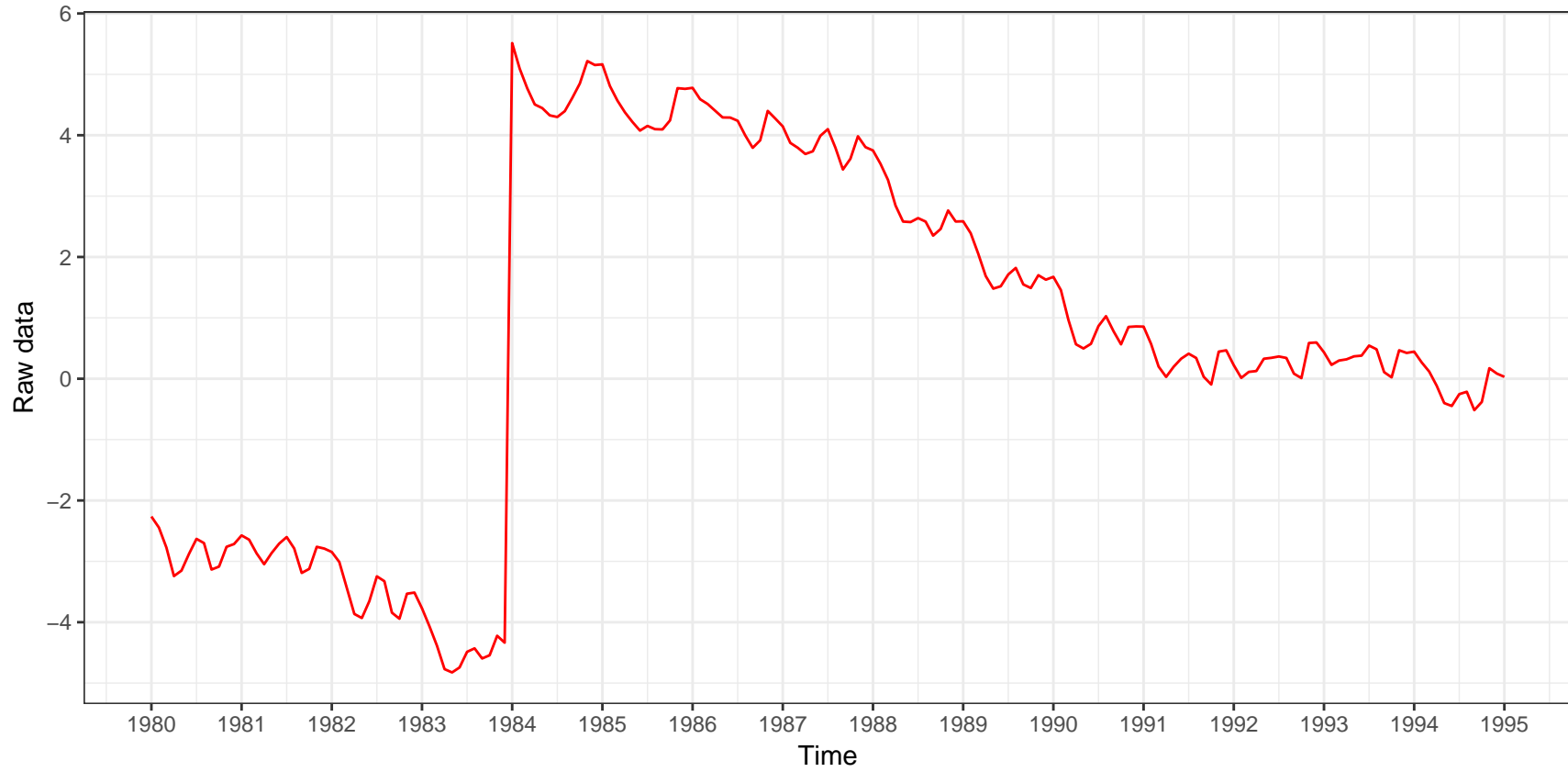


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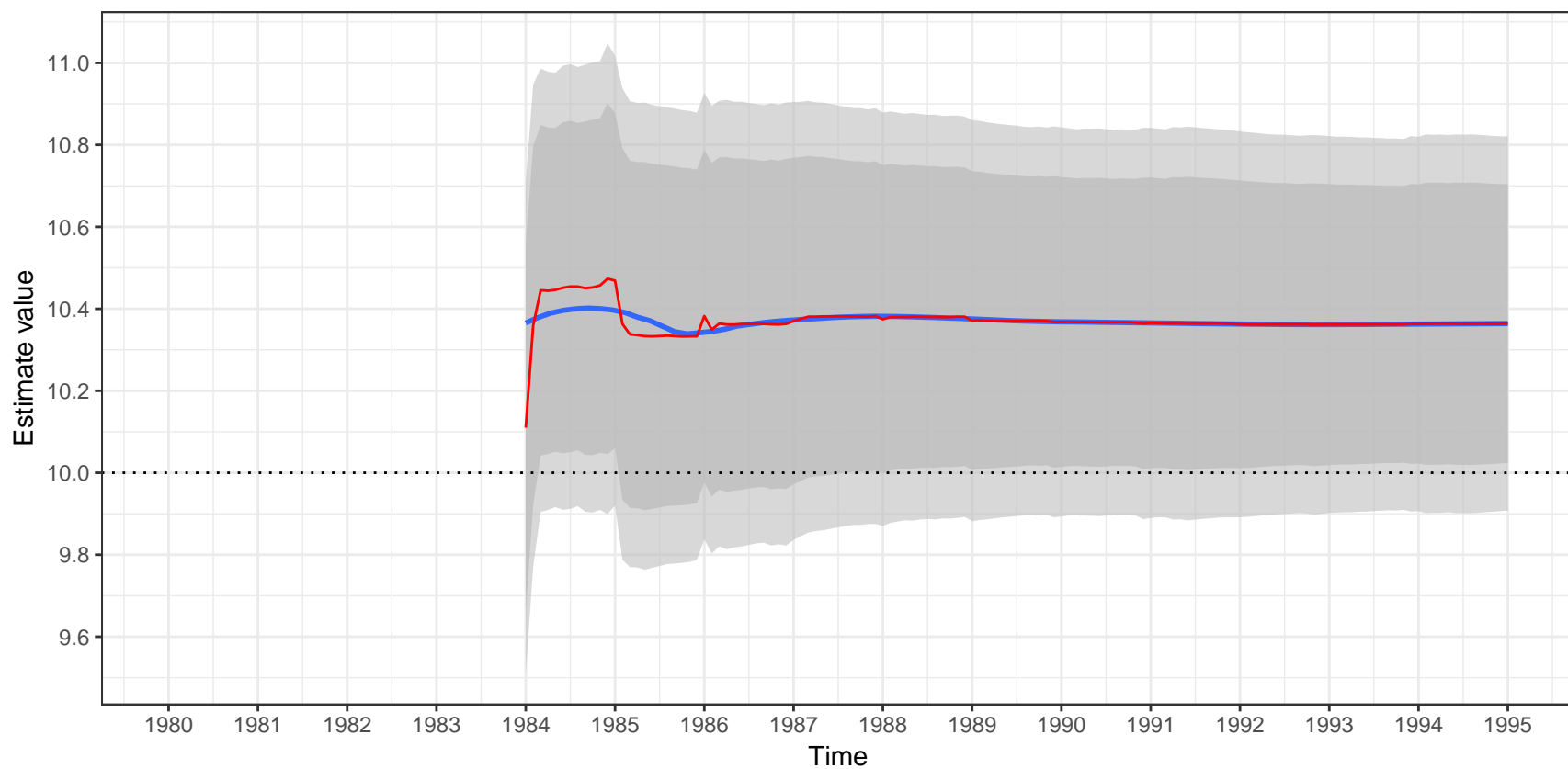


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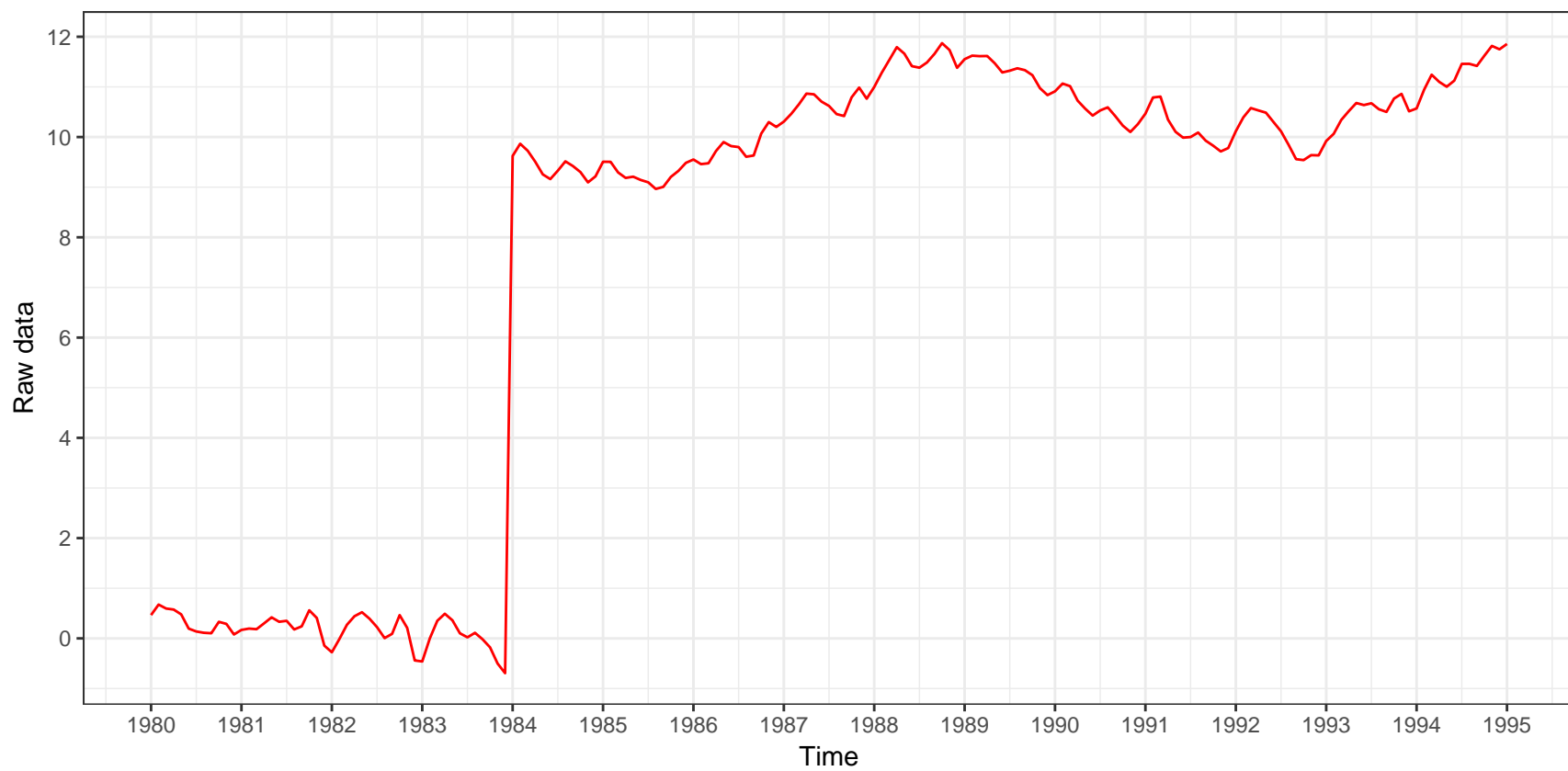


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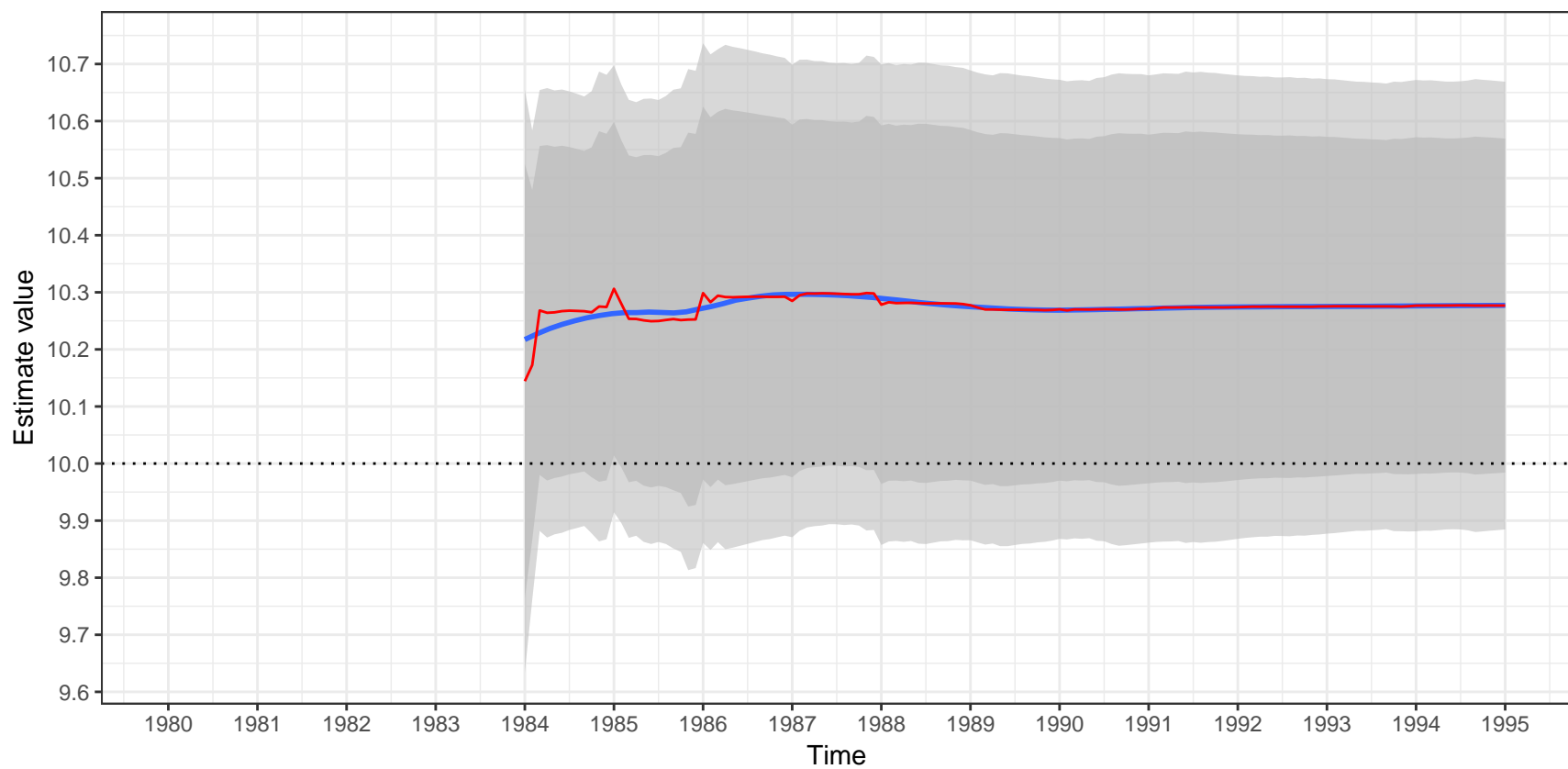


Raw data

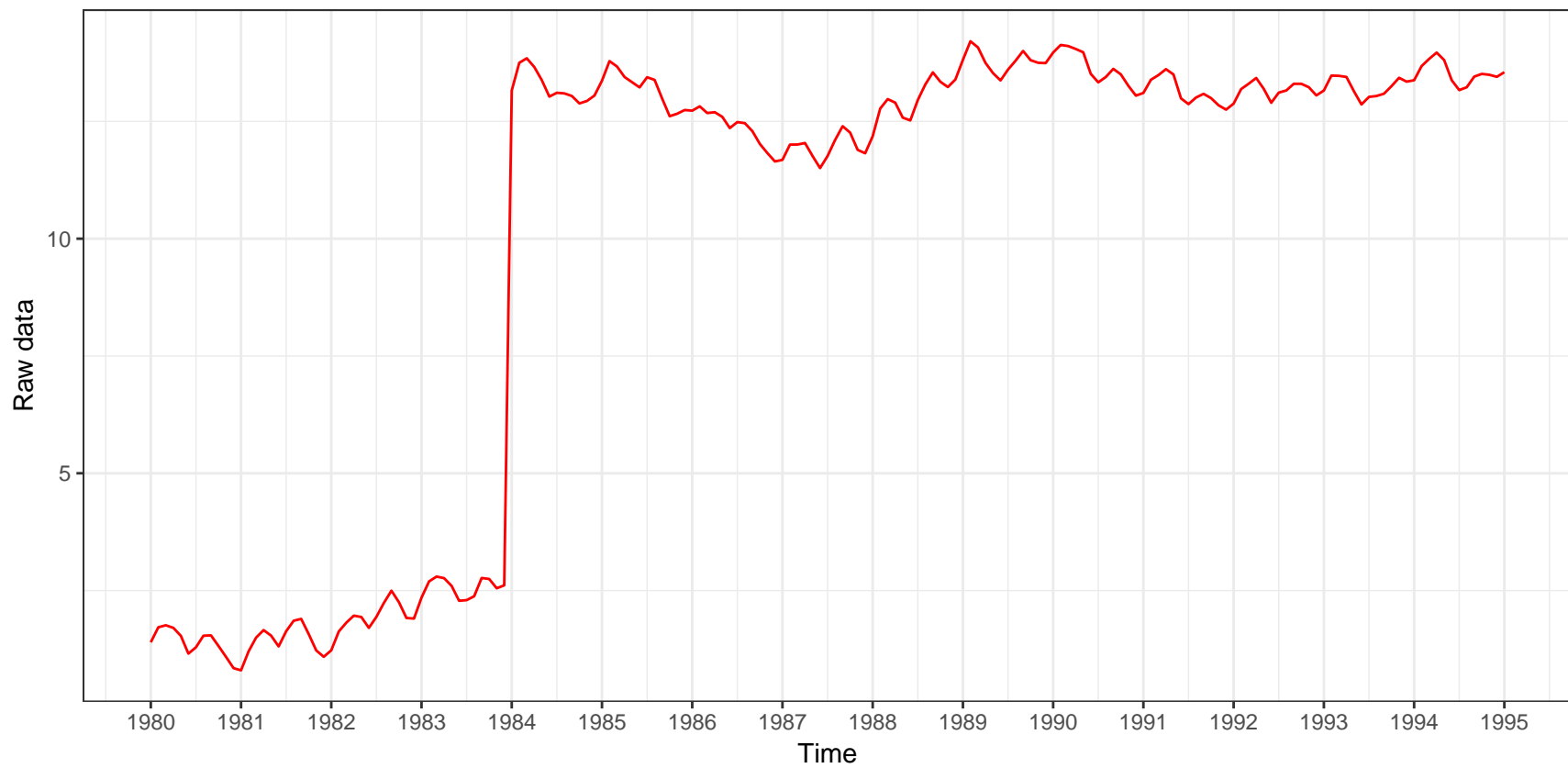


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ARIMA (2,1,0)(0,1,1) – additive decomposition
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Estimation of the outlier

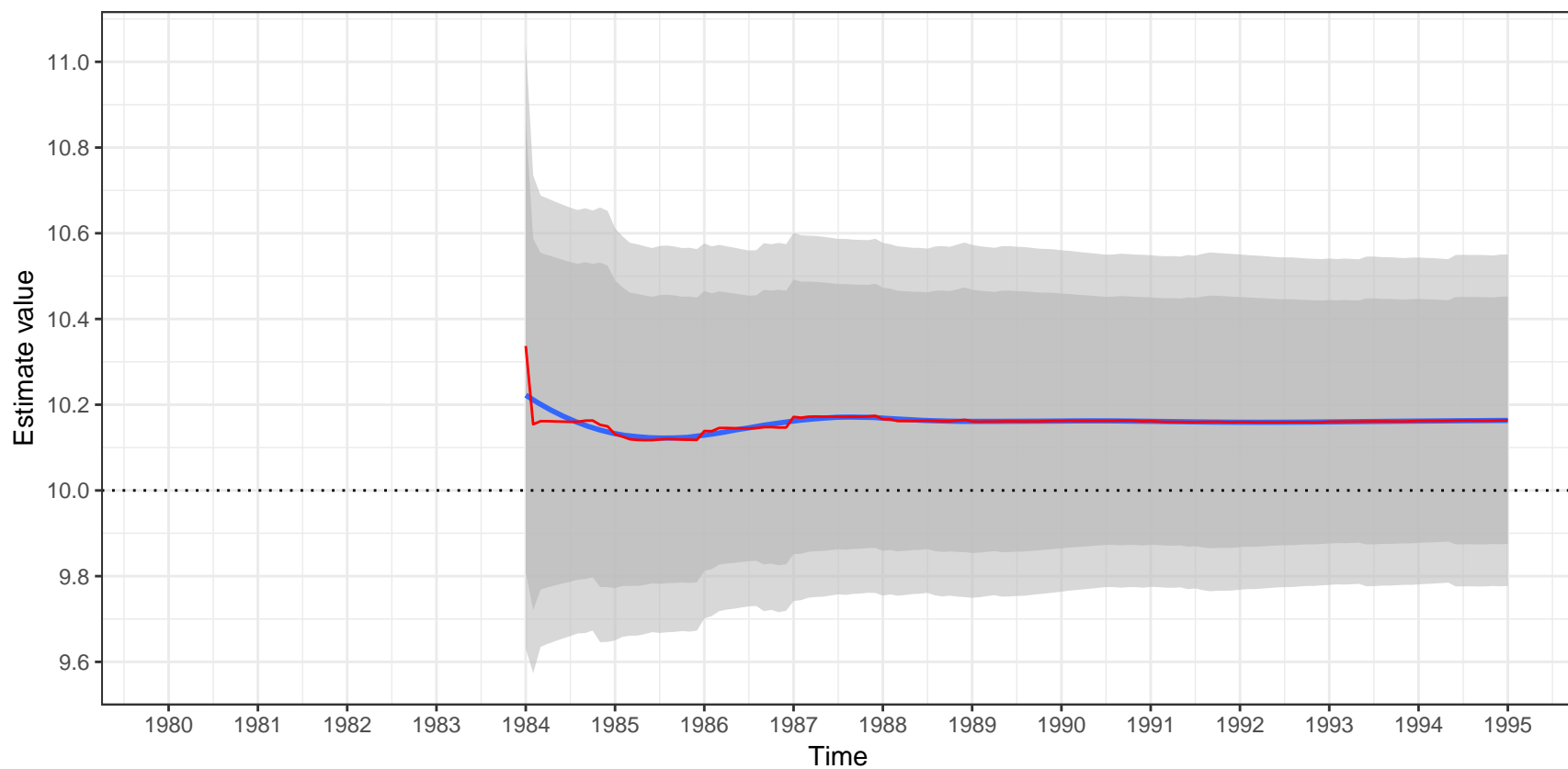


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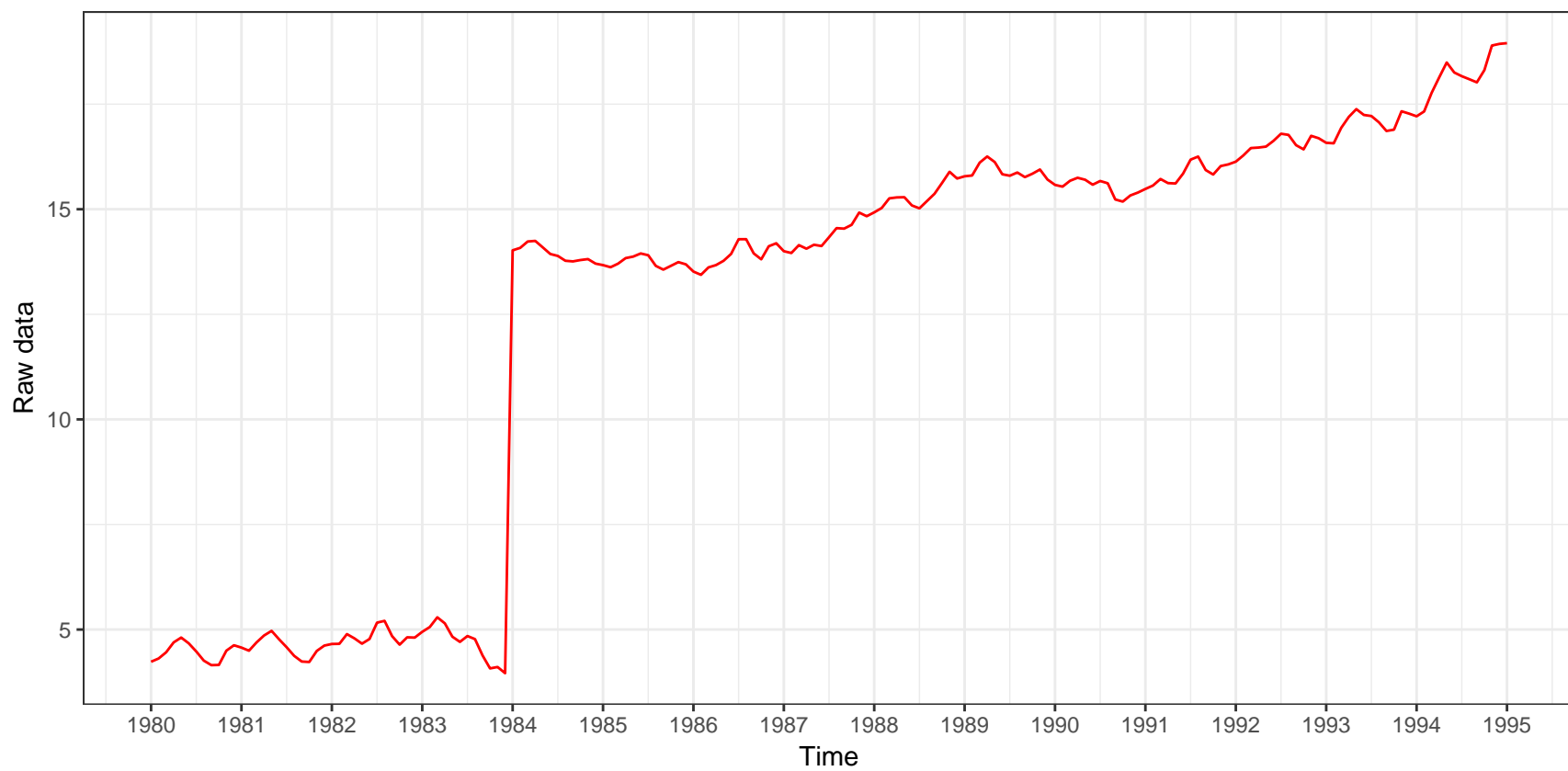


Estimate value of a LS(1984-01)
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Estimation of the outlier

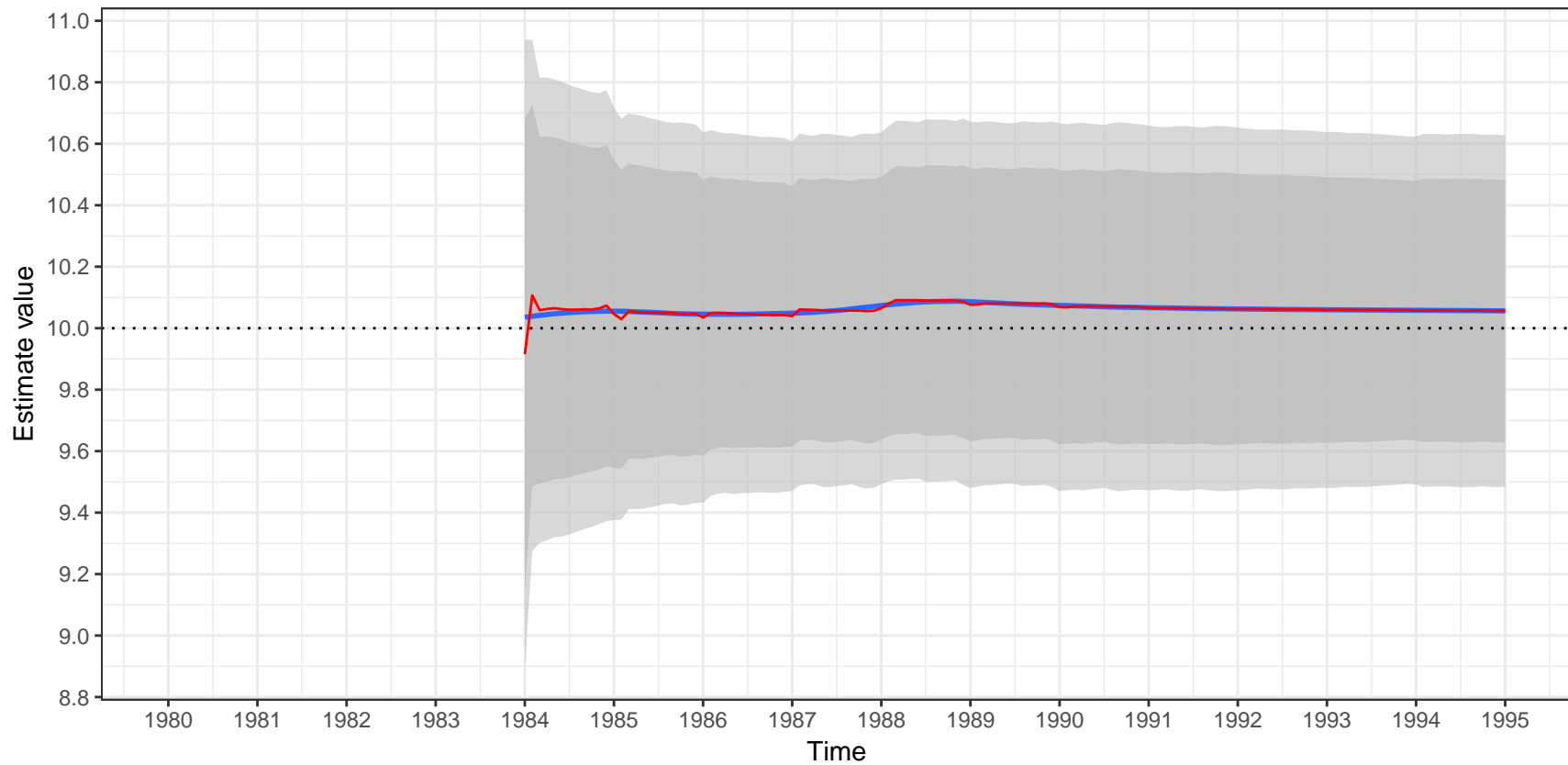


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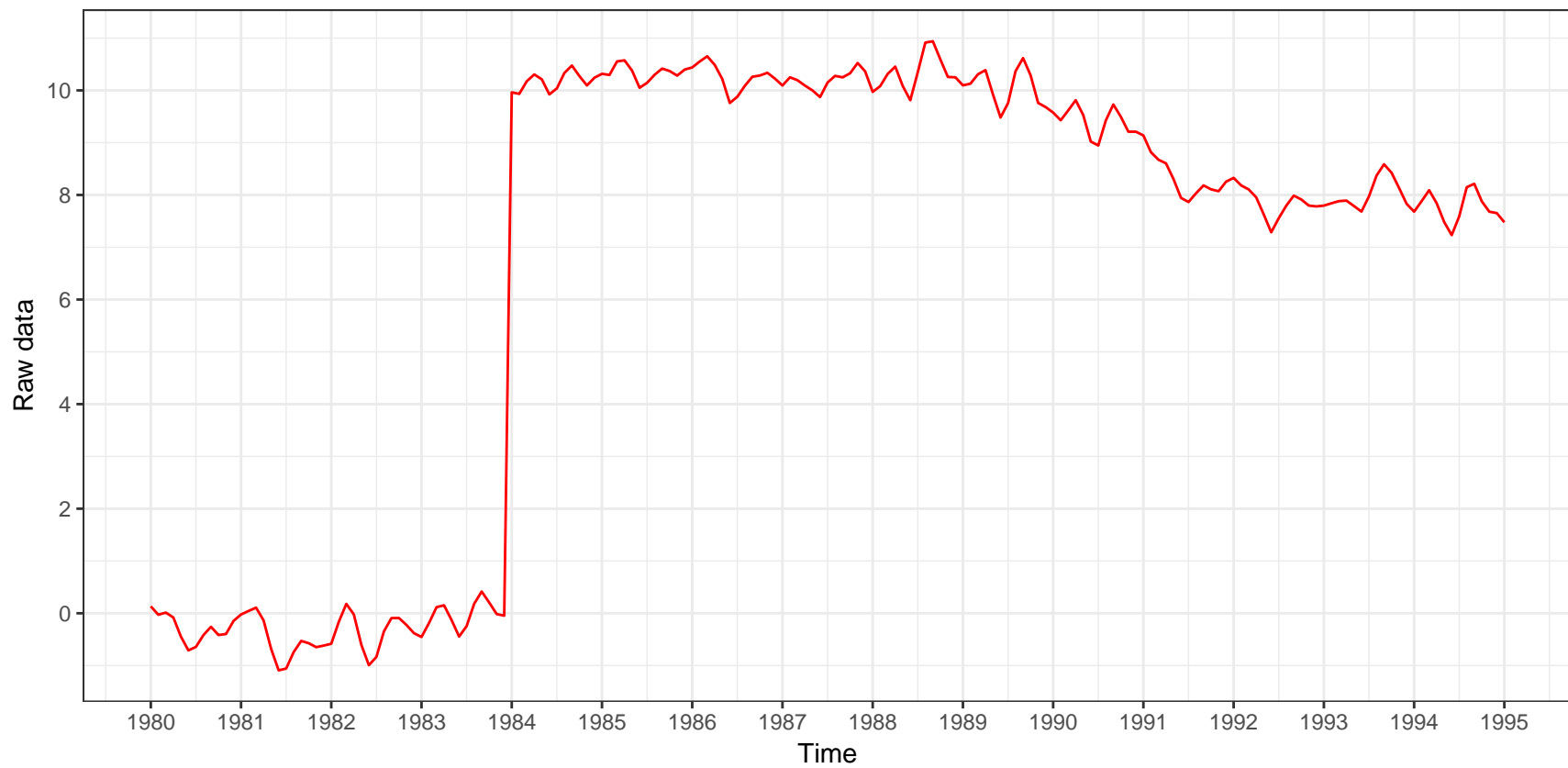


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})(1-0.6B+0.5B^2)X_t=(1-0.8B_{12})a_t$

Estimation of the outlier

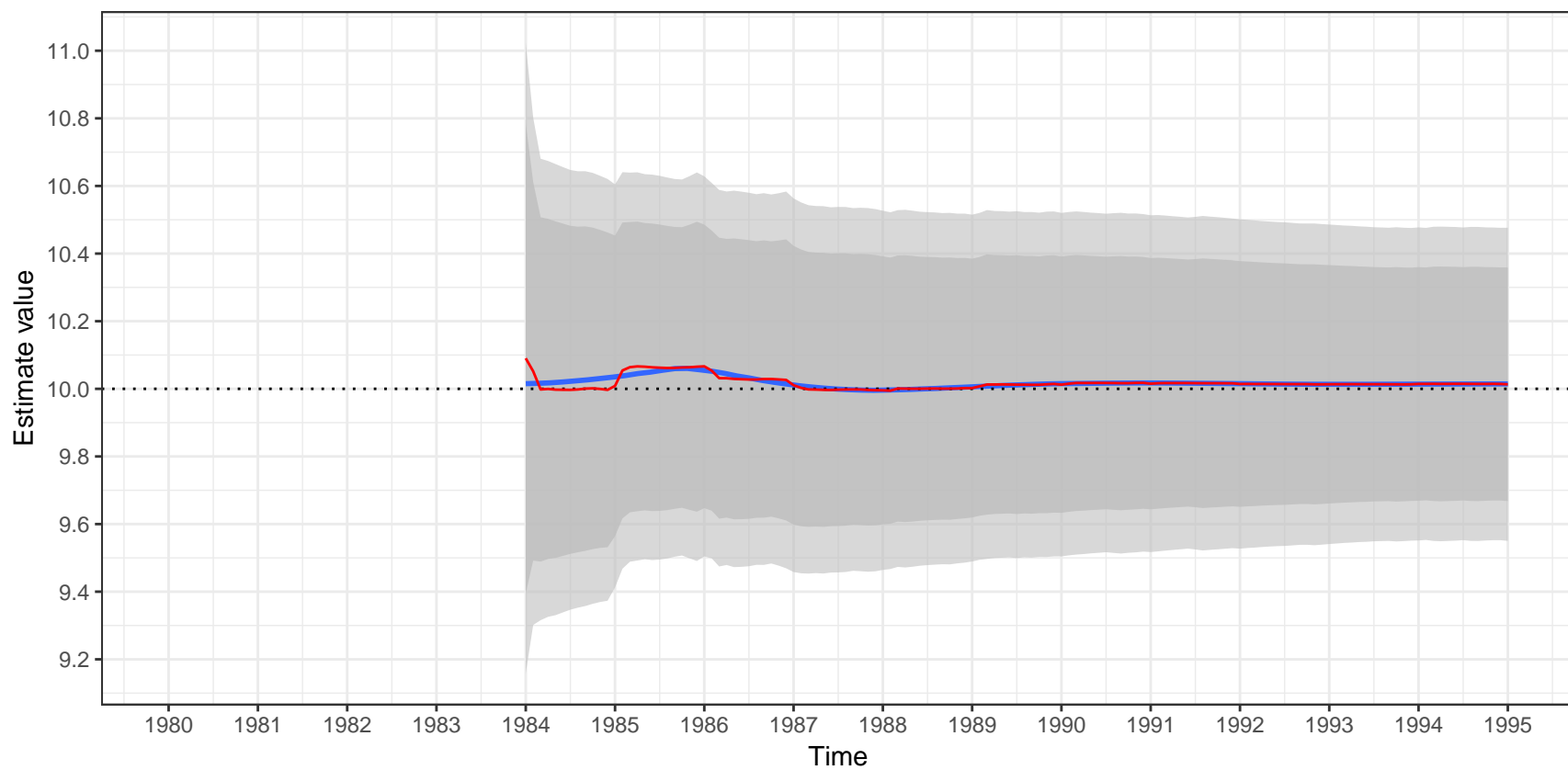


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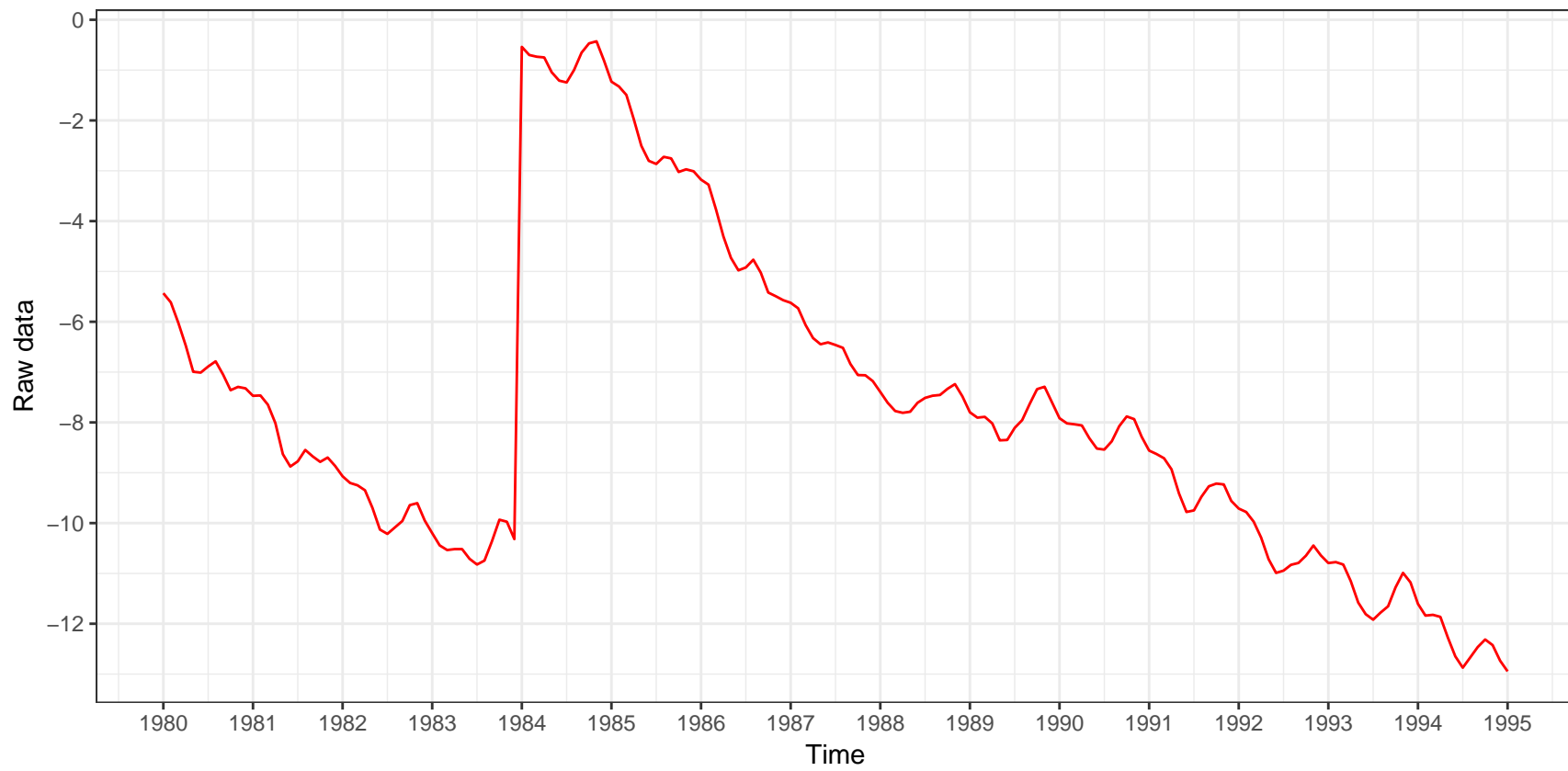


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,1,1) – additive decomposition
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Estimation of the outlier

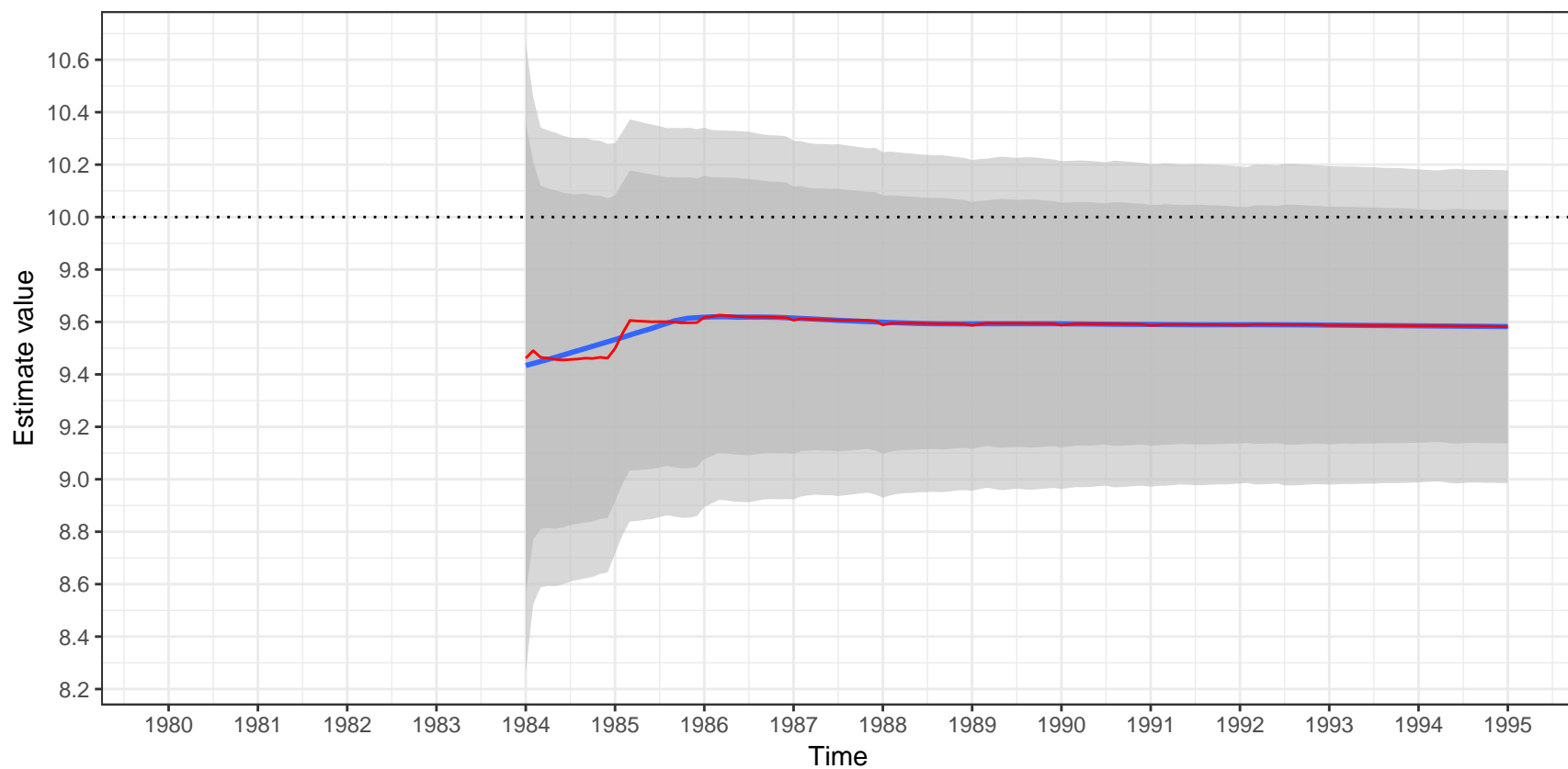


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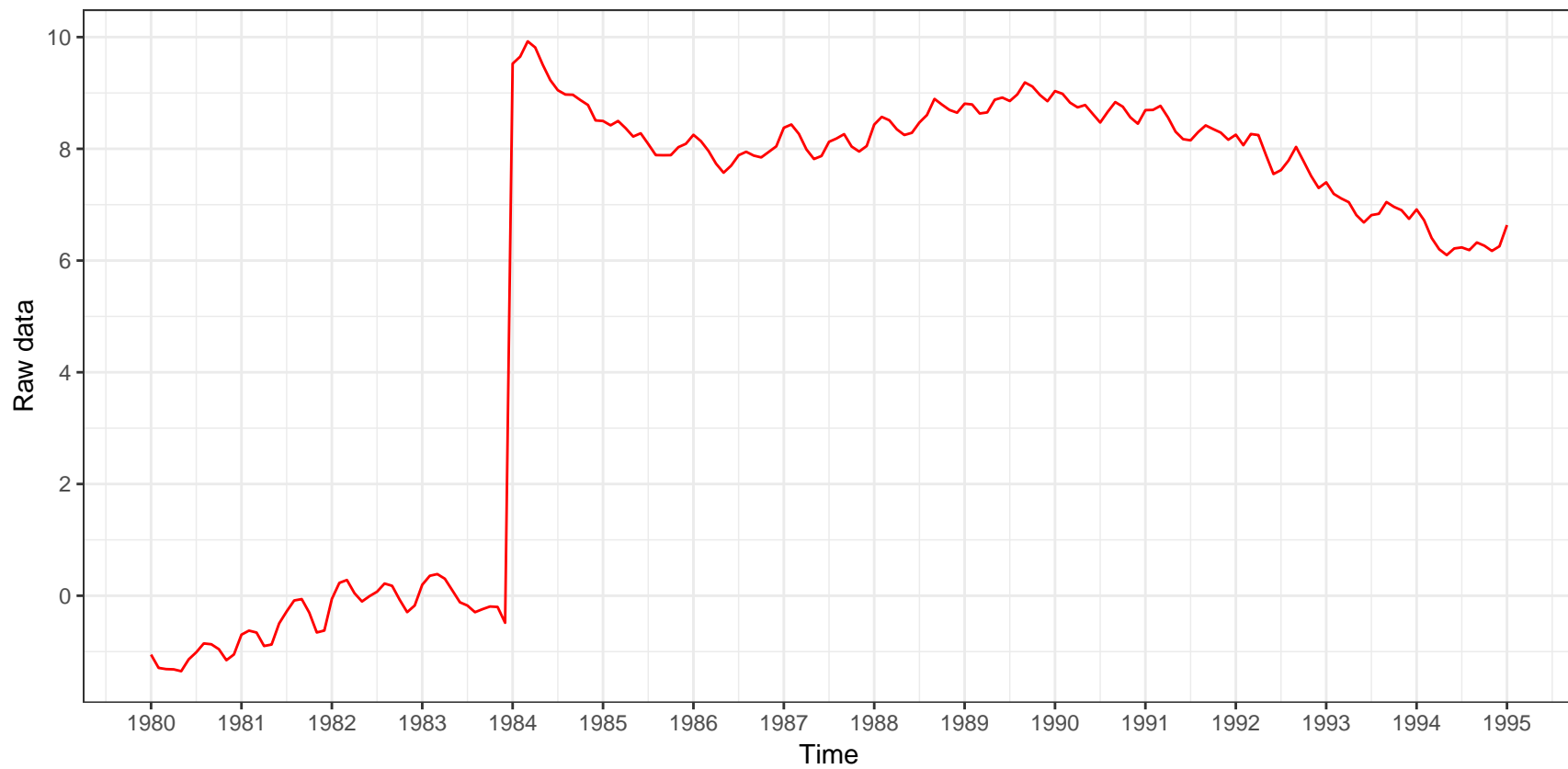


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.6B+0.5B^2)X_t=(1-0.8B^{12})a_t$

Estimation of the outlier

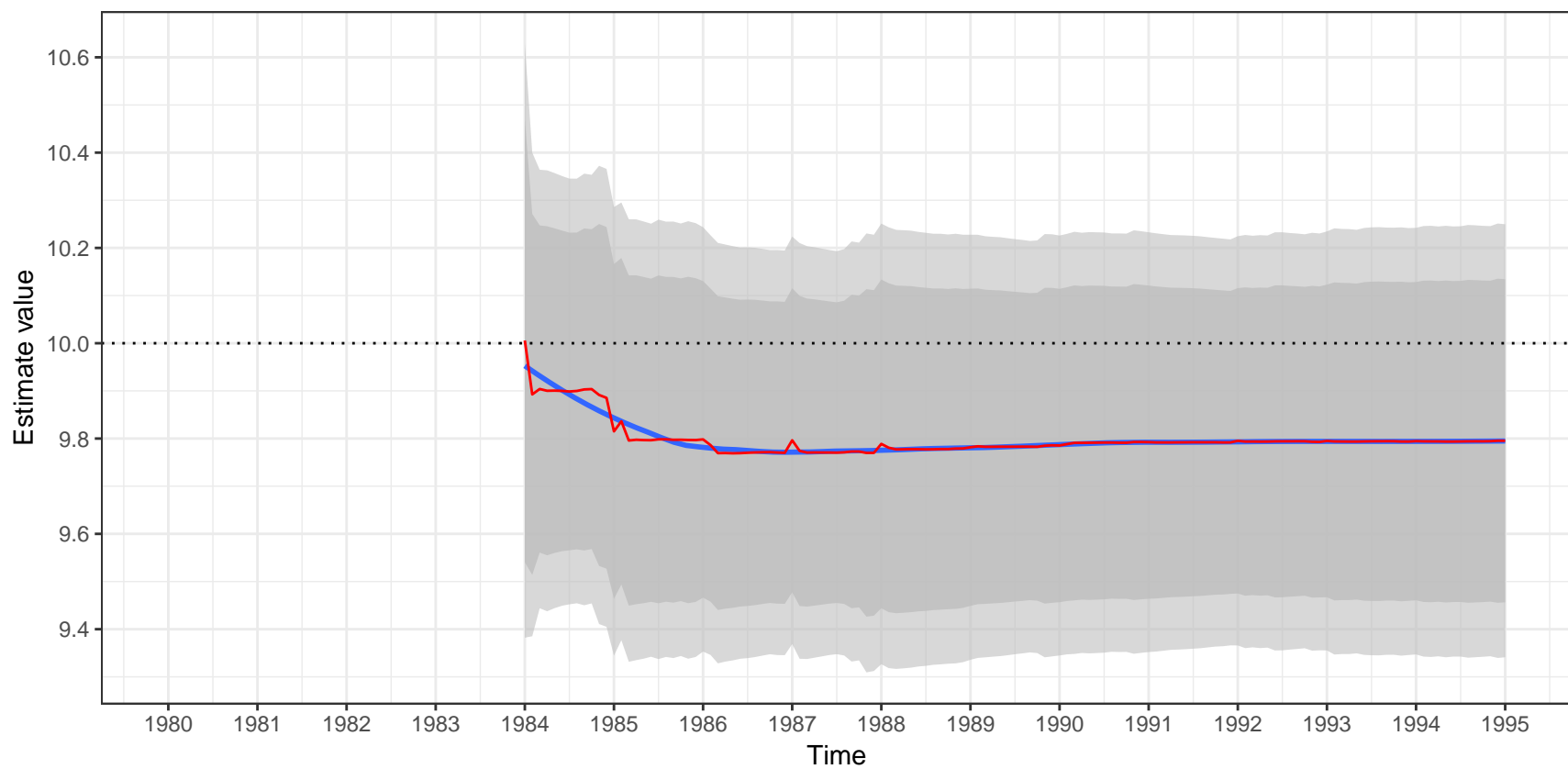


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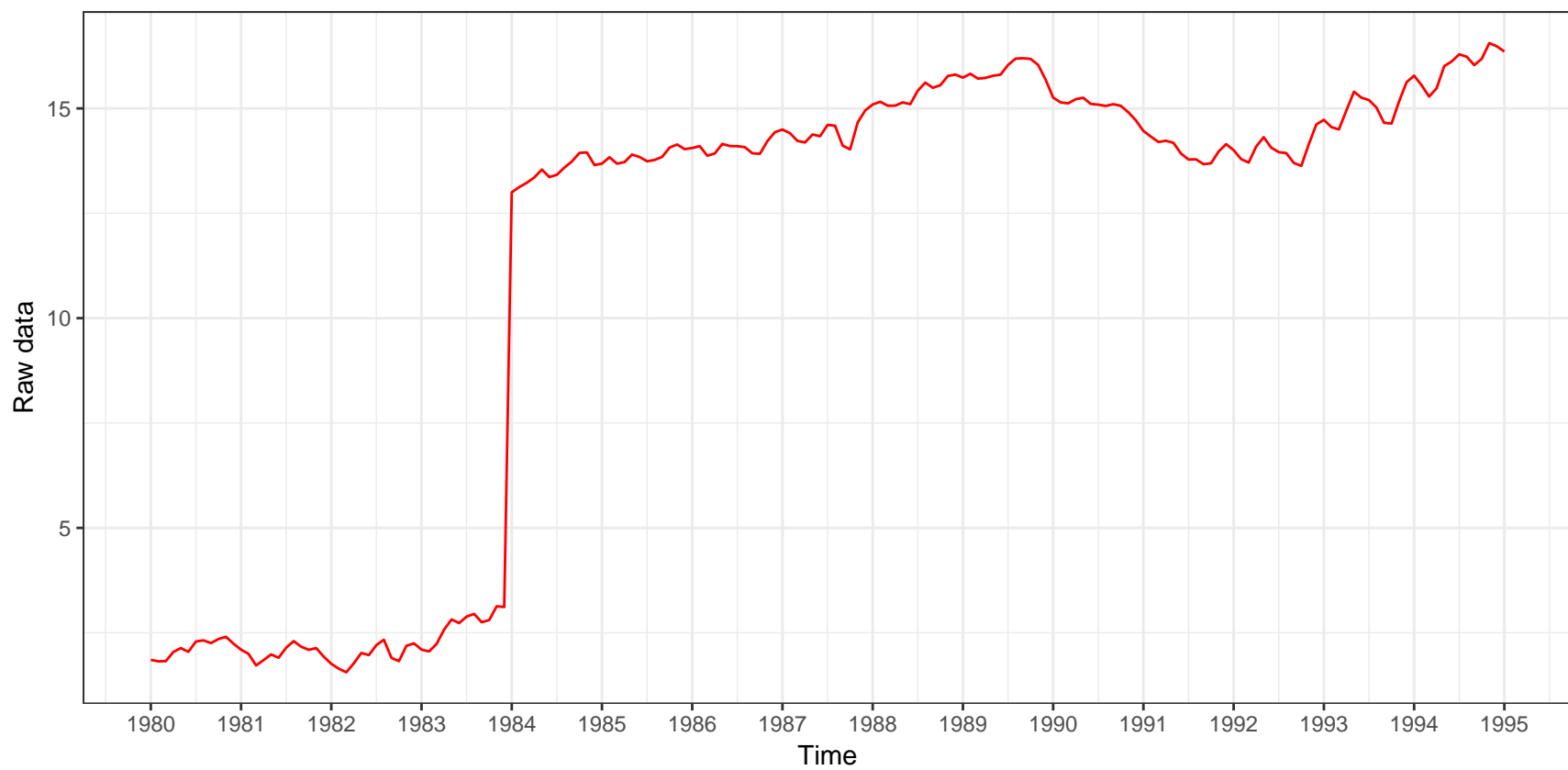


Estimate value of a LS(1984-01)
ARIMA (2,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.6B+0.5B^2)X_t=(1-0.8B^{12})a_t$

Estimation of the outlier

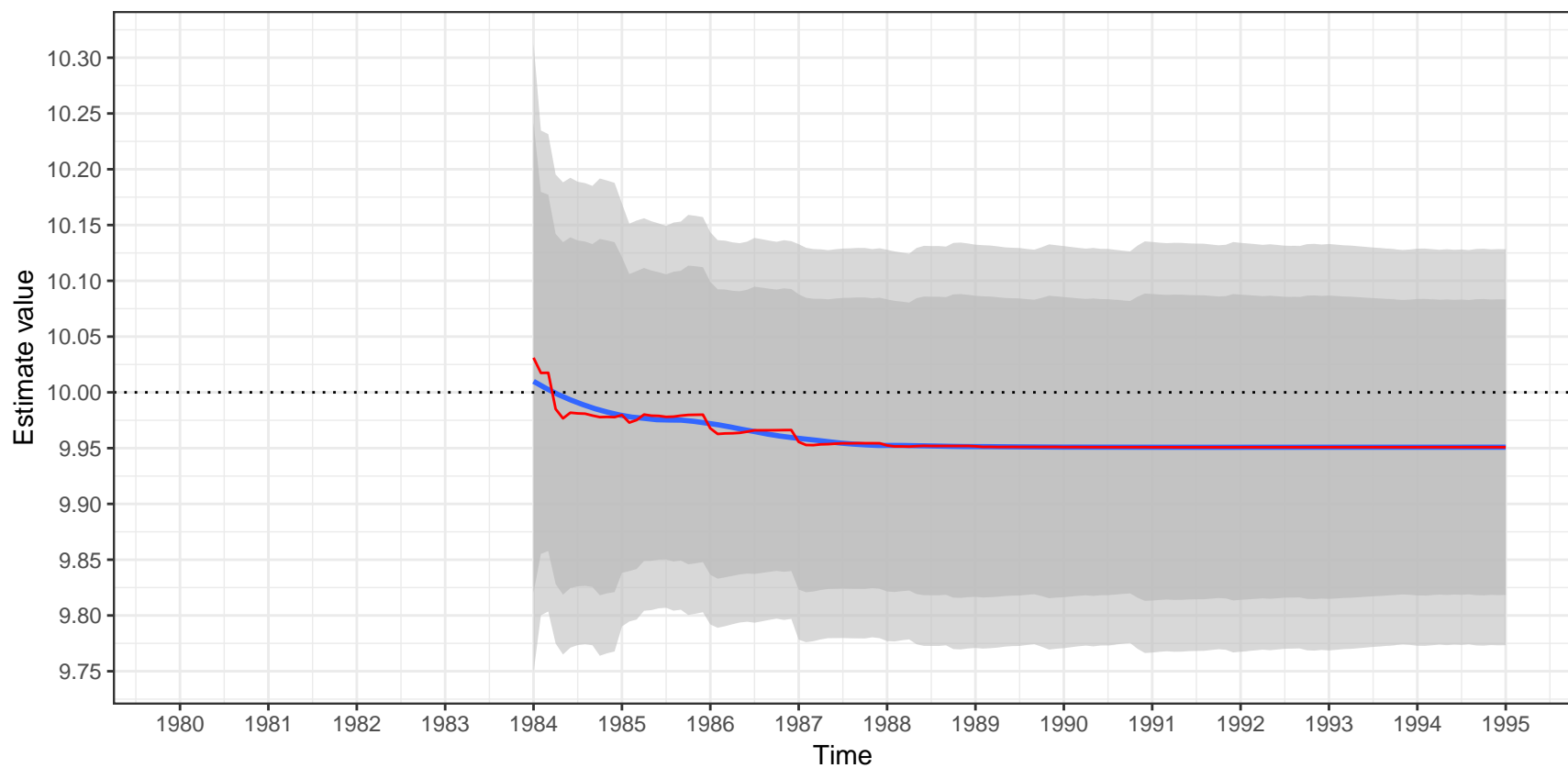


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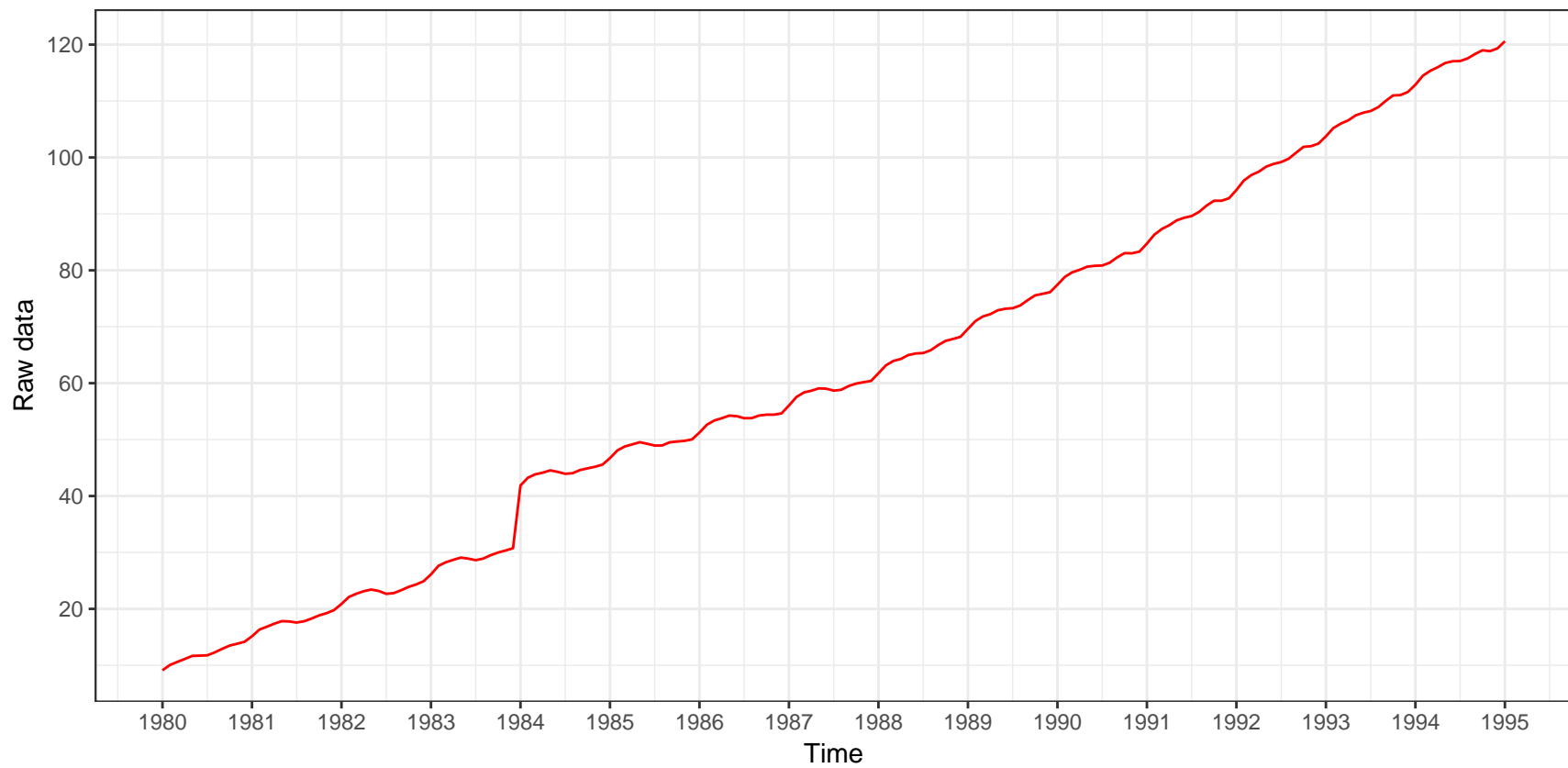


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.4B)X_t=(1+0.4B+0.4B^2)(1-0.4B^{12})a_t$

Estimation of the outlier

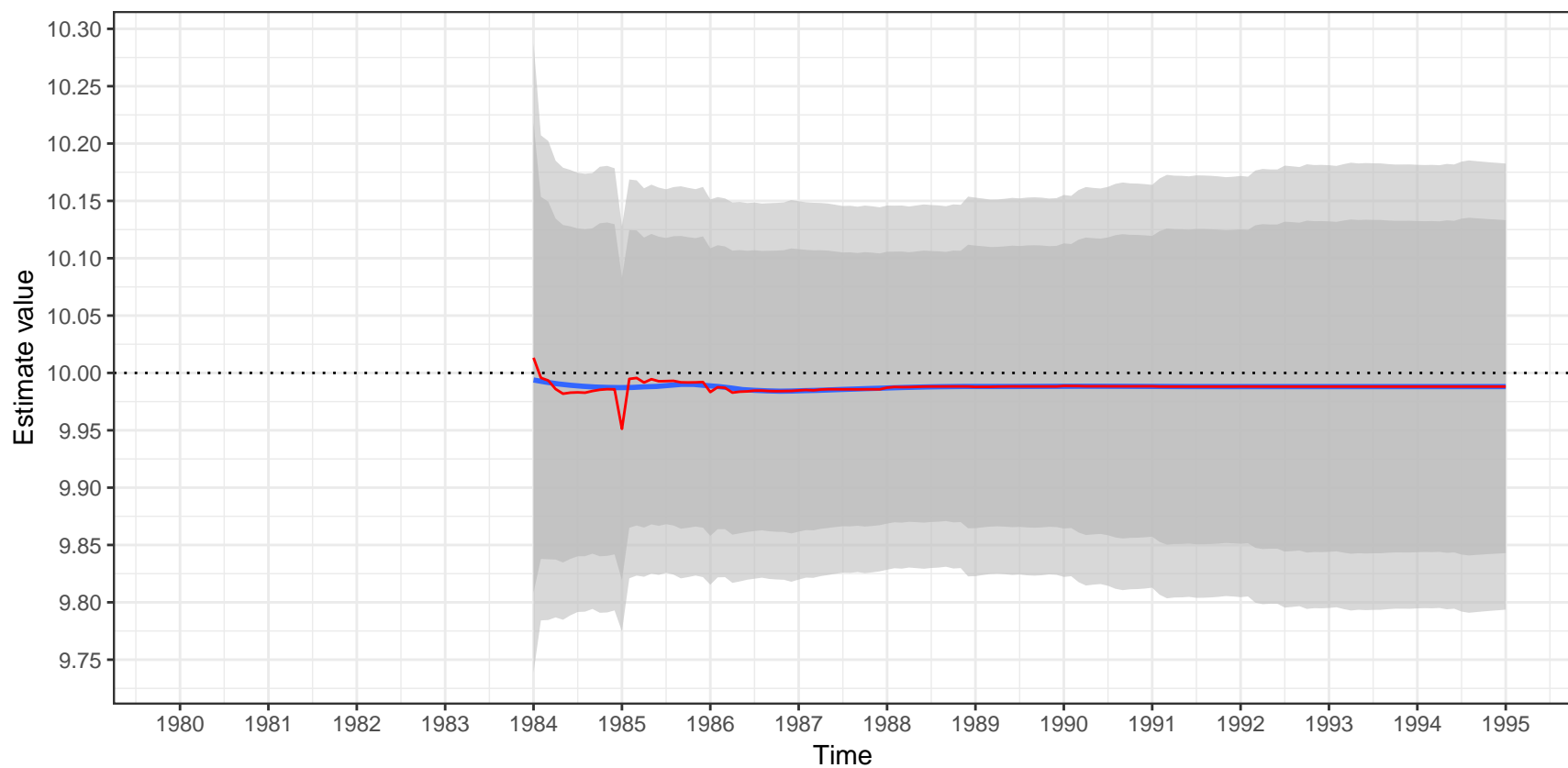


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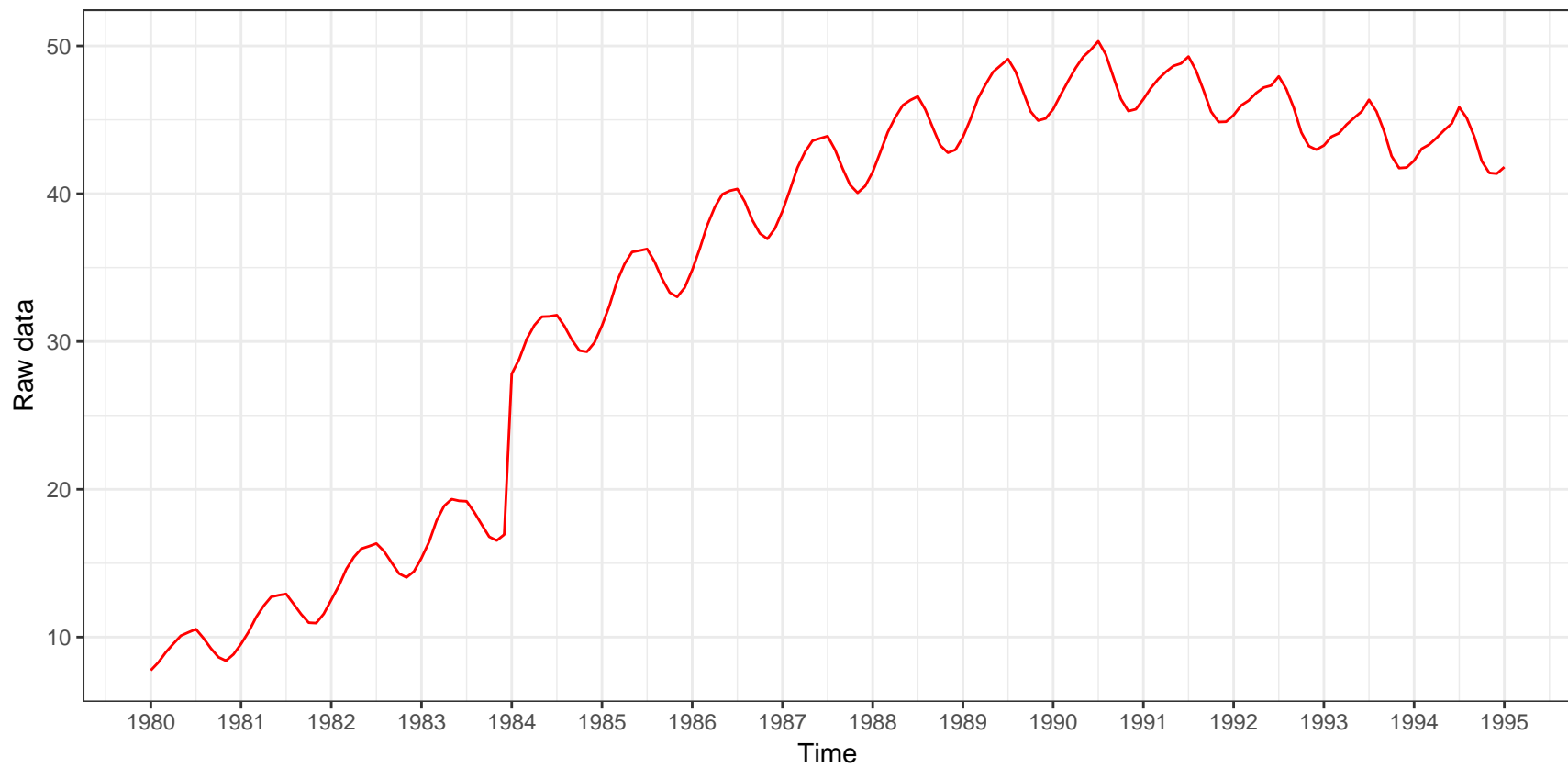


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
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Estimation of the outlier

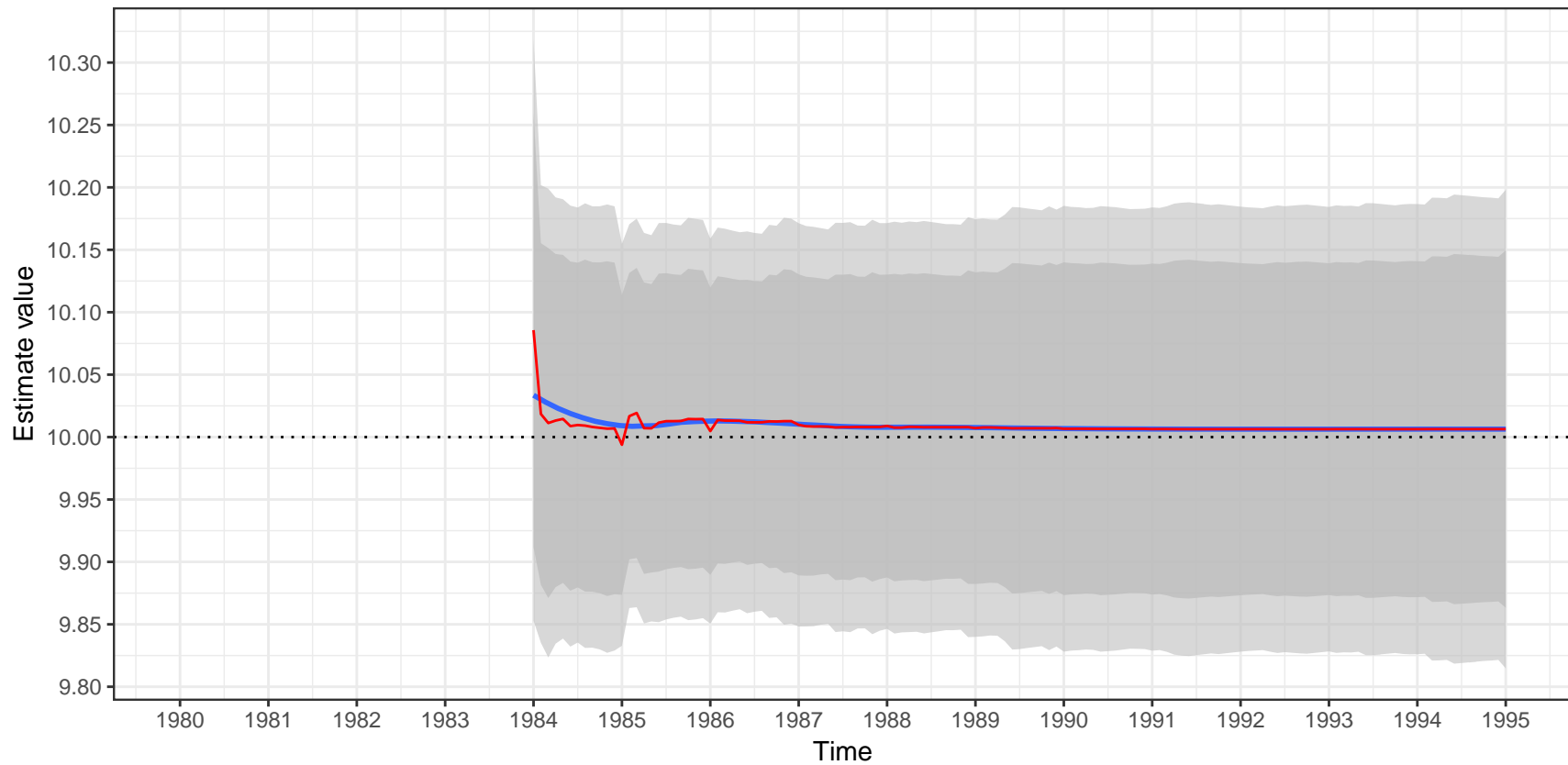


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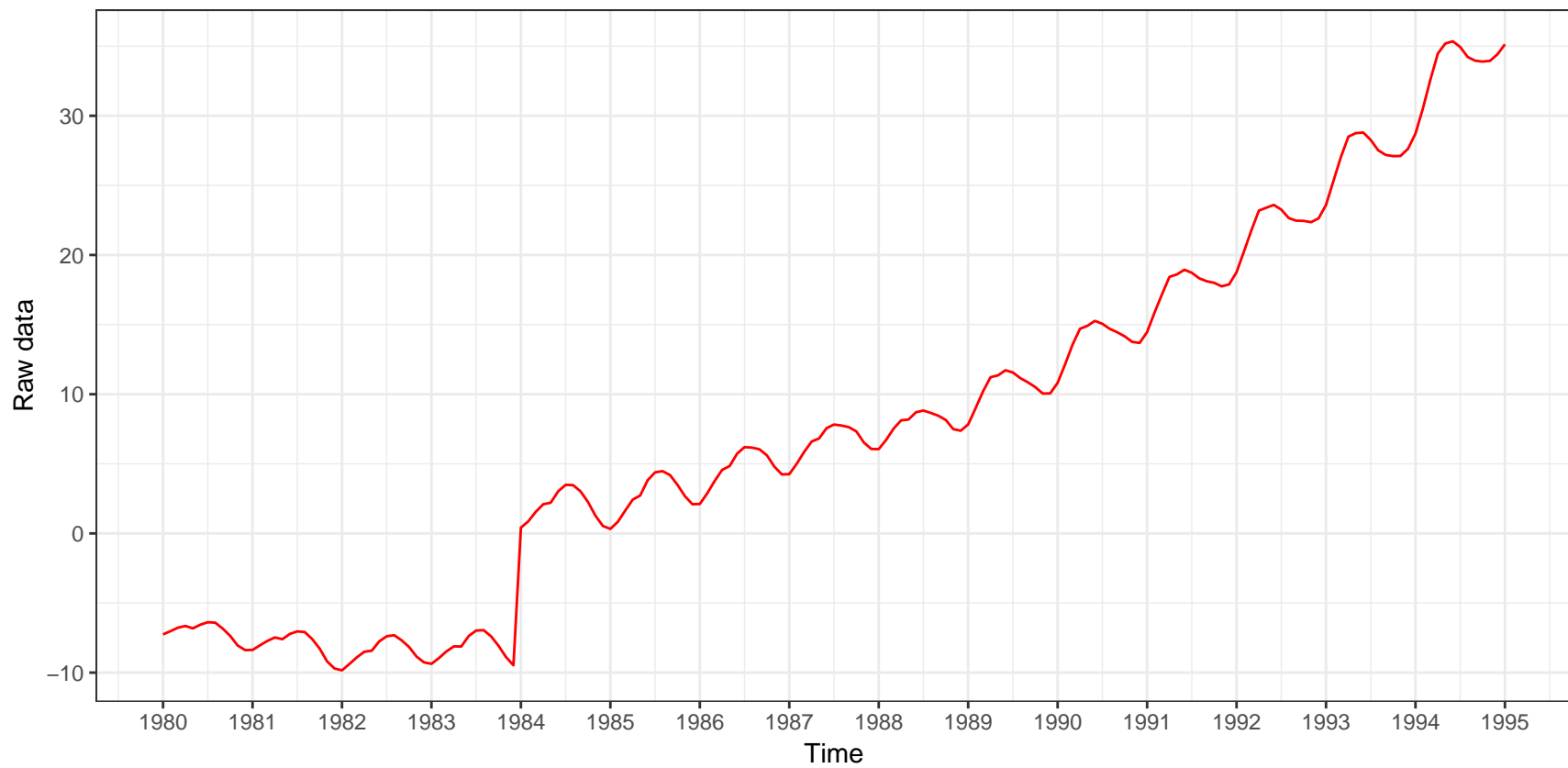


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
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Estimation of the outlier

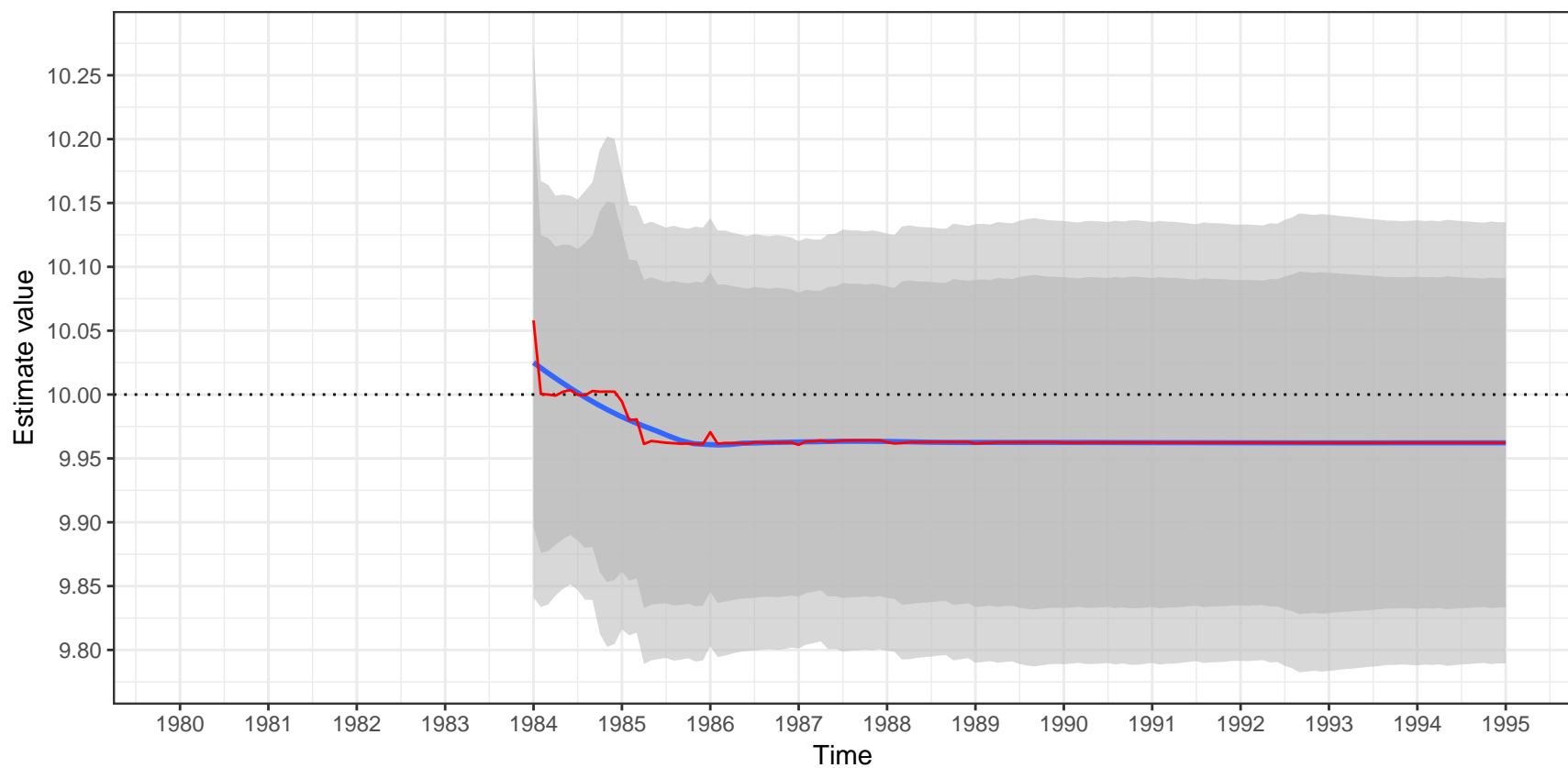


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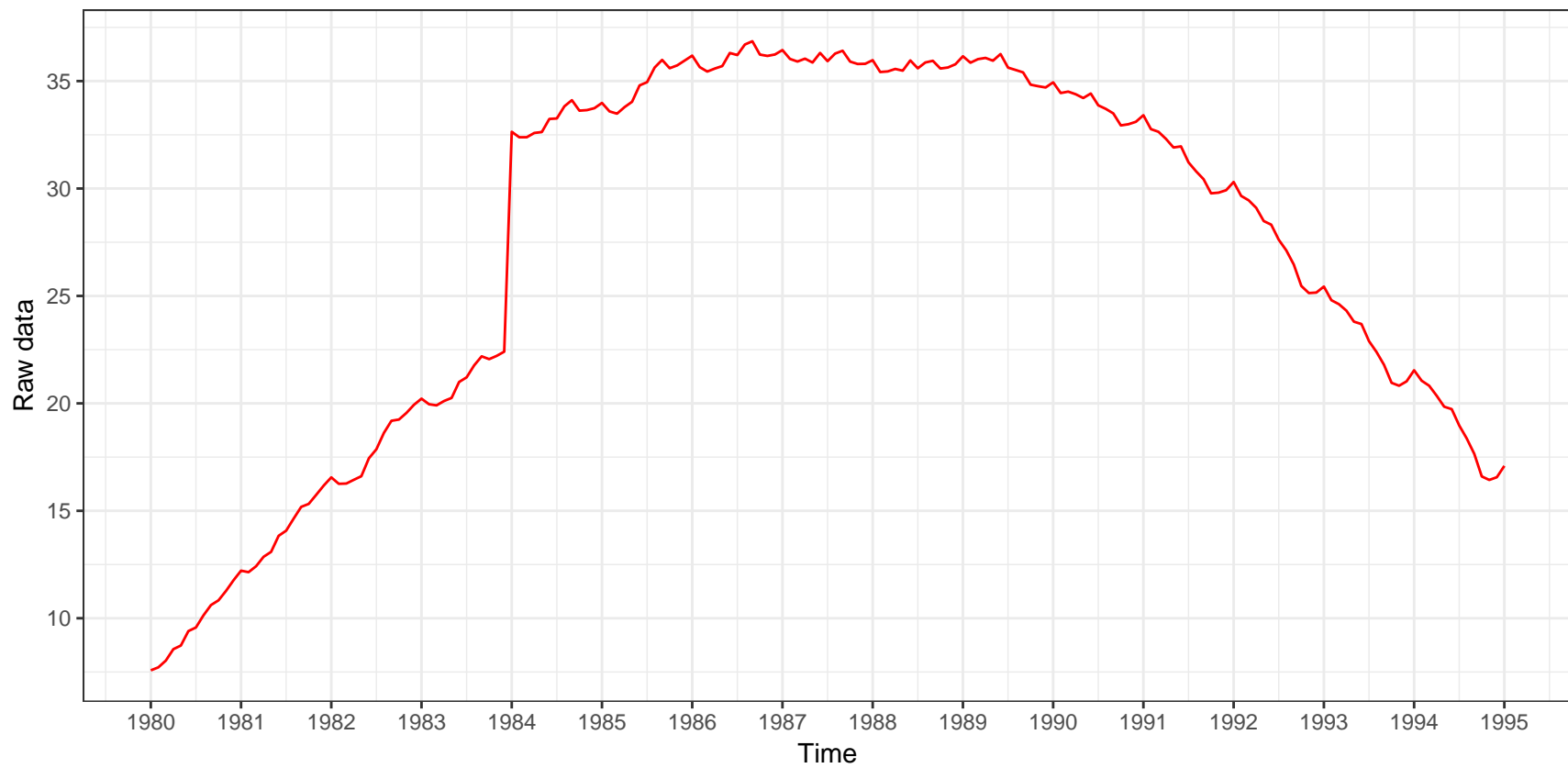


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.4B)X_t=(1+0.4B+0.4B^2)(1-0.4B^{12})a_t$

Estimation of the outlier

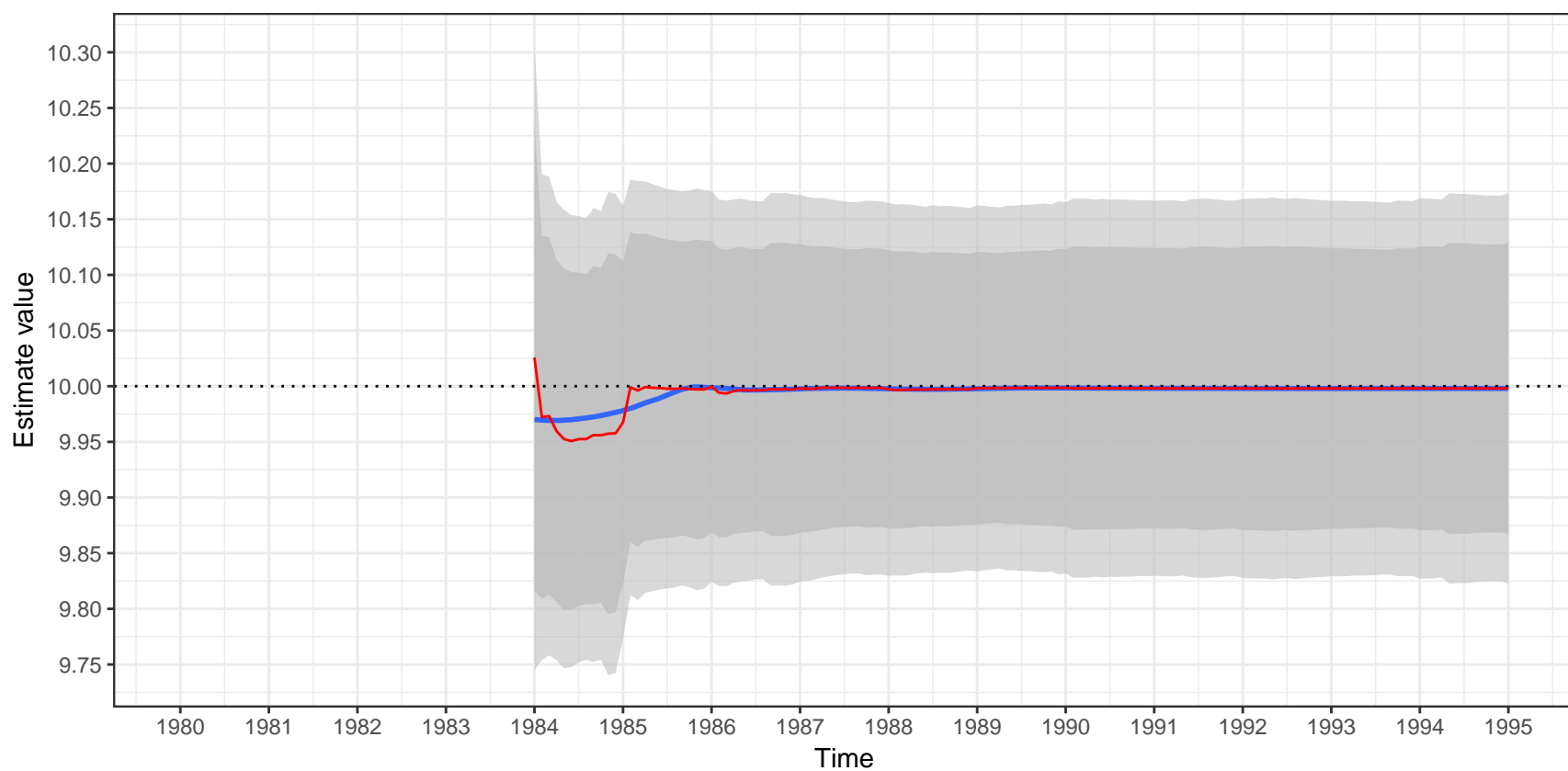


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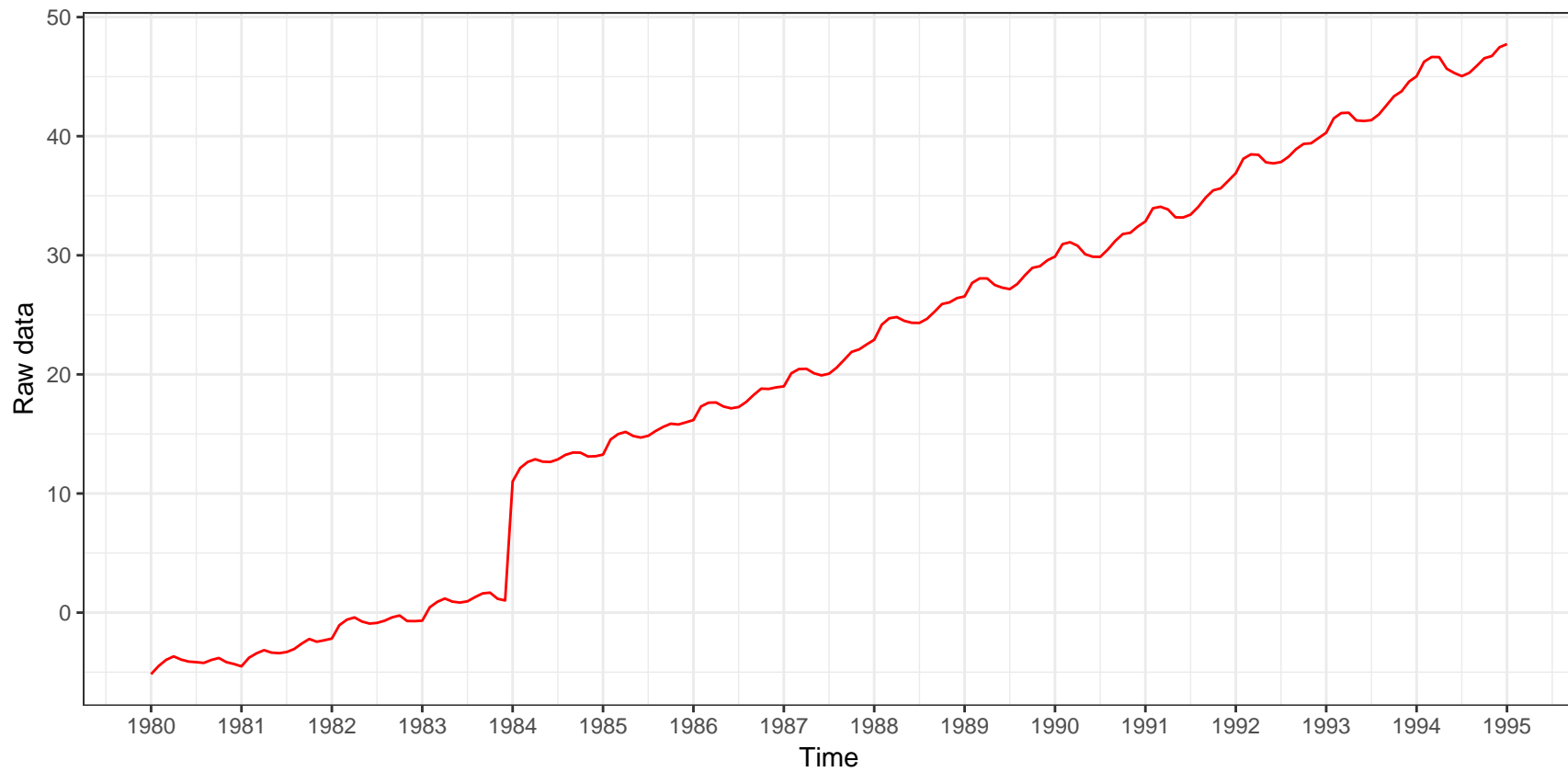


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.4B)X_t = (1+0.4B+0.4B^2)(1-0.4B^{12})a_t$

Estimation of the outlier

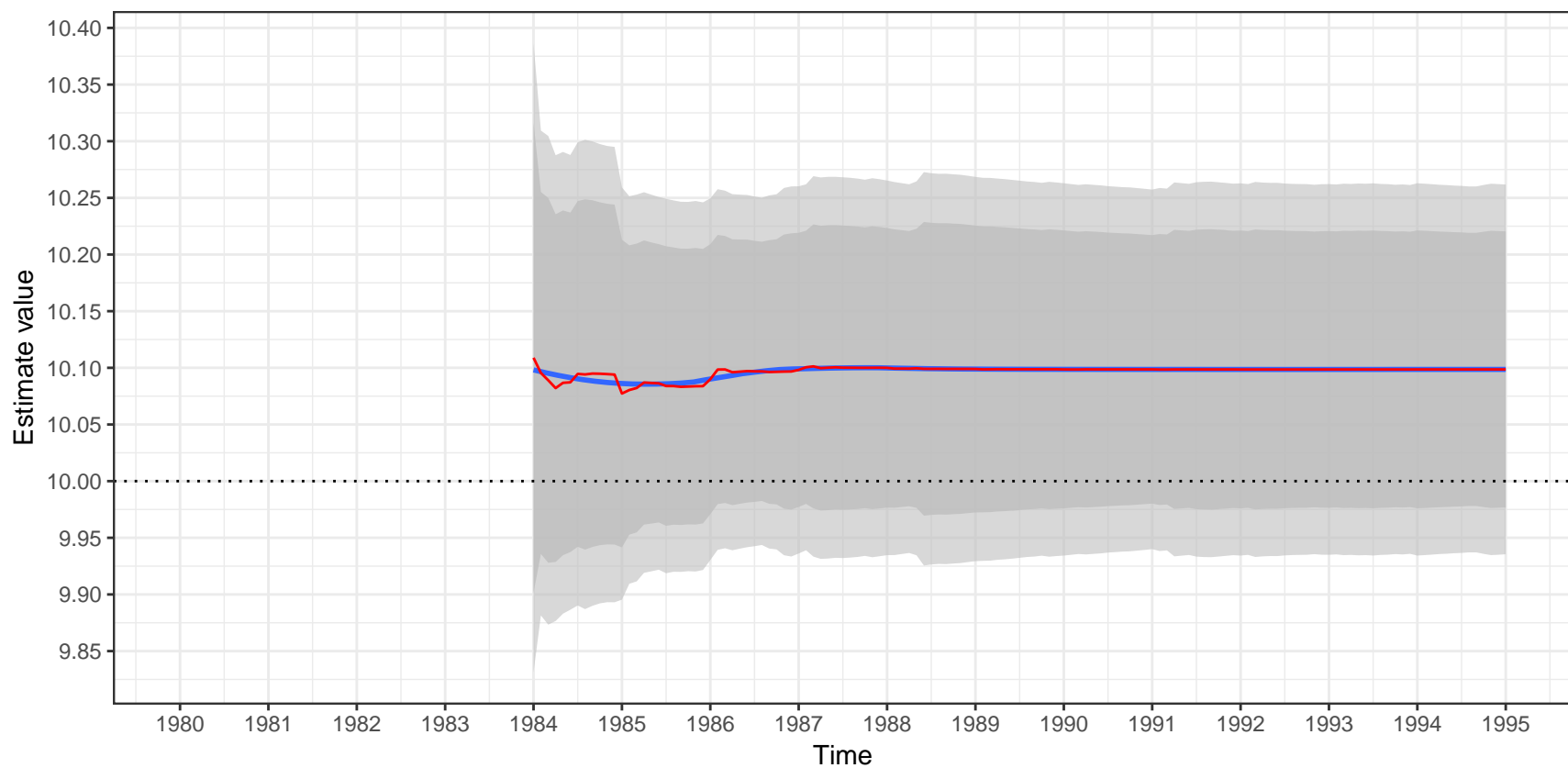


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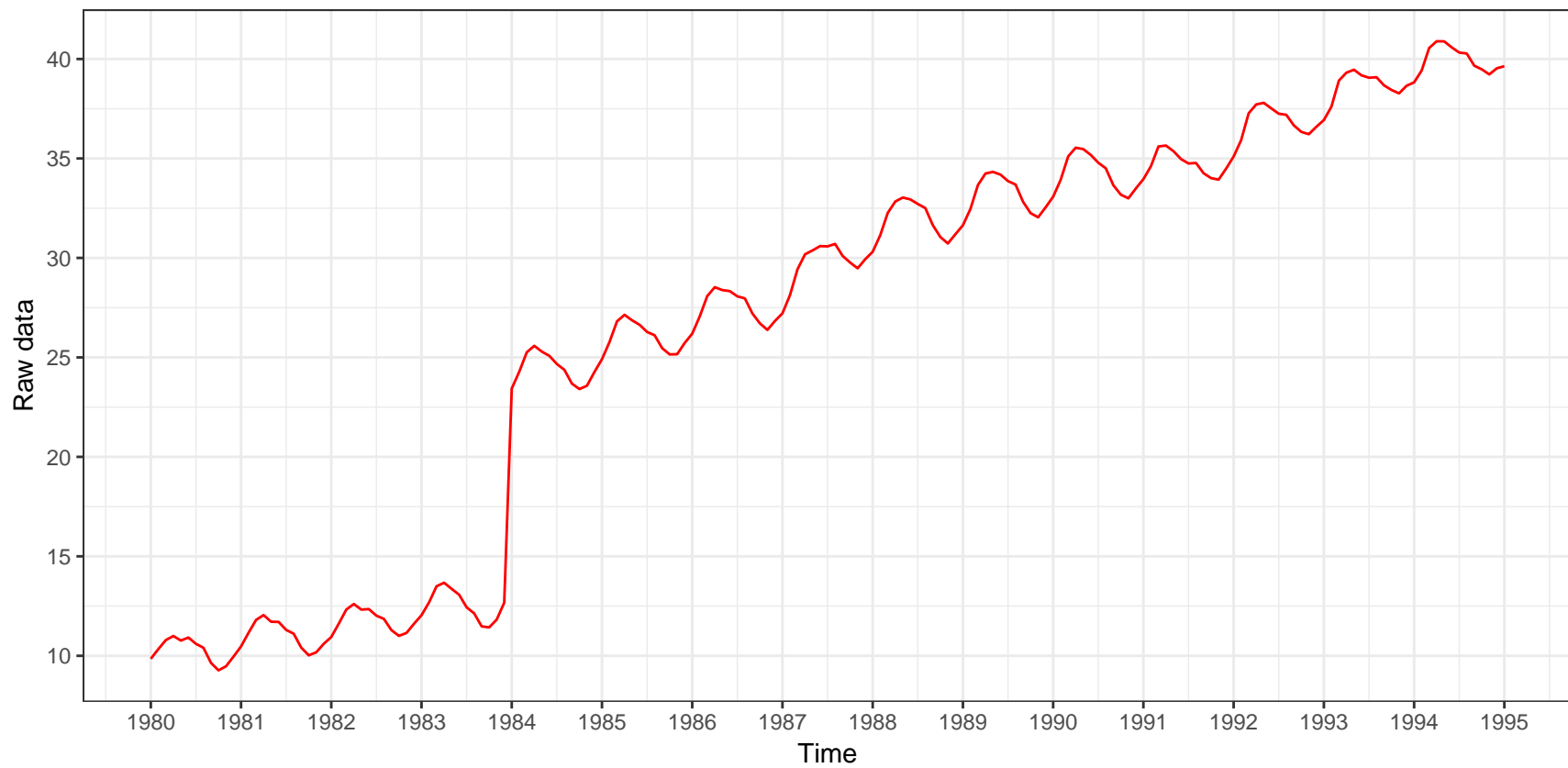


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
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Estimation of the outlier

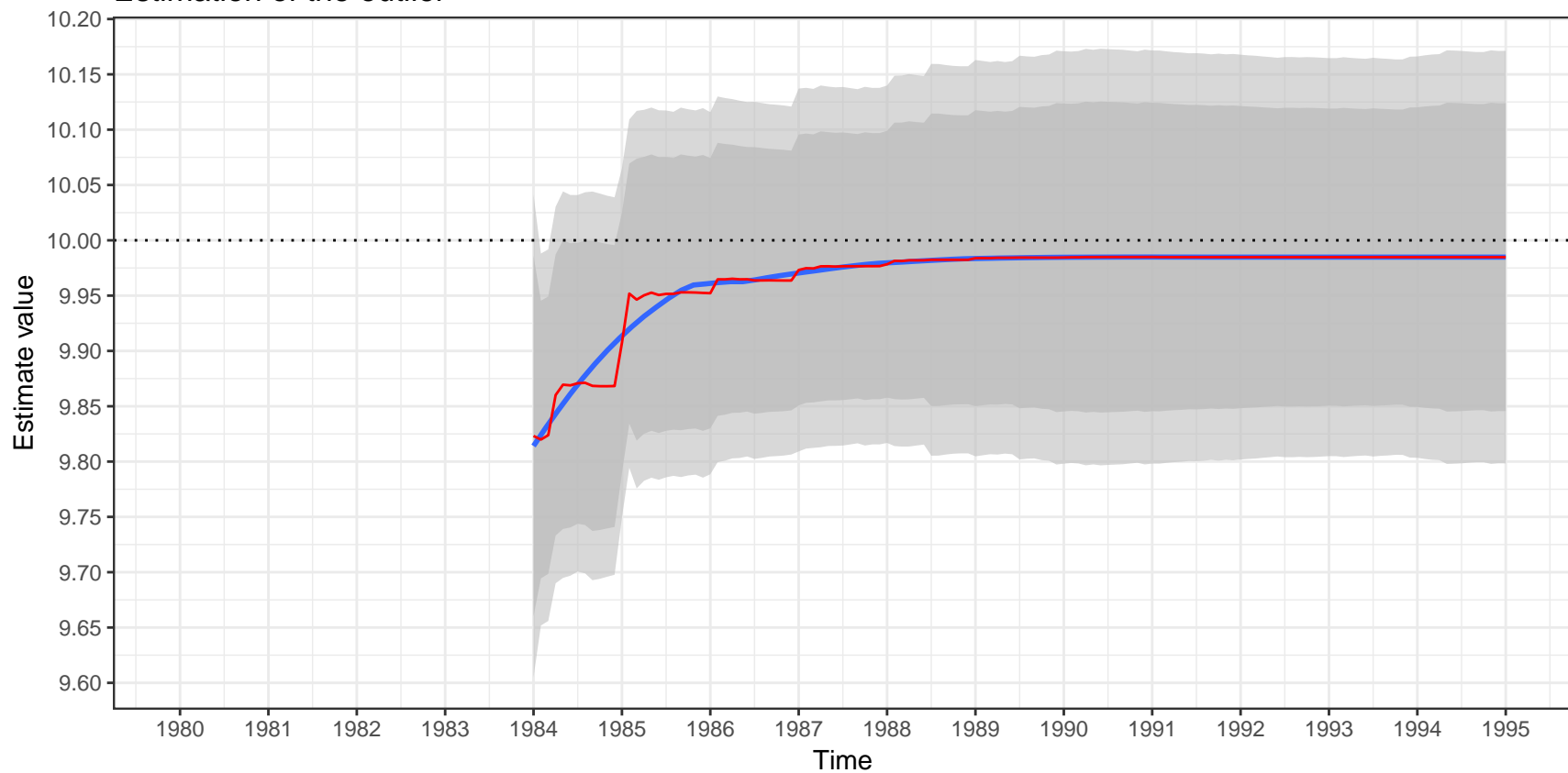


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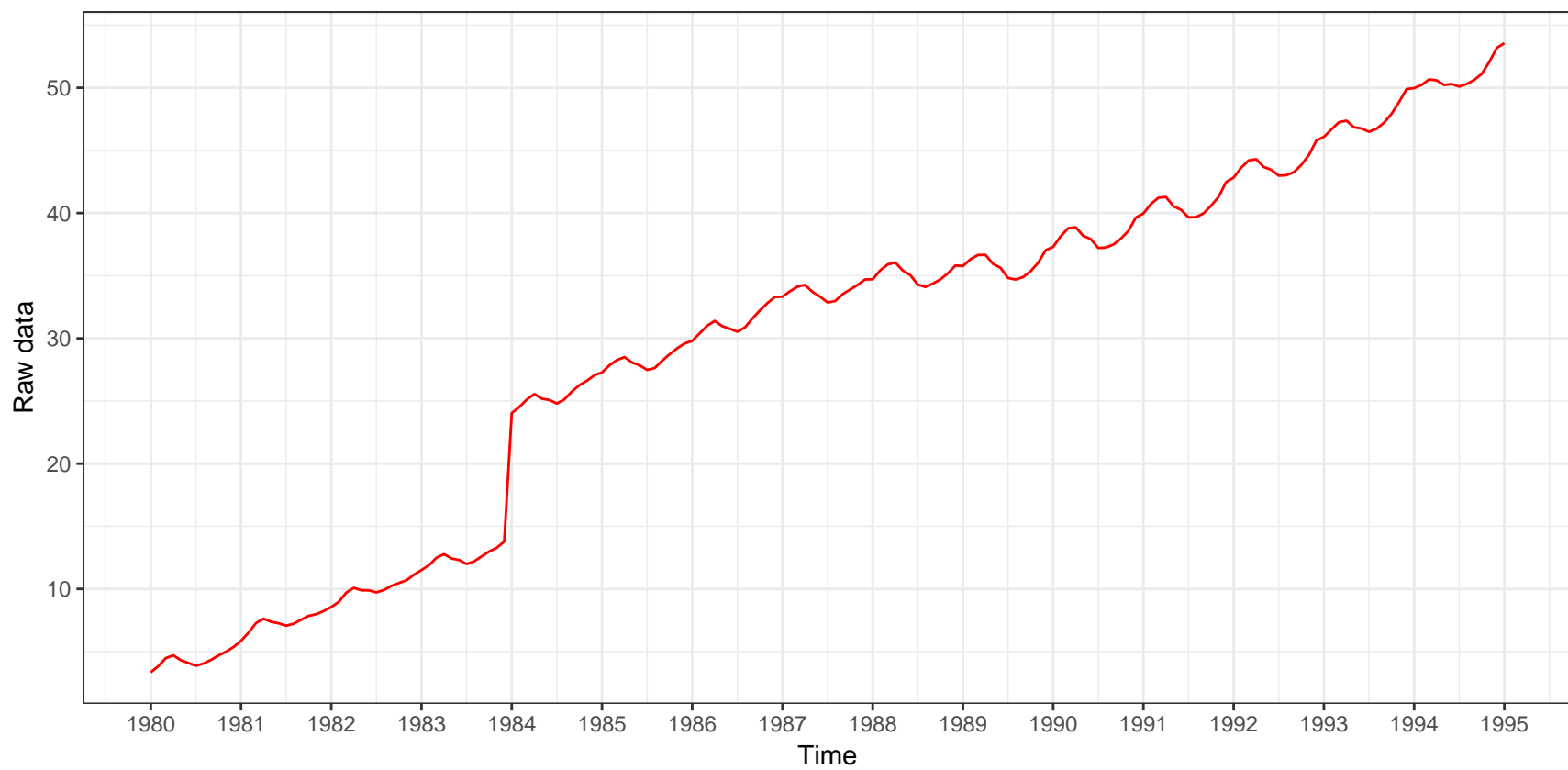


Estimate value of a LS(1984-01)
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Estimation of the outlier

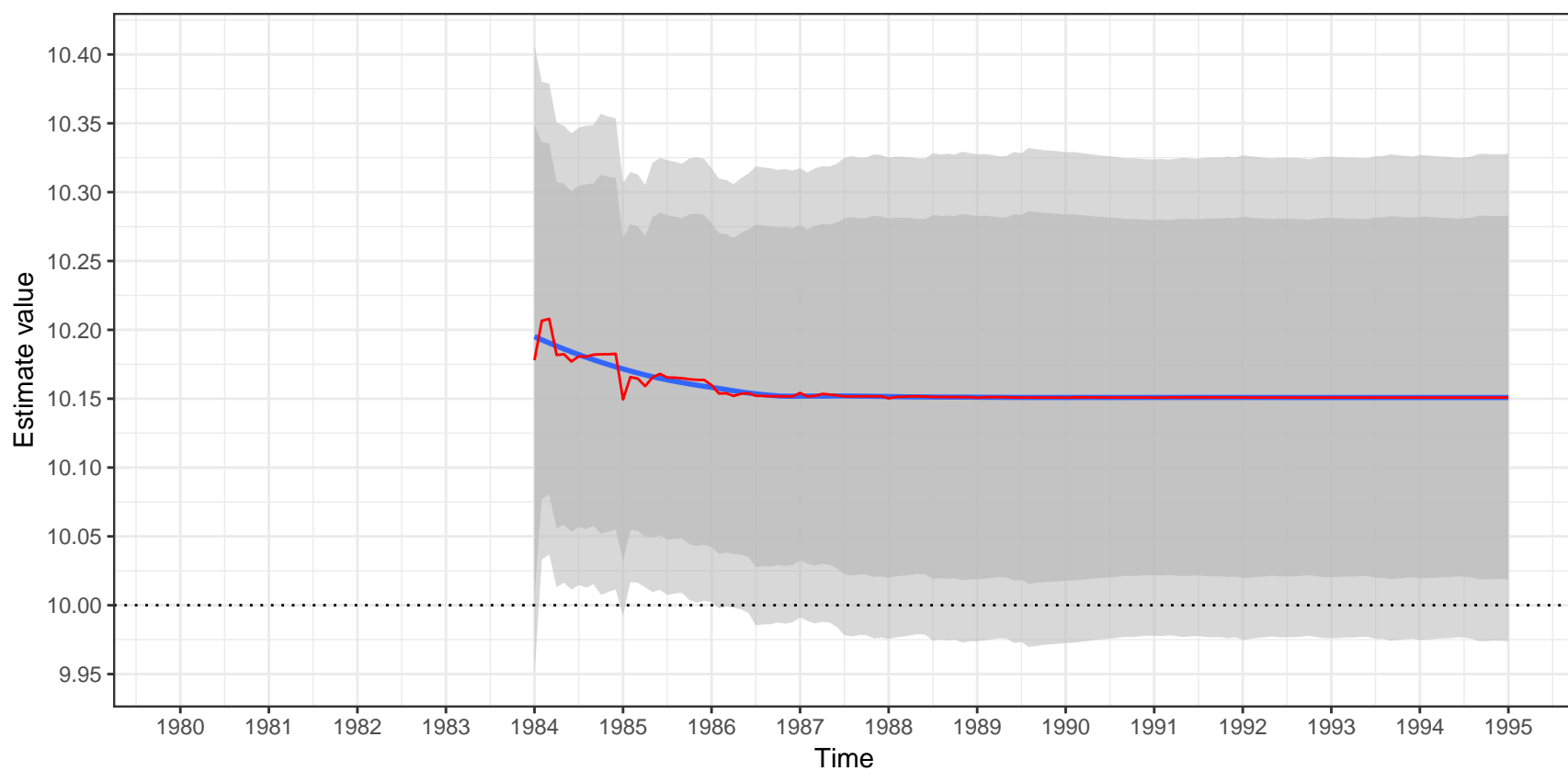


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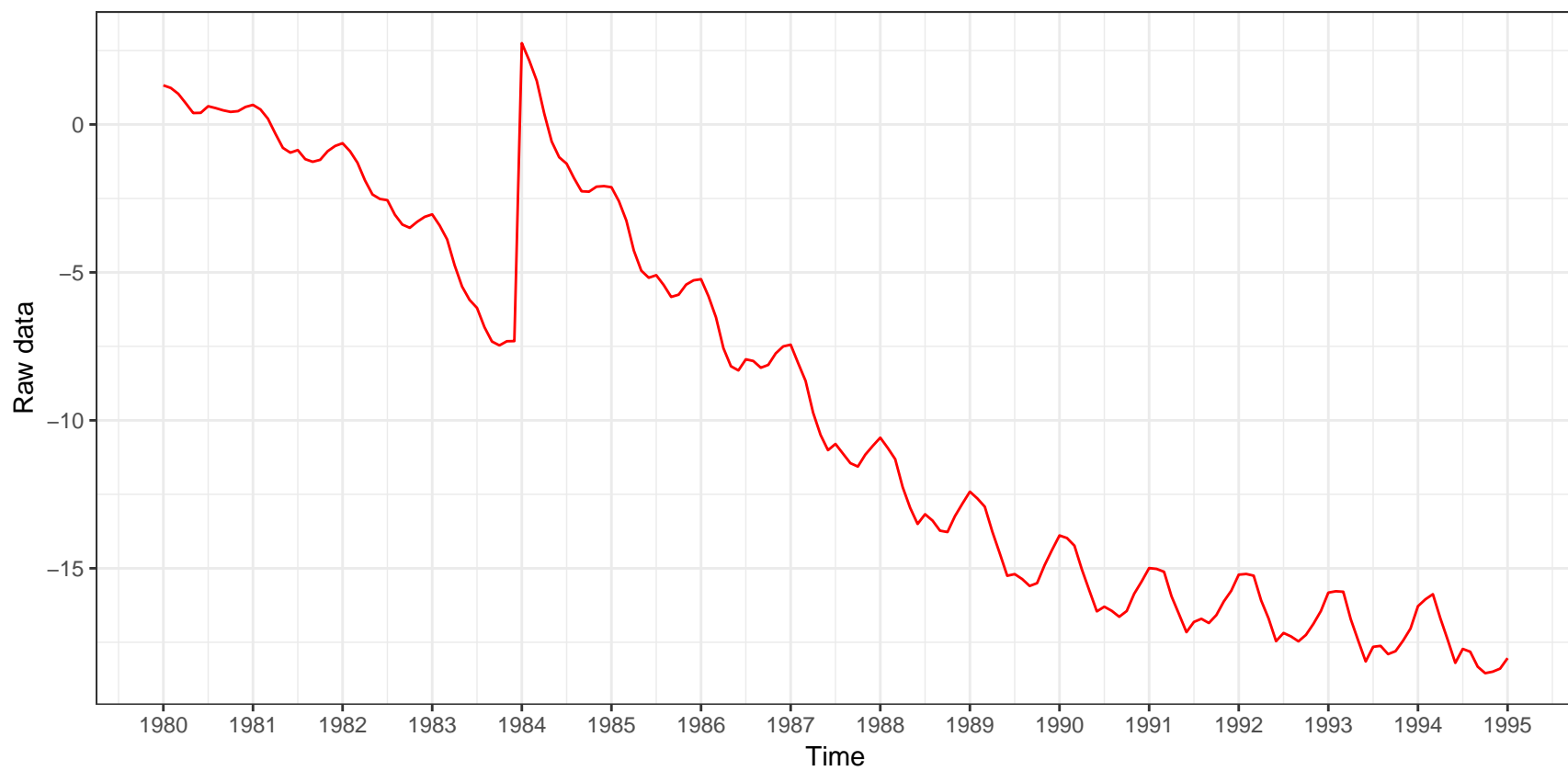


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.4B)X_t=(1+0.4B+0.4B^2)(1-0.4B^{12})a_t$

Estimation of the outlier

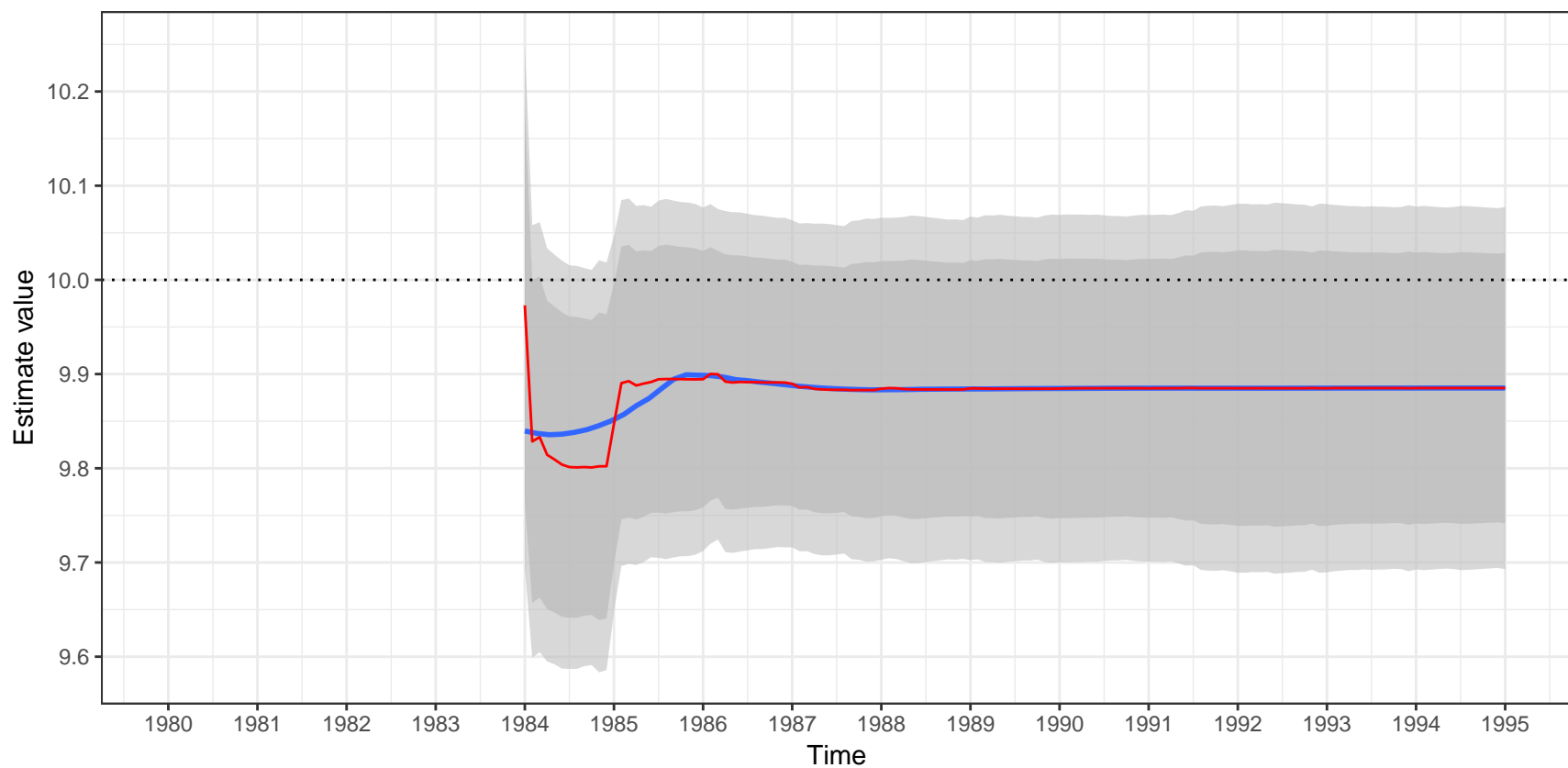


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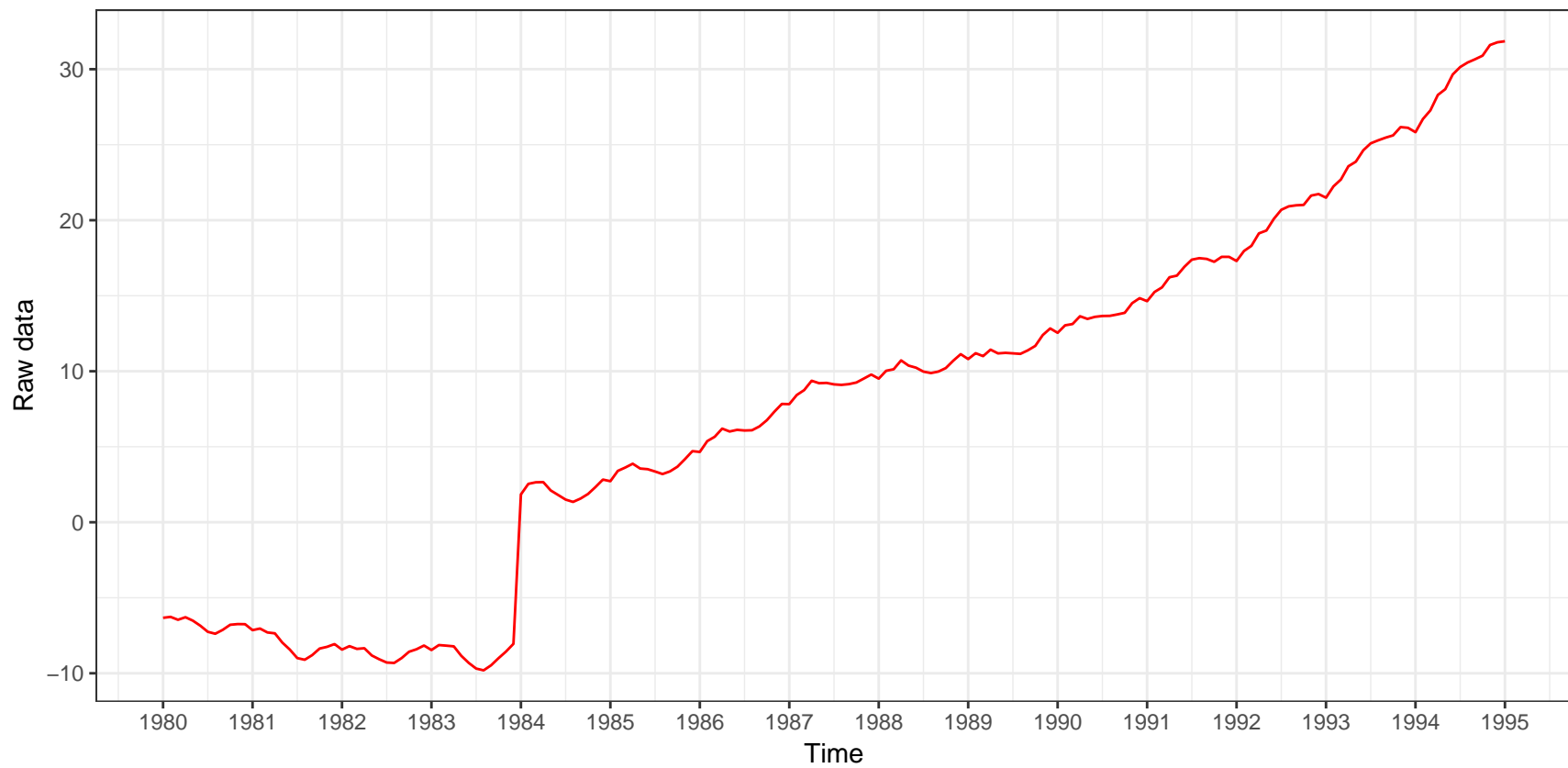


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
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Estimation of the outlier

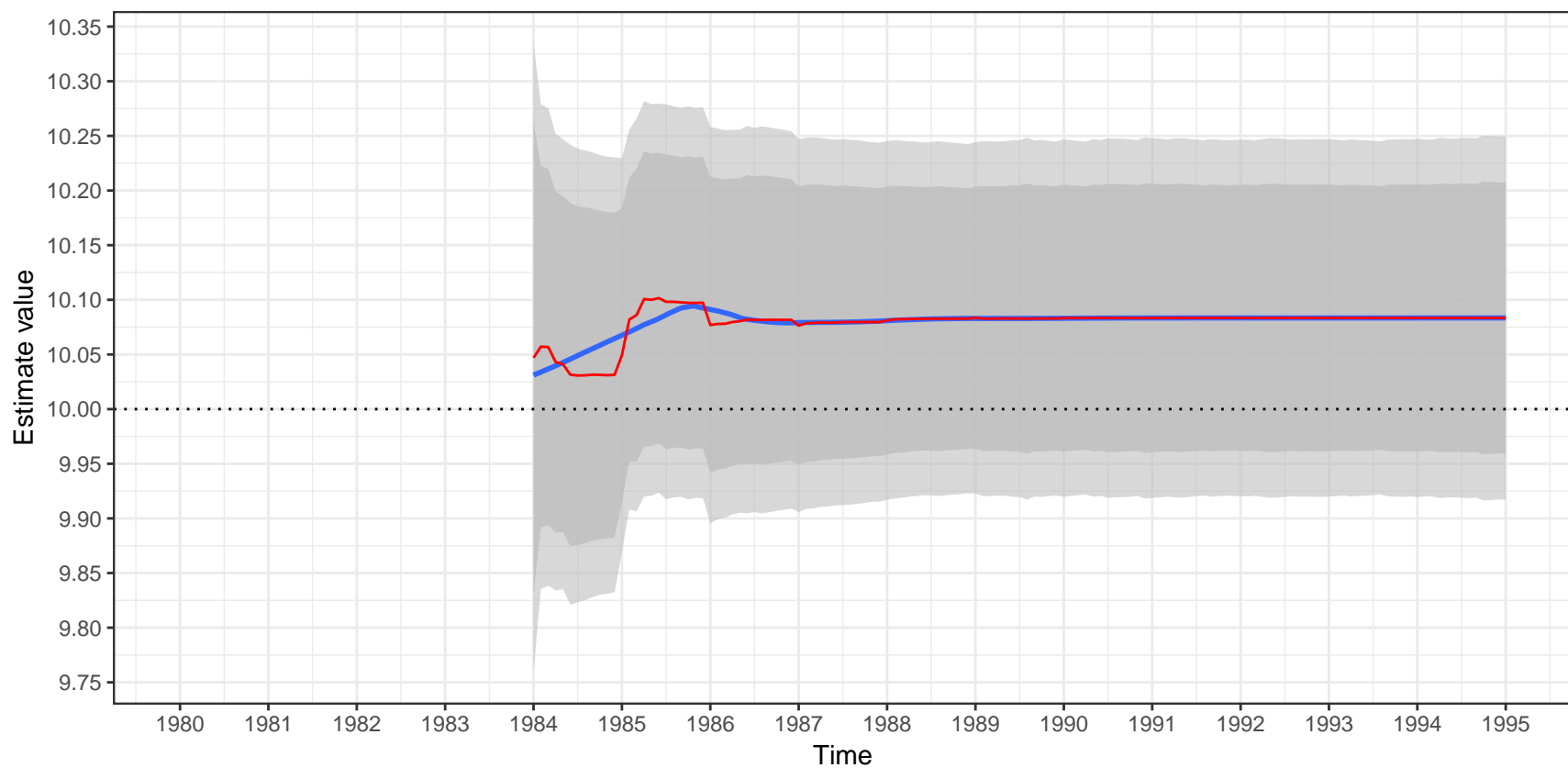


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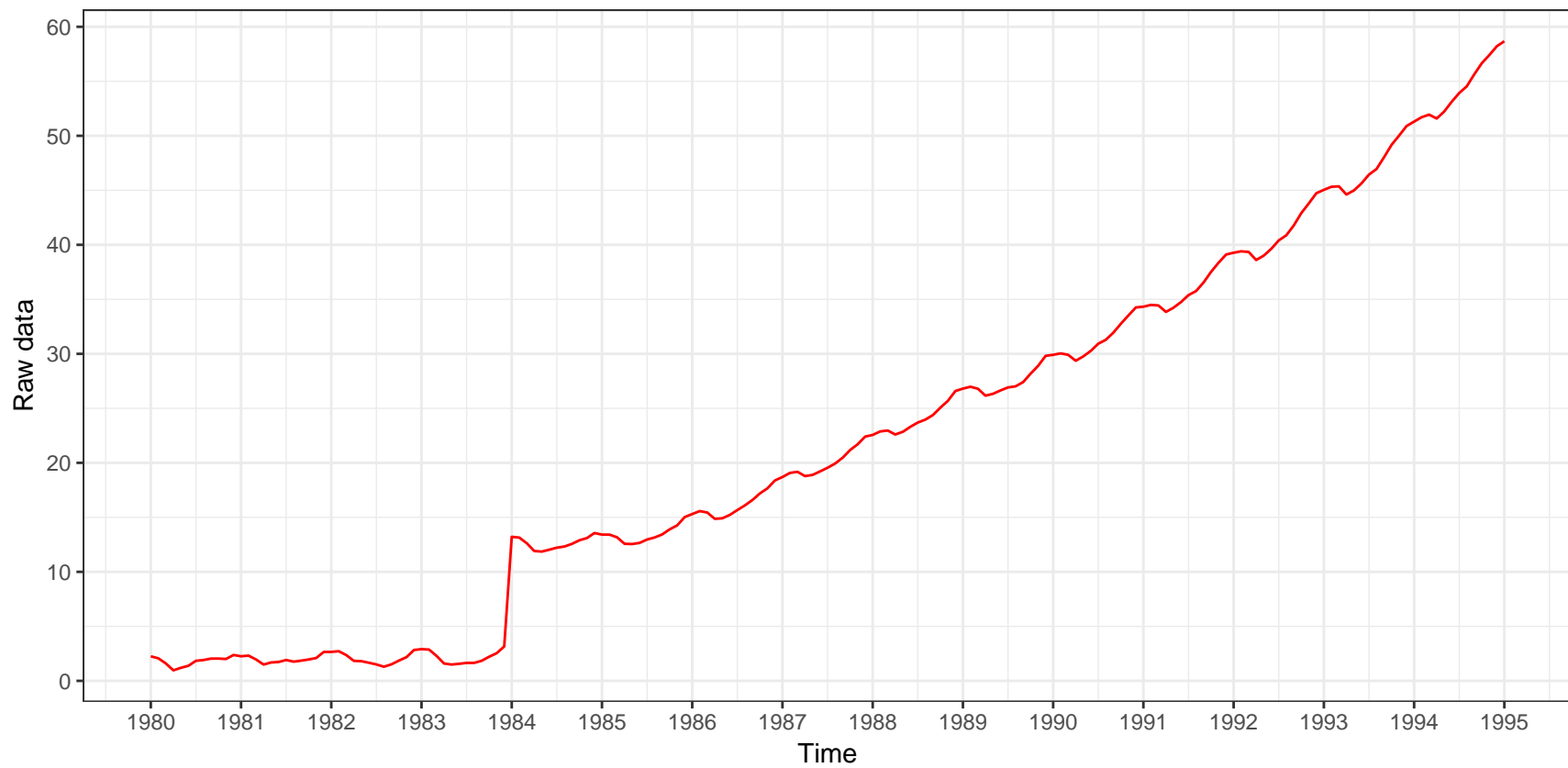


Estimate value of a LS(1984-01)
ARIMA (1,1,2)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1-0.4B)X_t=(1+0.4B+0.4B^2)(1-0.4B^{12})a_t$

Estimation of the outlier

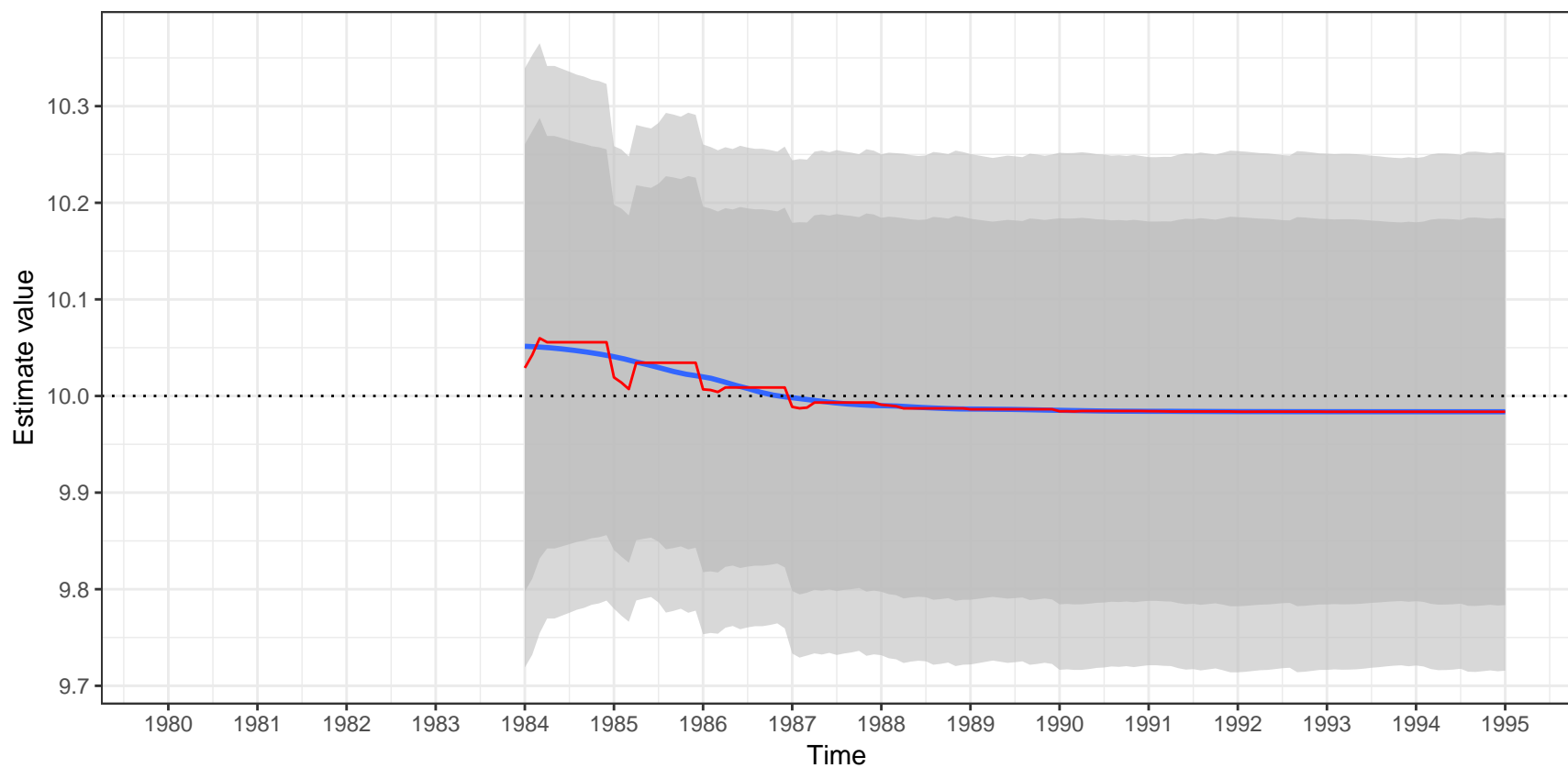


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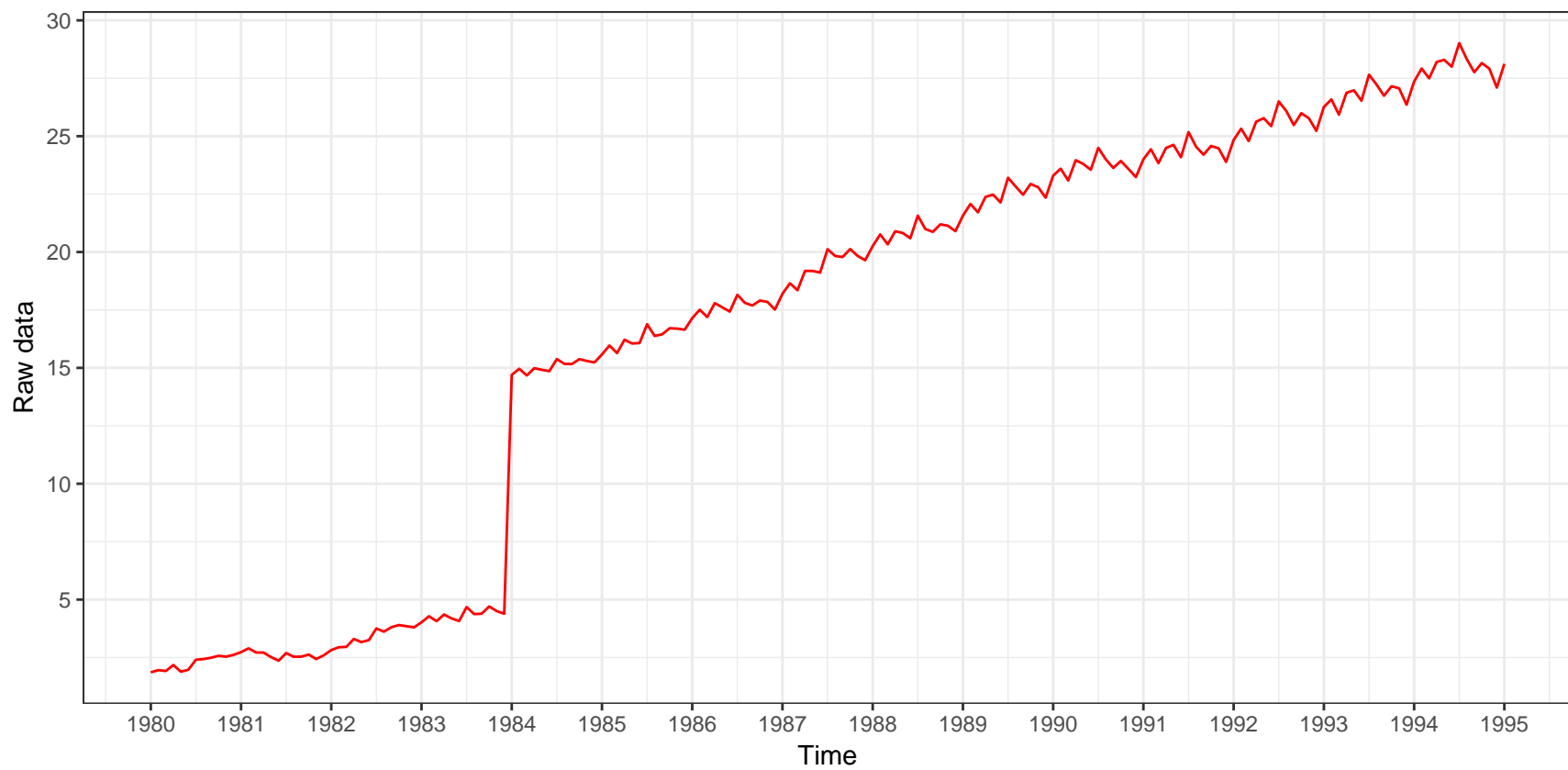


Estimate value of a LS(1984-01)
 ARIMA (3,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1+0.10B-0.17B^2-0.34B^3)X_t=(1-0.48B^{12})a_t$

Estimation of the outlier

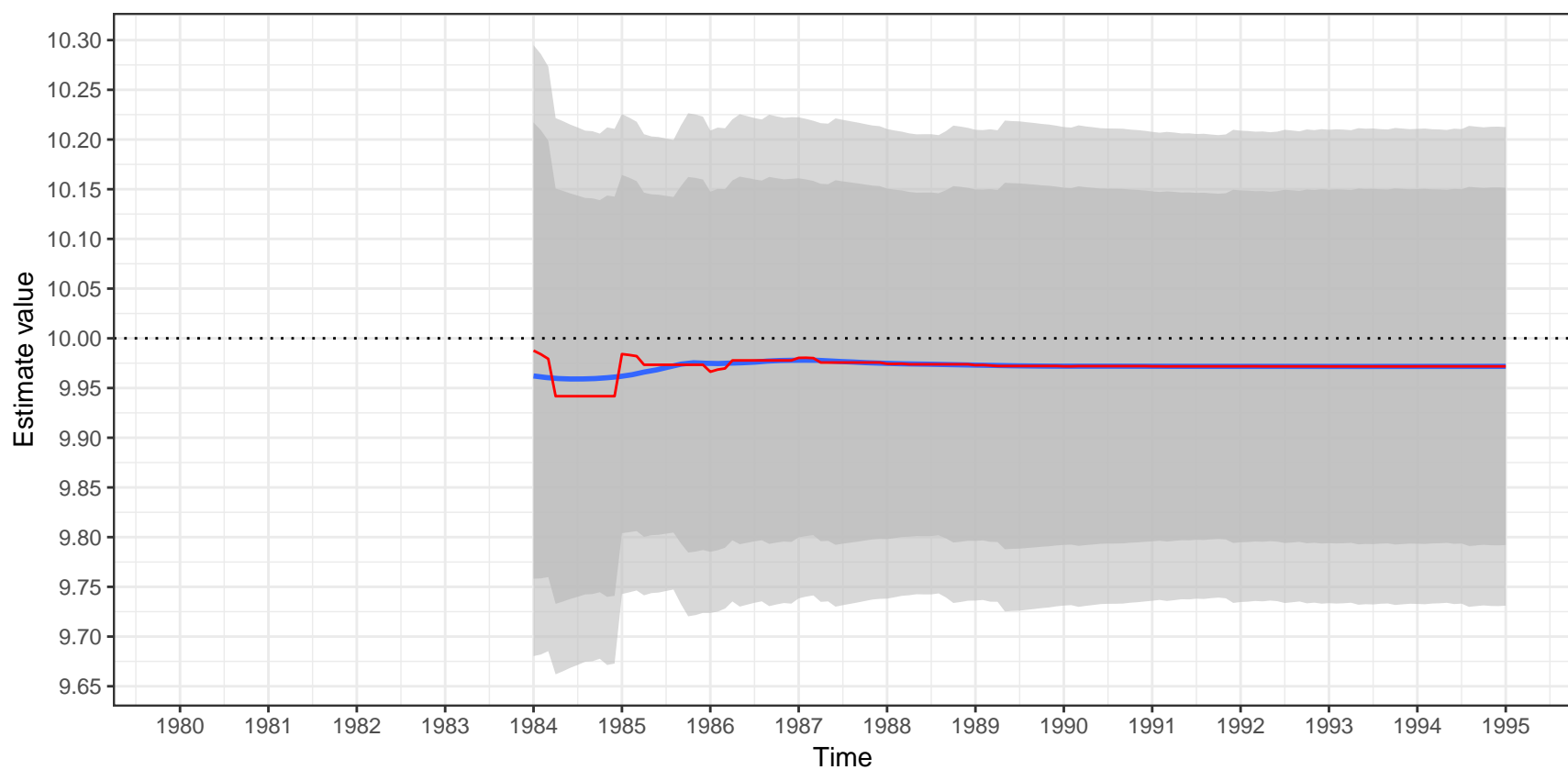


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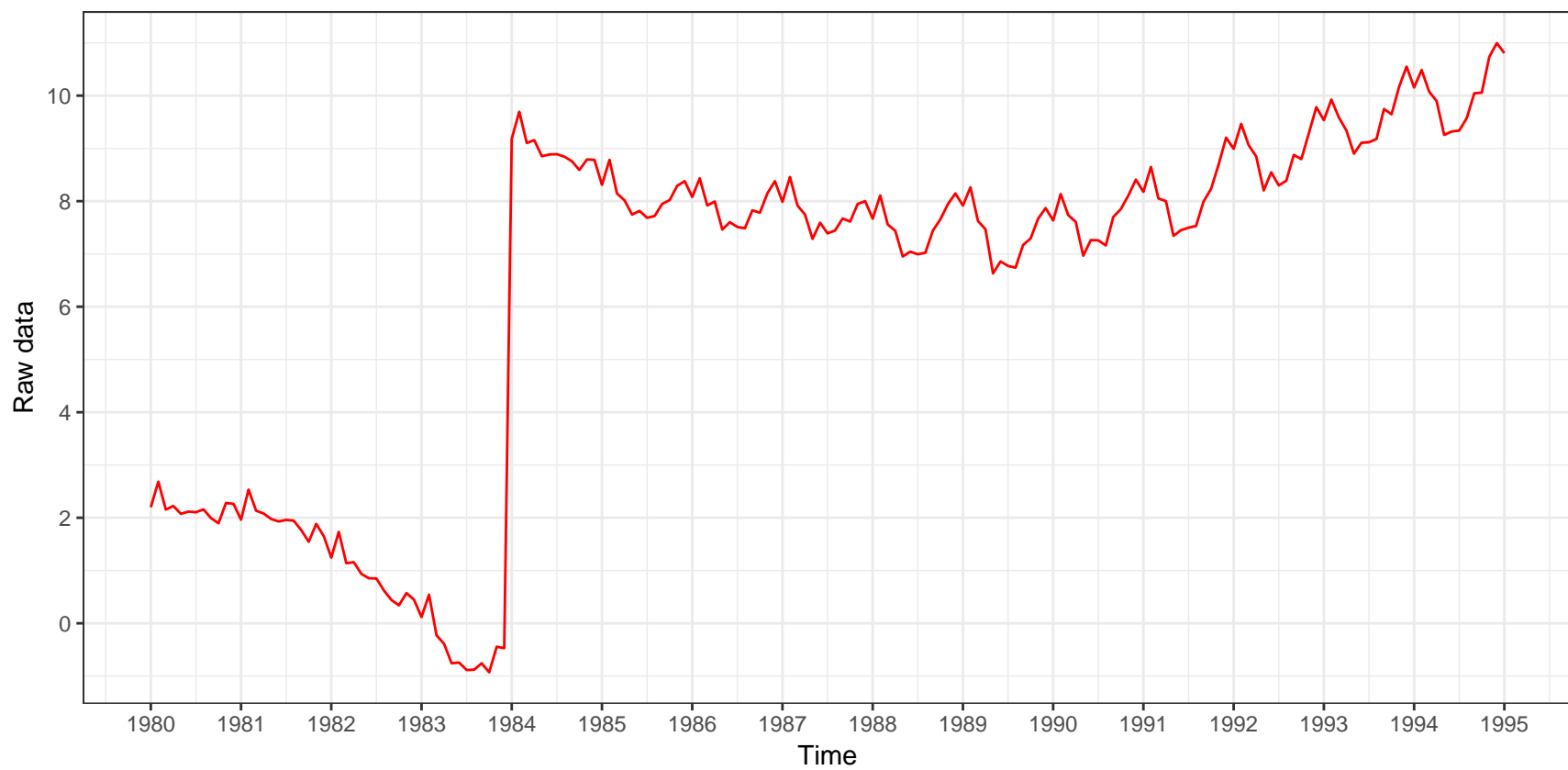


Estimate value of a LS(1984-01)
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Estimation of the outlier

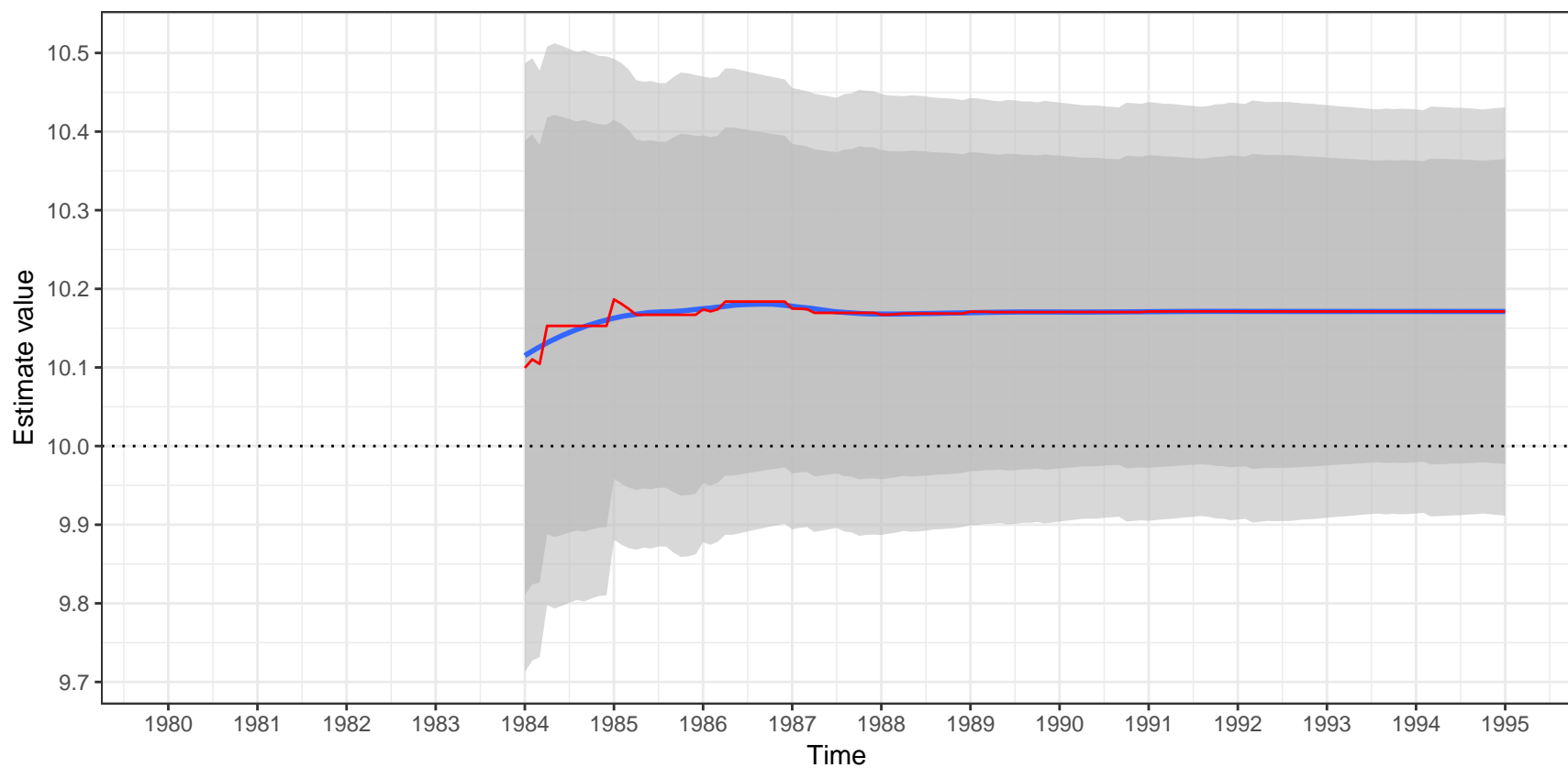


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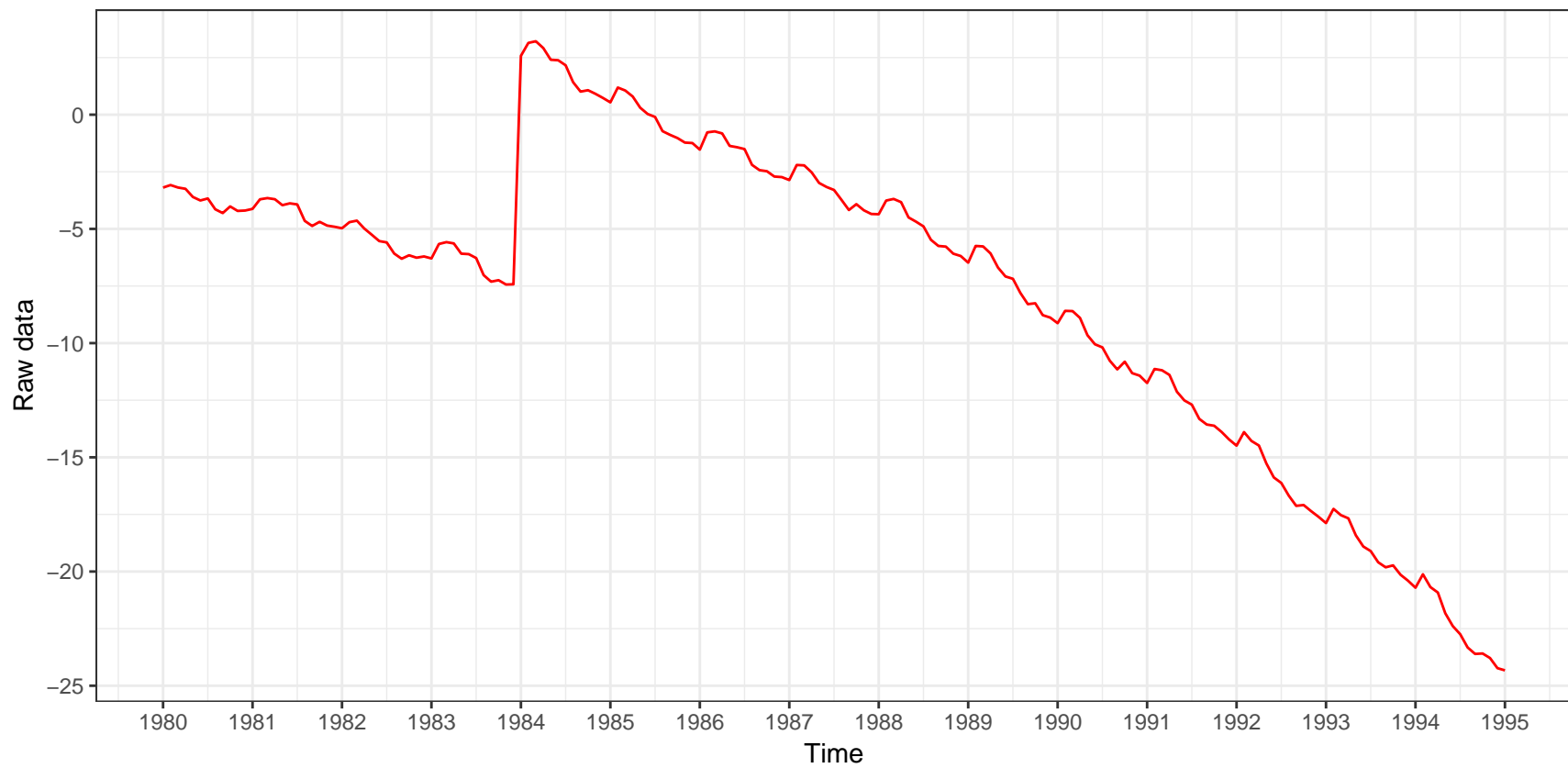


Estimate value of a LS(1984-01)
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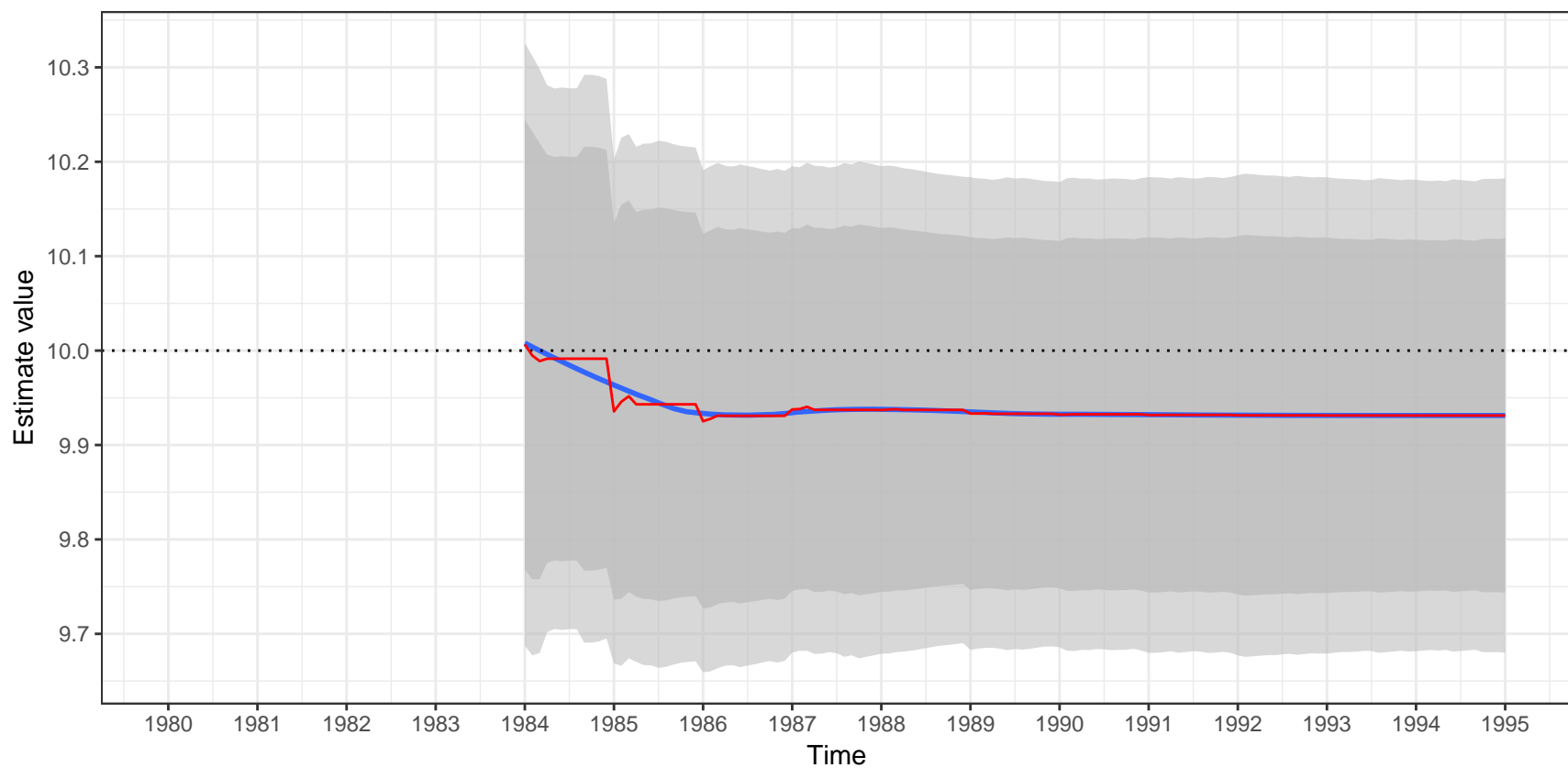


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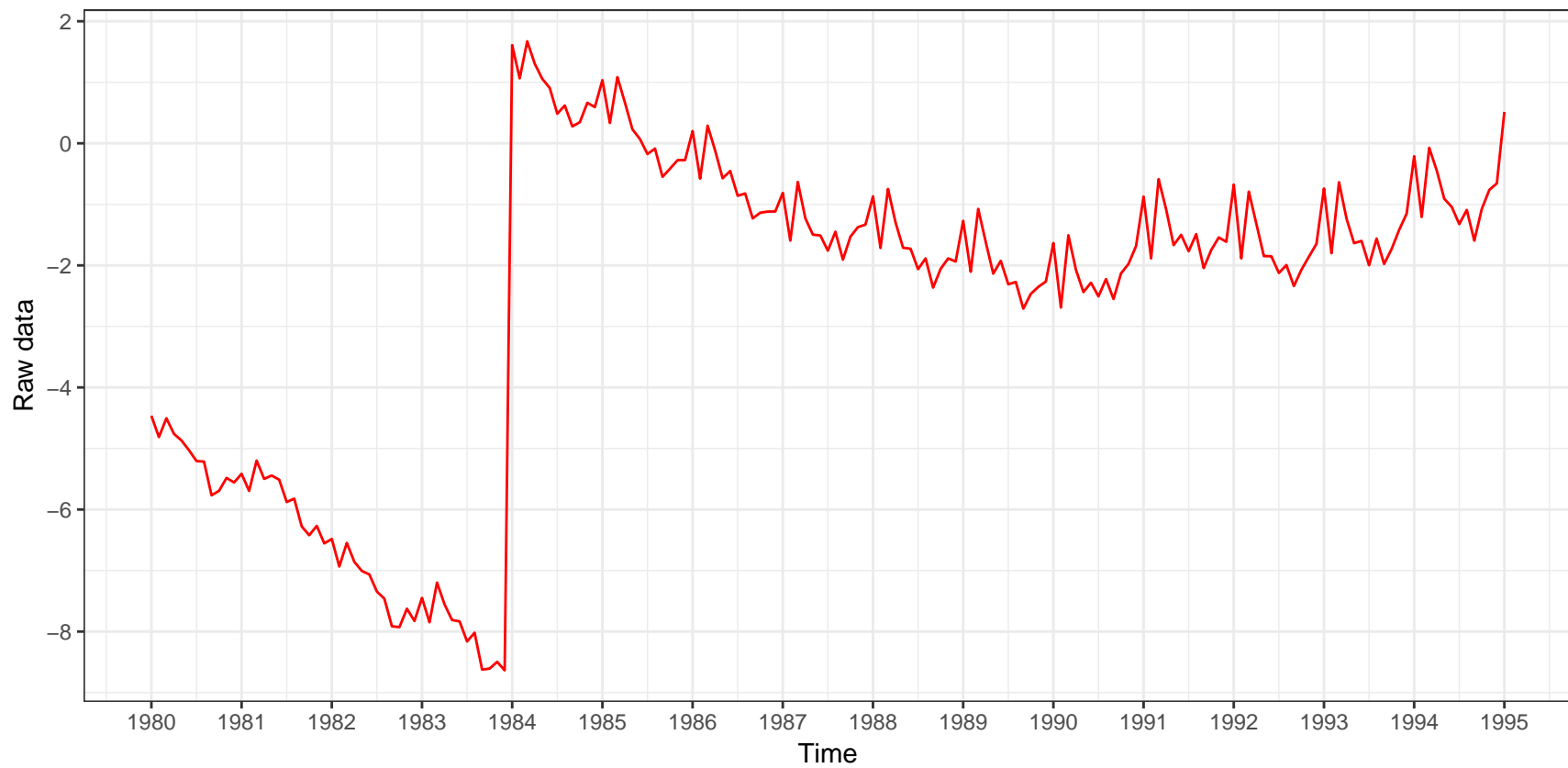


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Estimation of the outlier

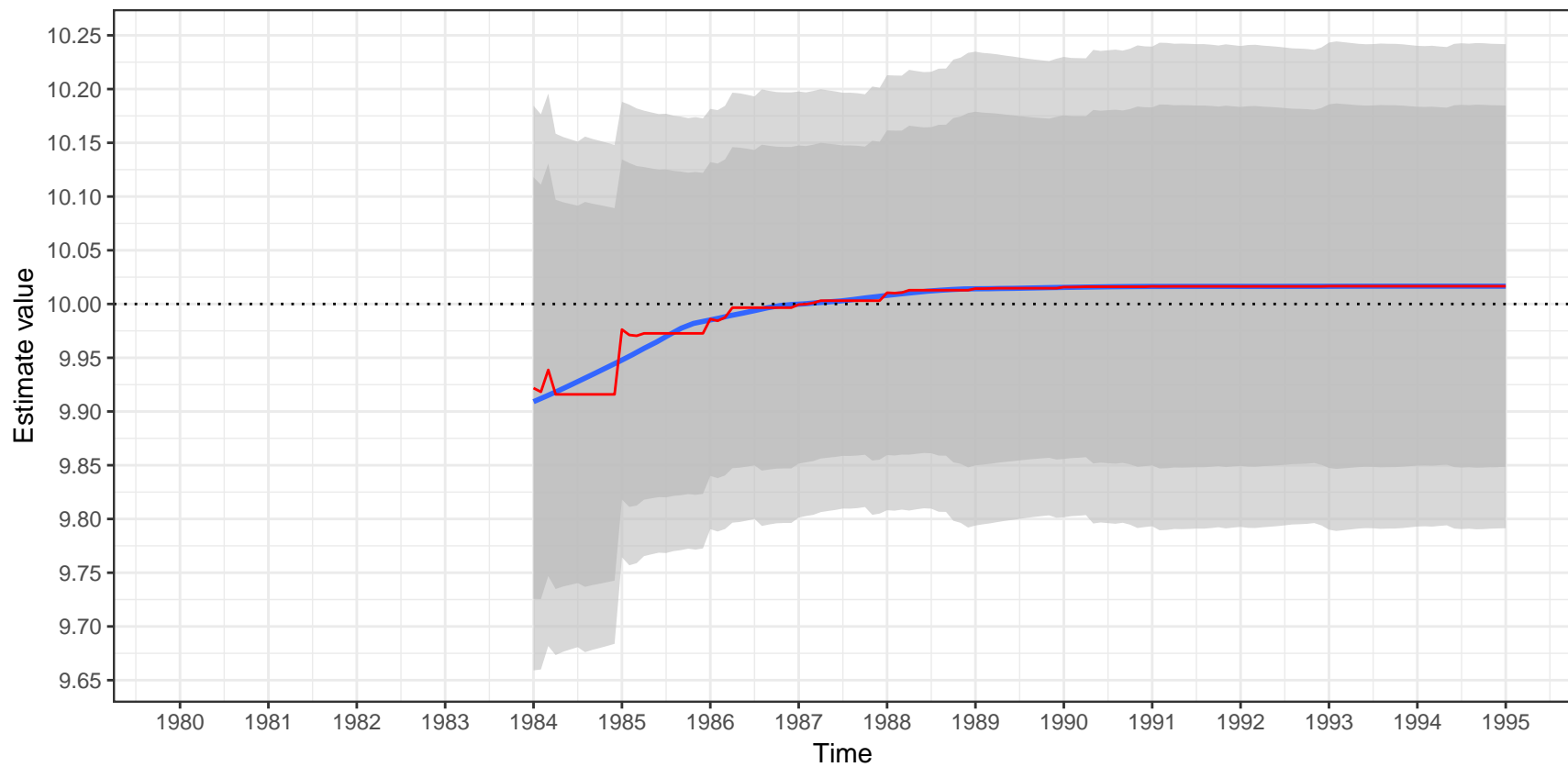


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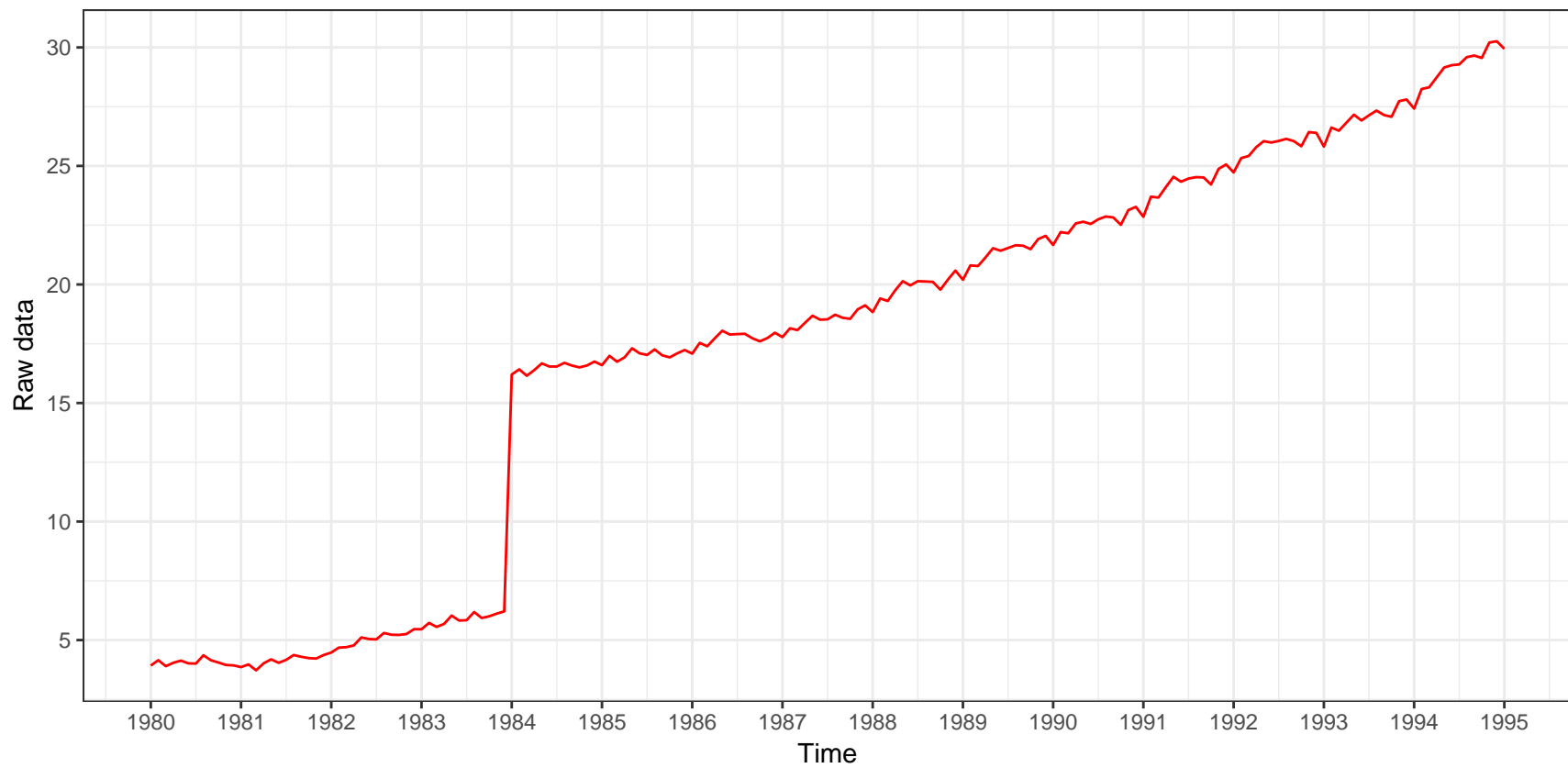


Estimate value of a LS(1984-01)
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Estimation of the outlier

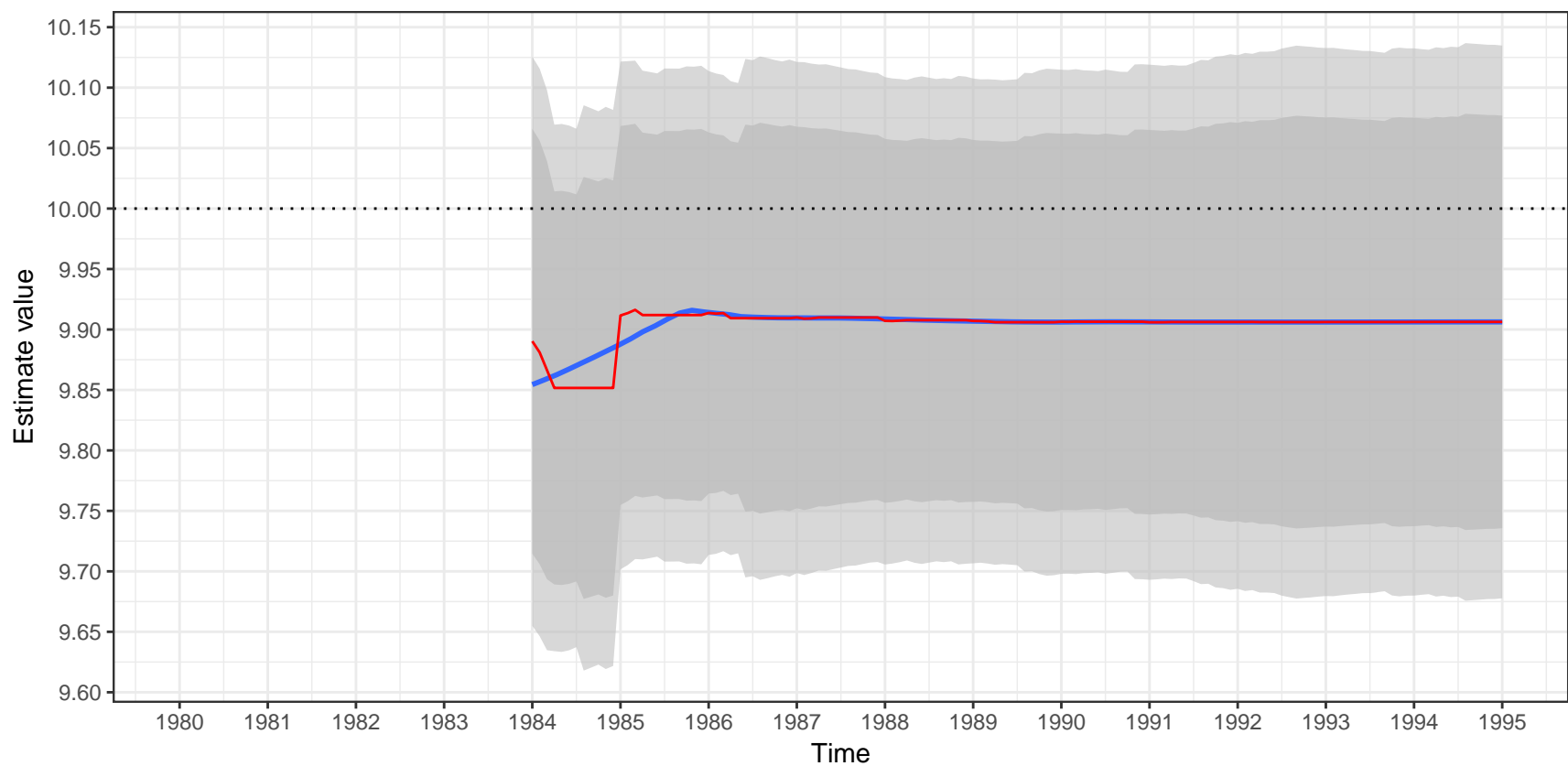


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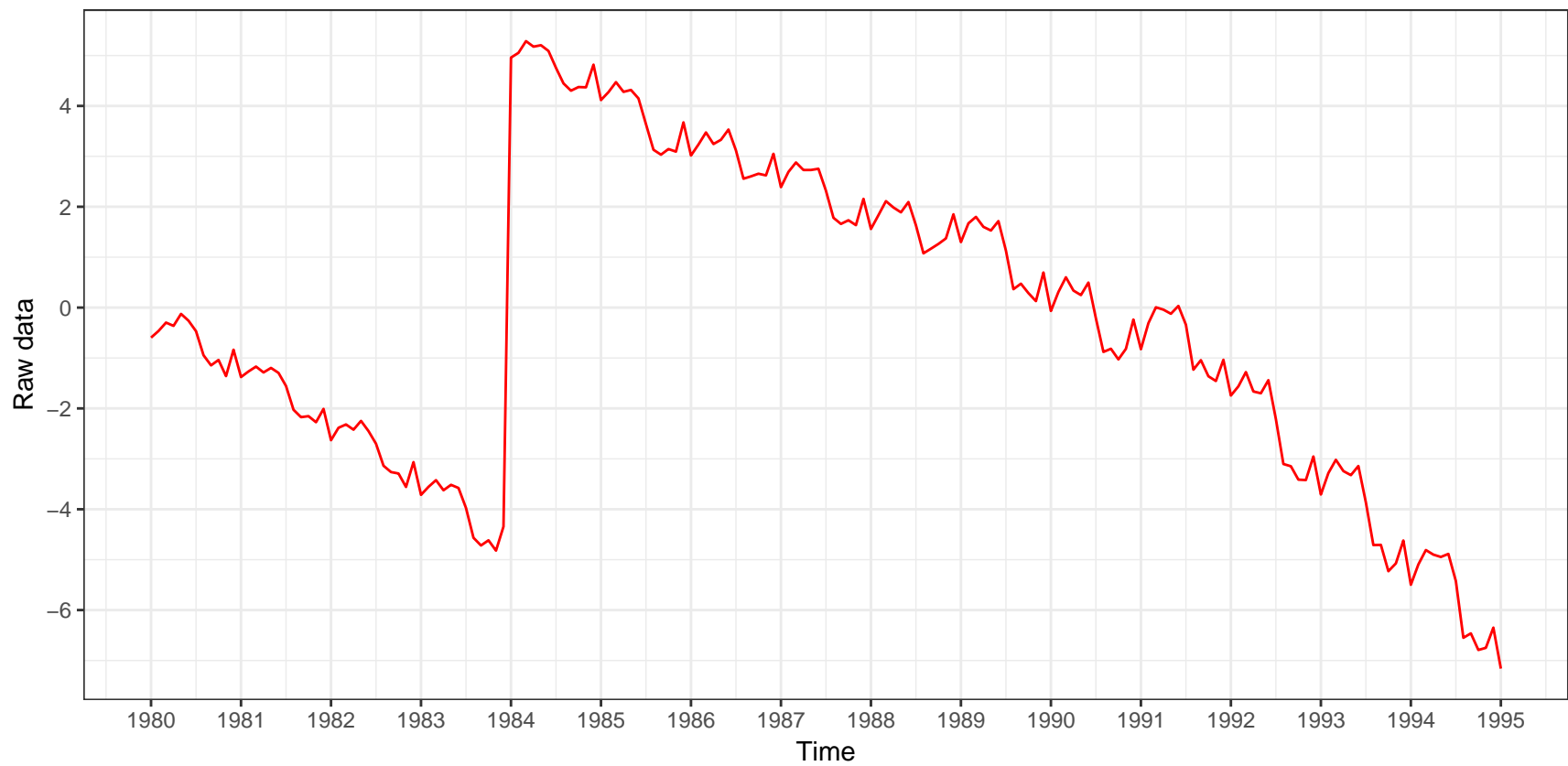


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Estimation of the outlier

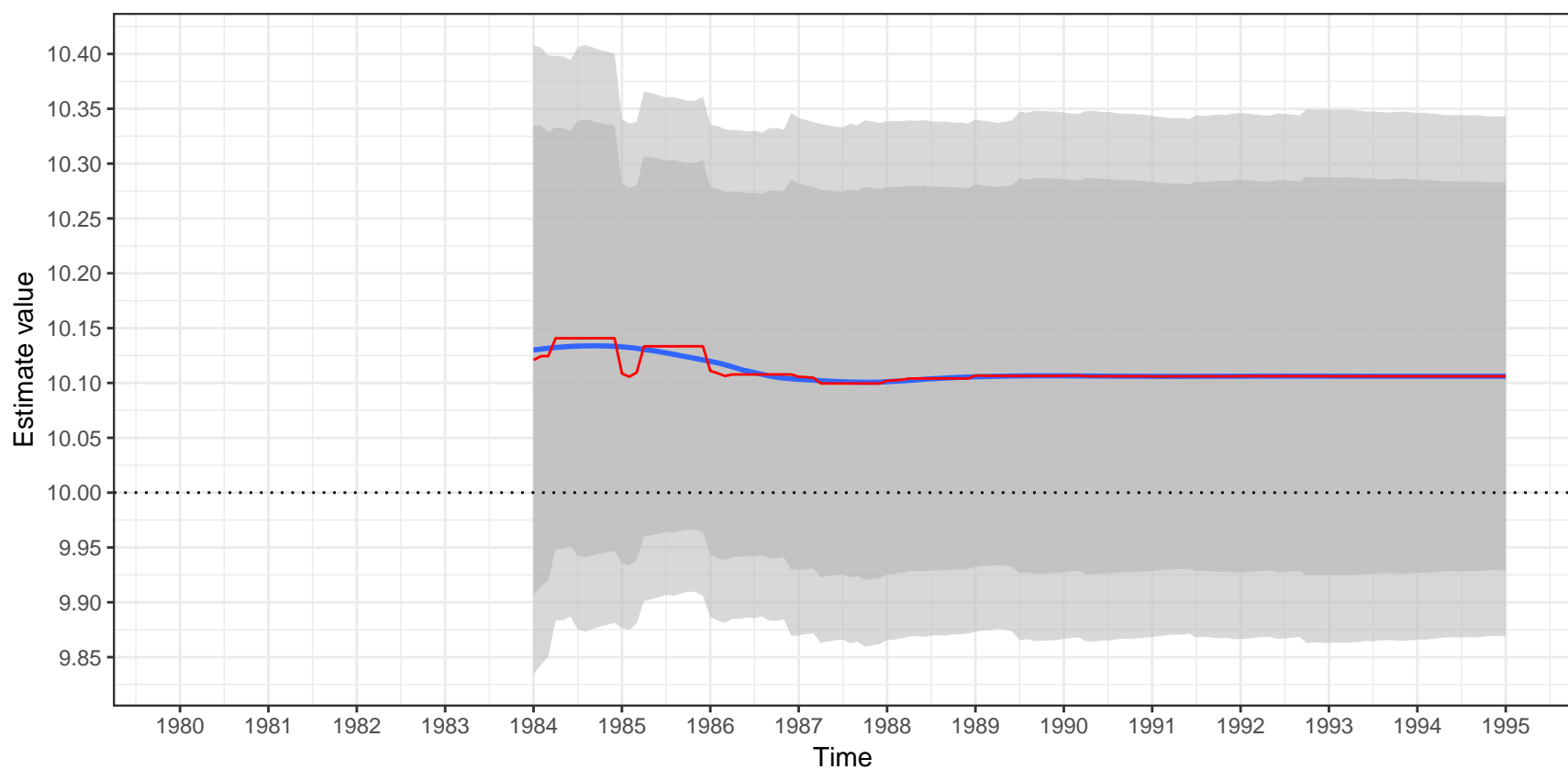


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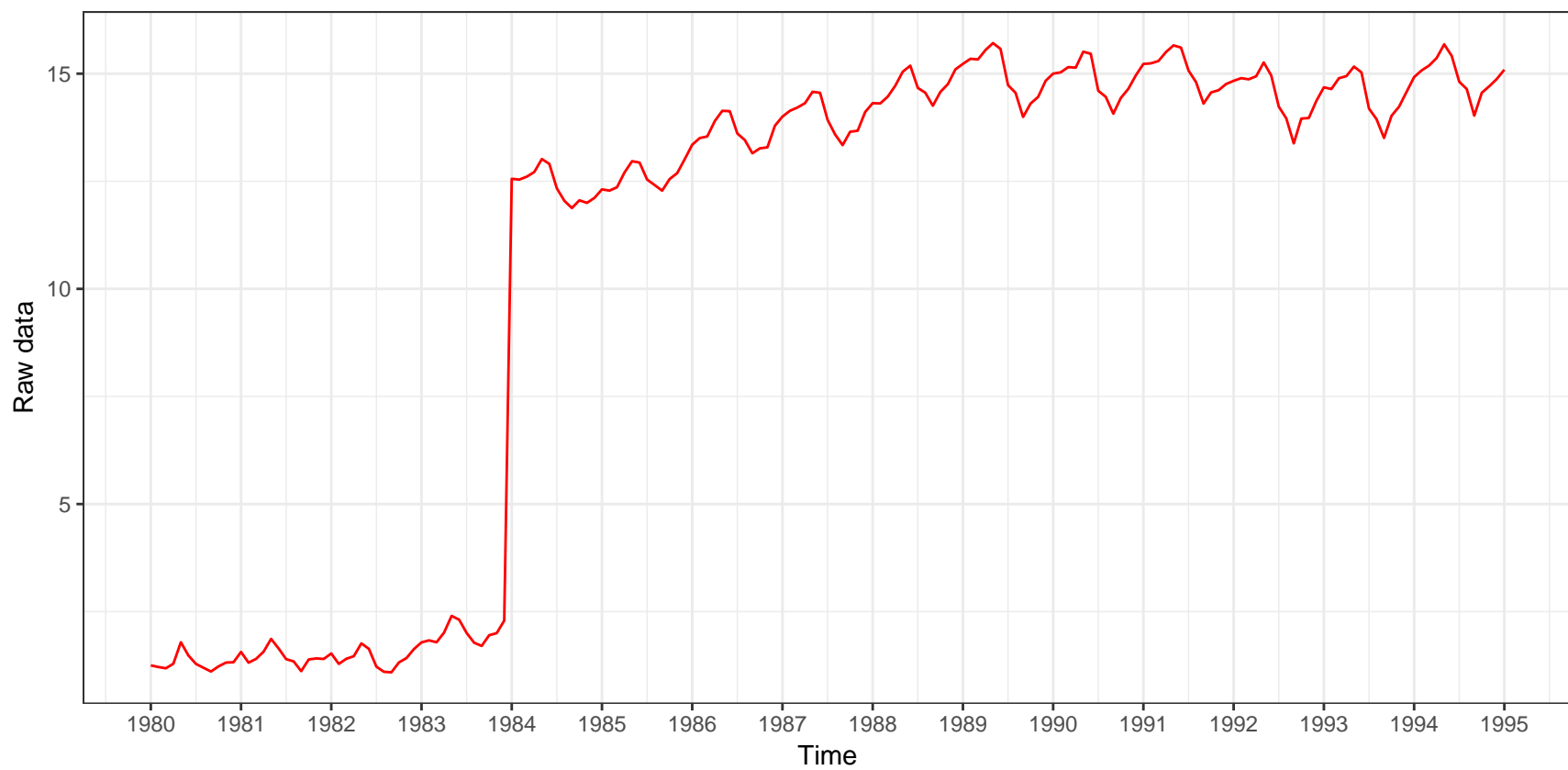


Estimate value of a LS(1984-01)
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Estimation of the outlier

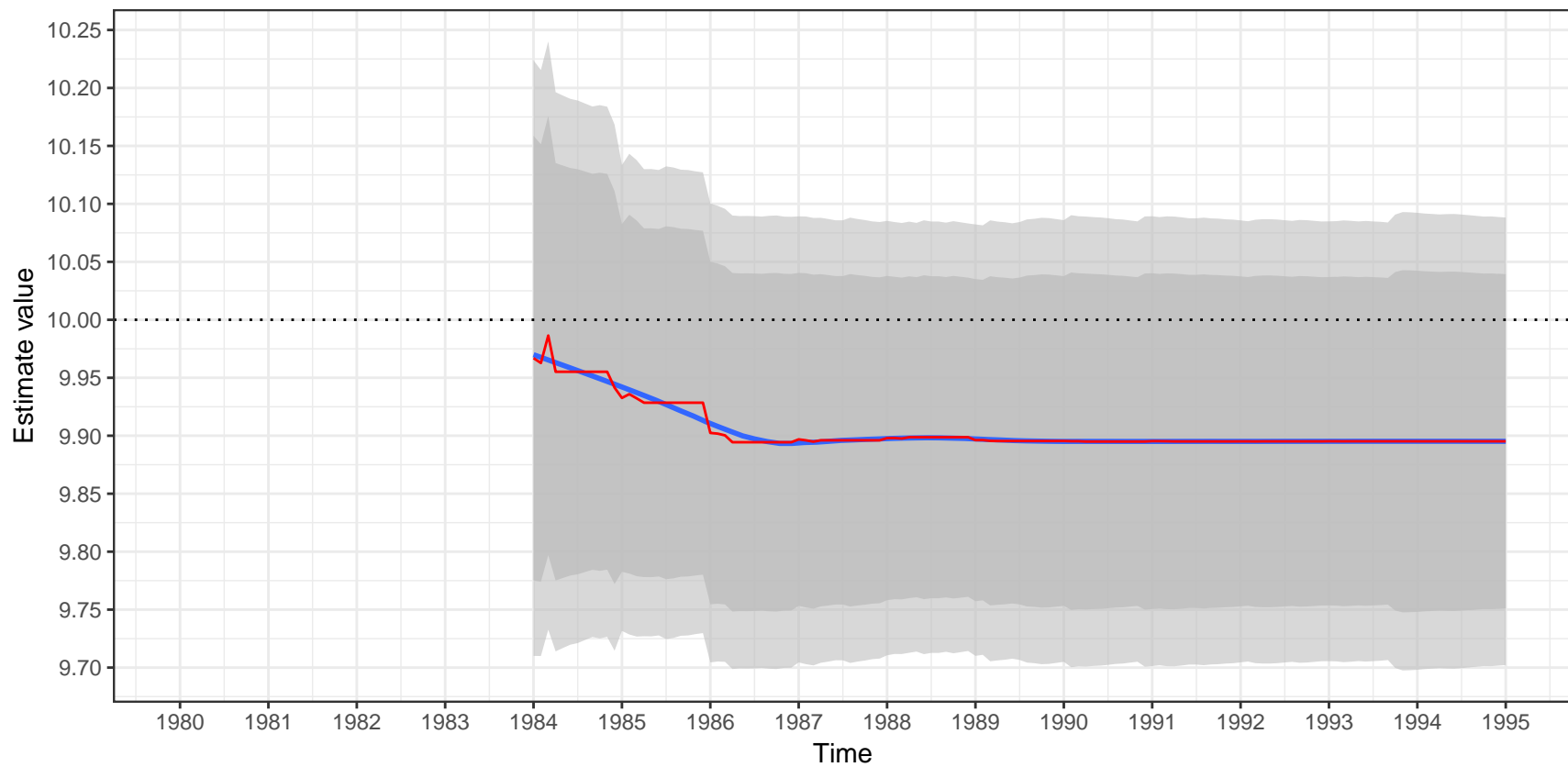


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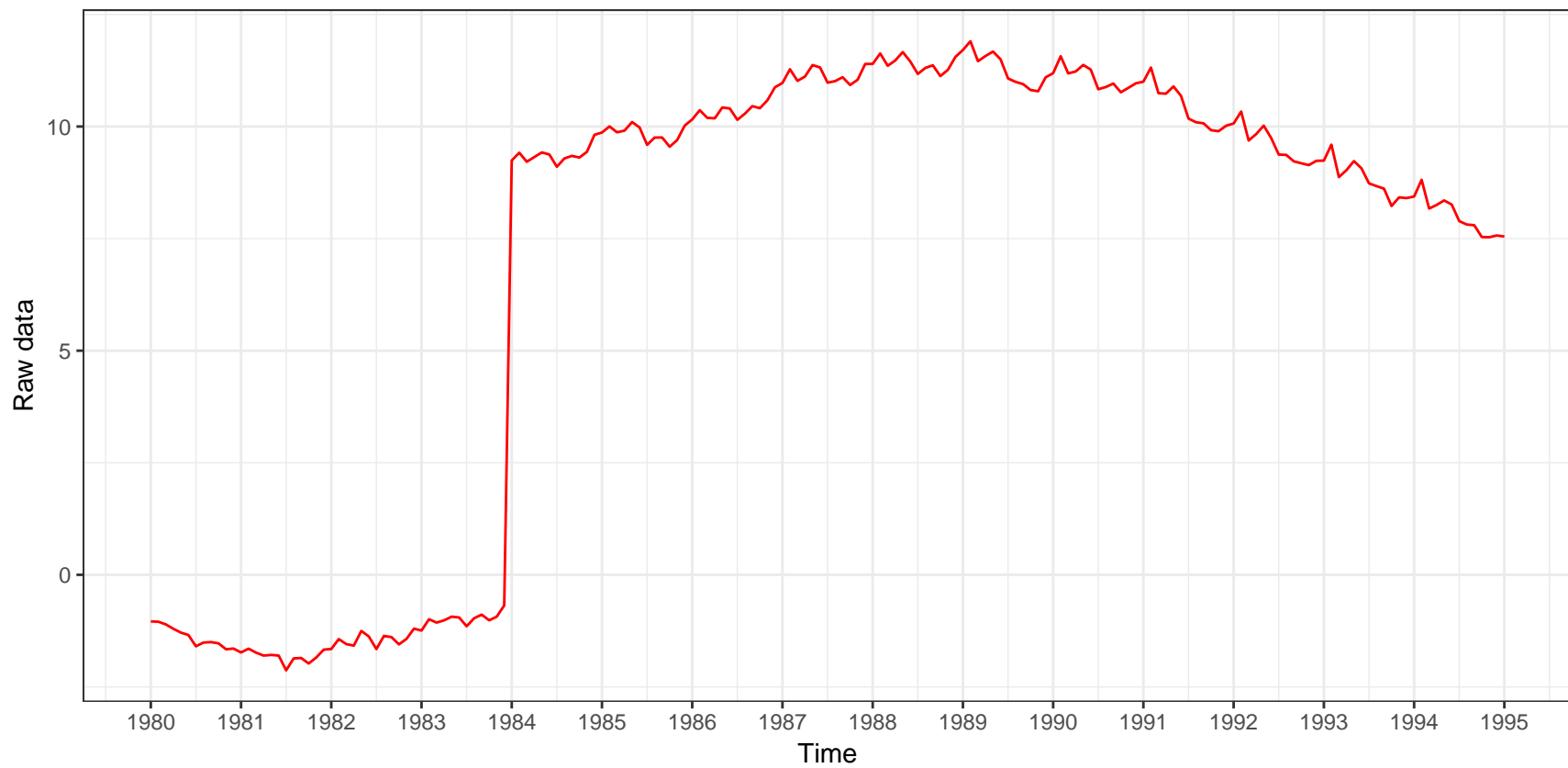


Estimate value of a LS(1984-01)
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Estimation of the outlier

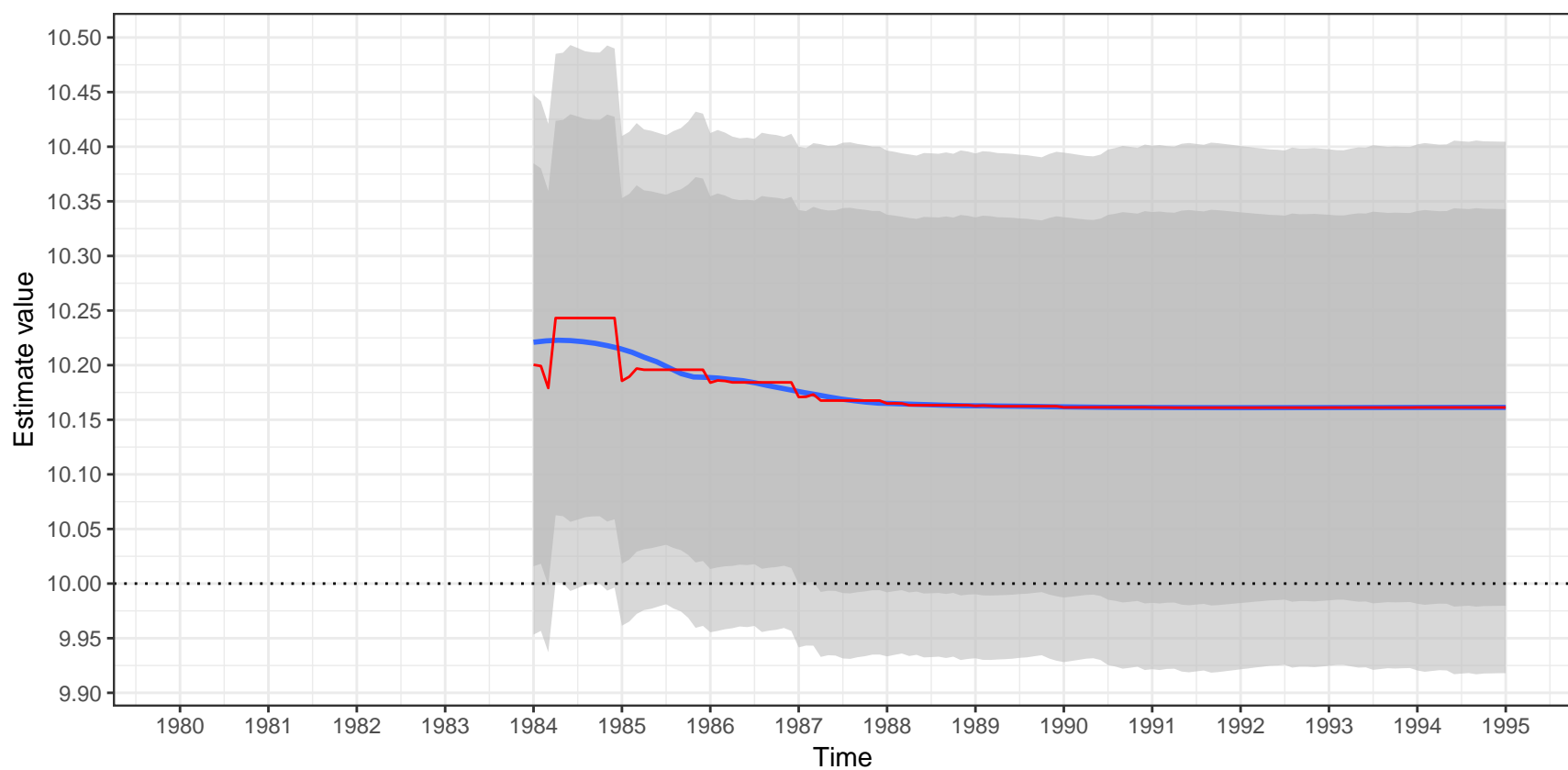


Raw data



Estimate value of a LS(1984-01)
 ARIMA (3,1,0)(0,1,1) – additive decomposition
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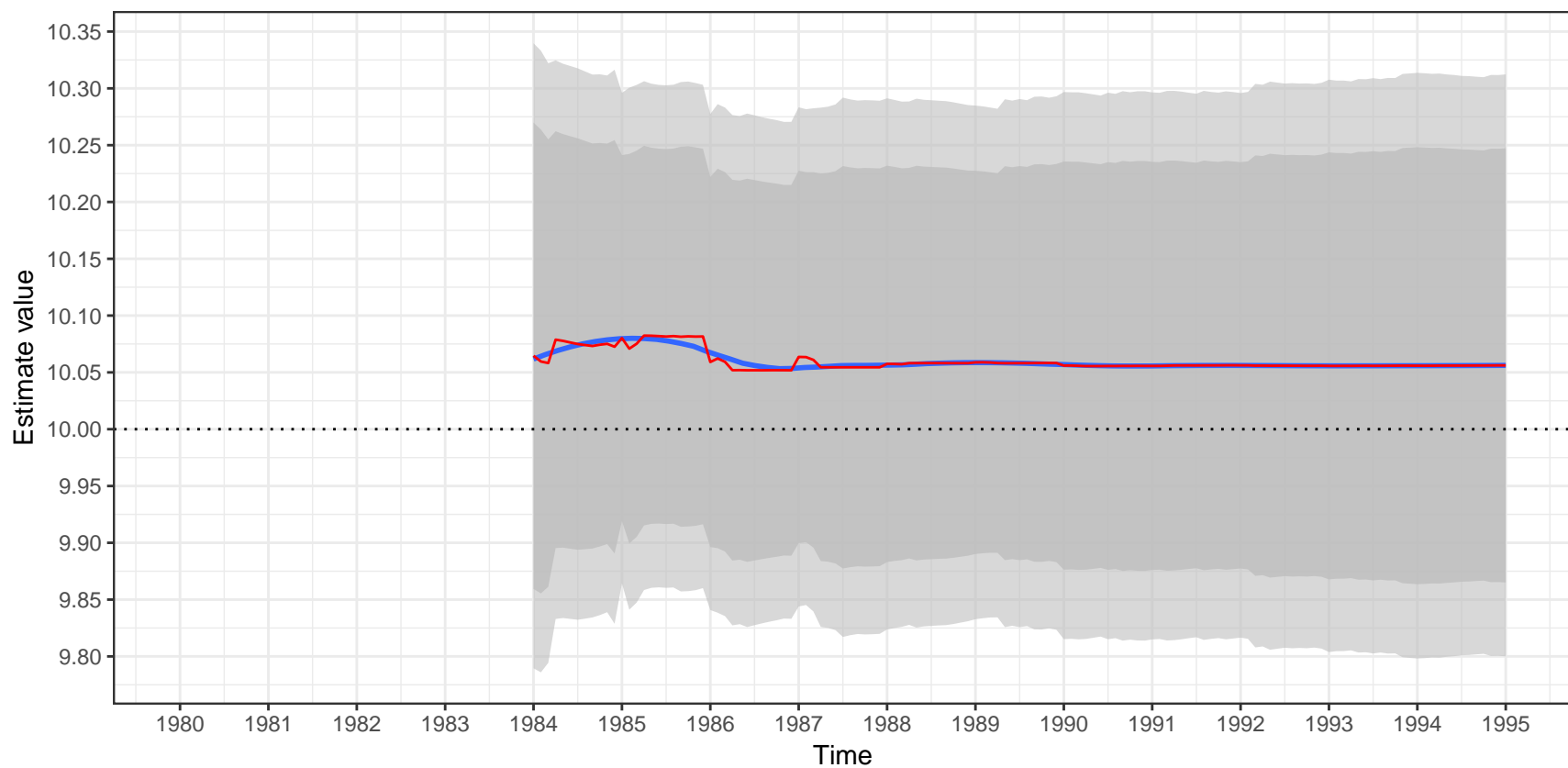


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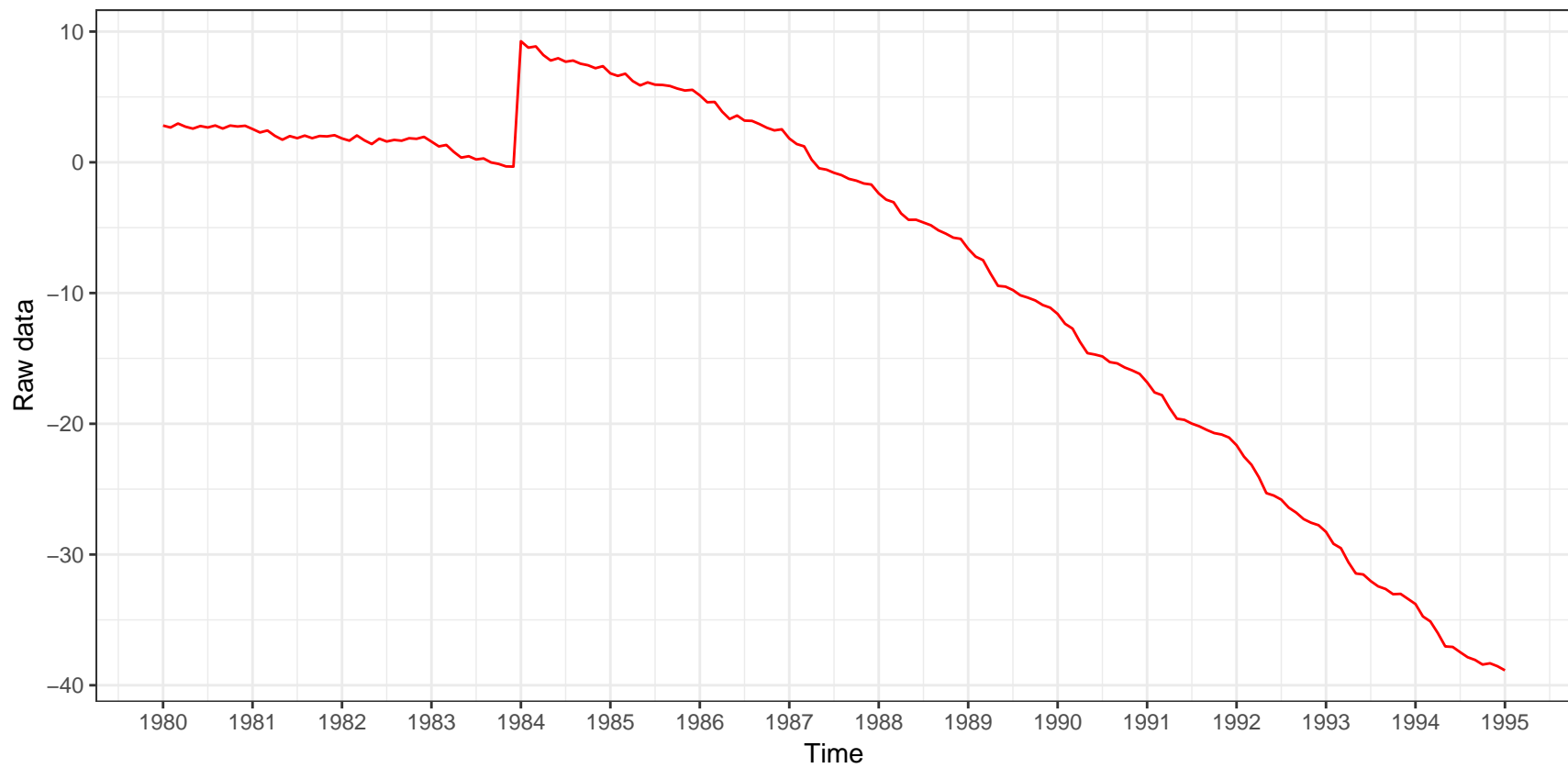


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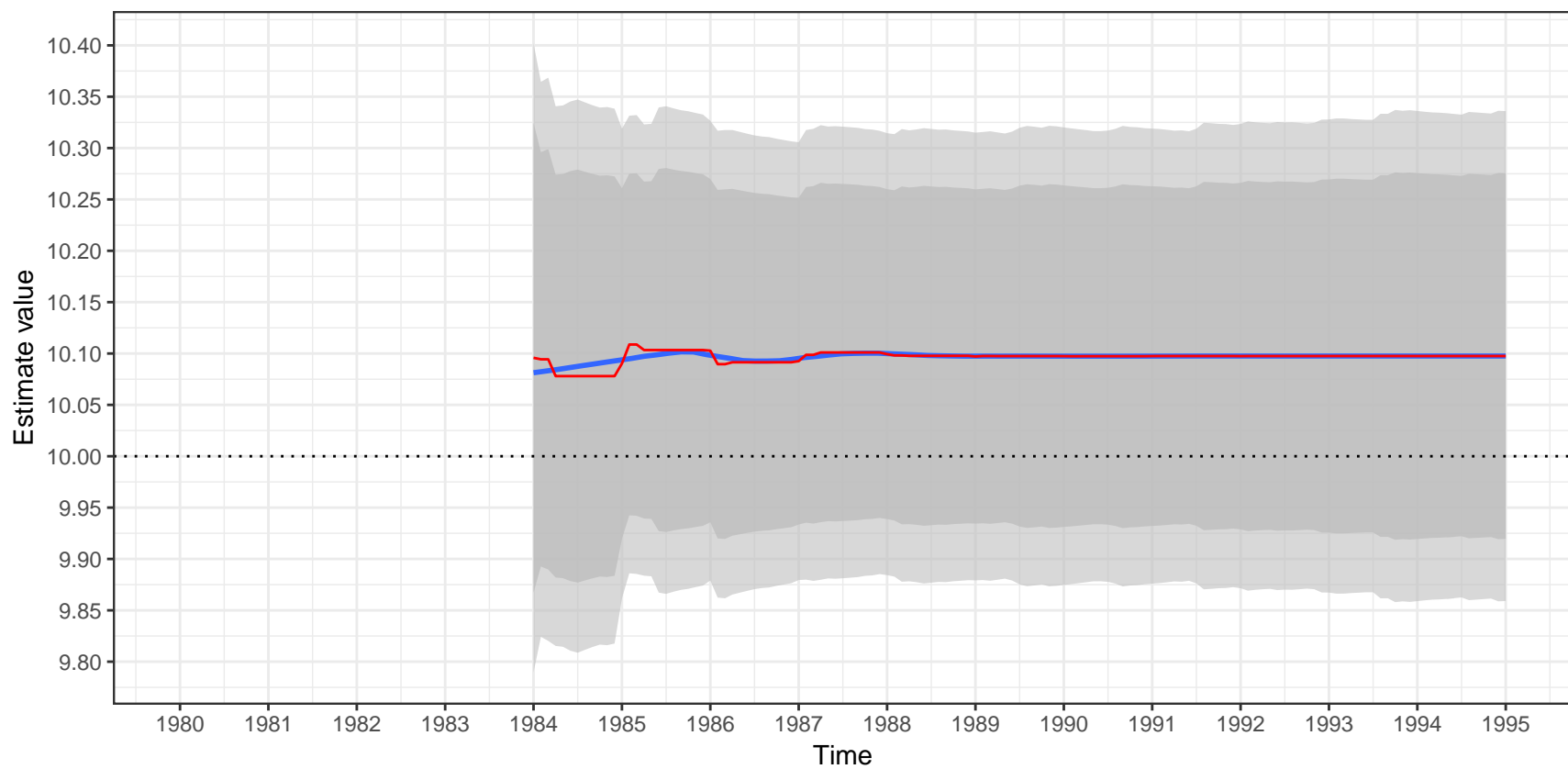


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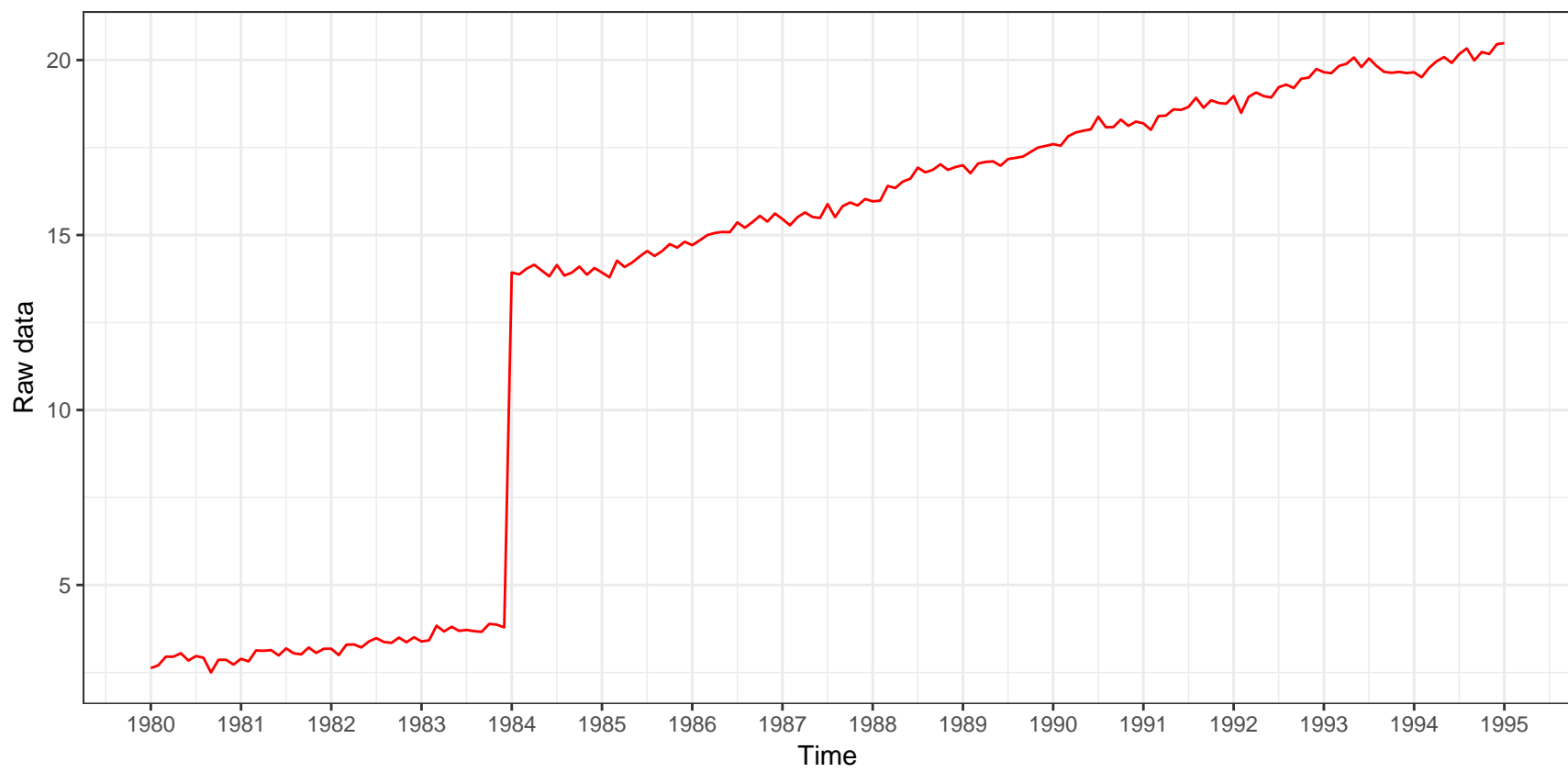


Estimate value of a LS(1984-01)
ARIMA (3,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B^{12})(1+0.5B-0.3B^3)X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

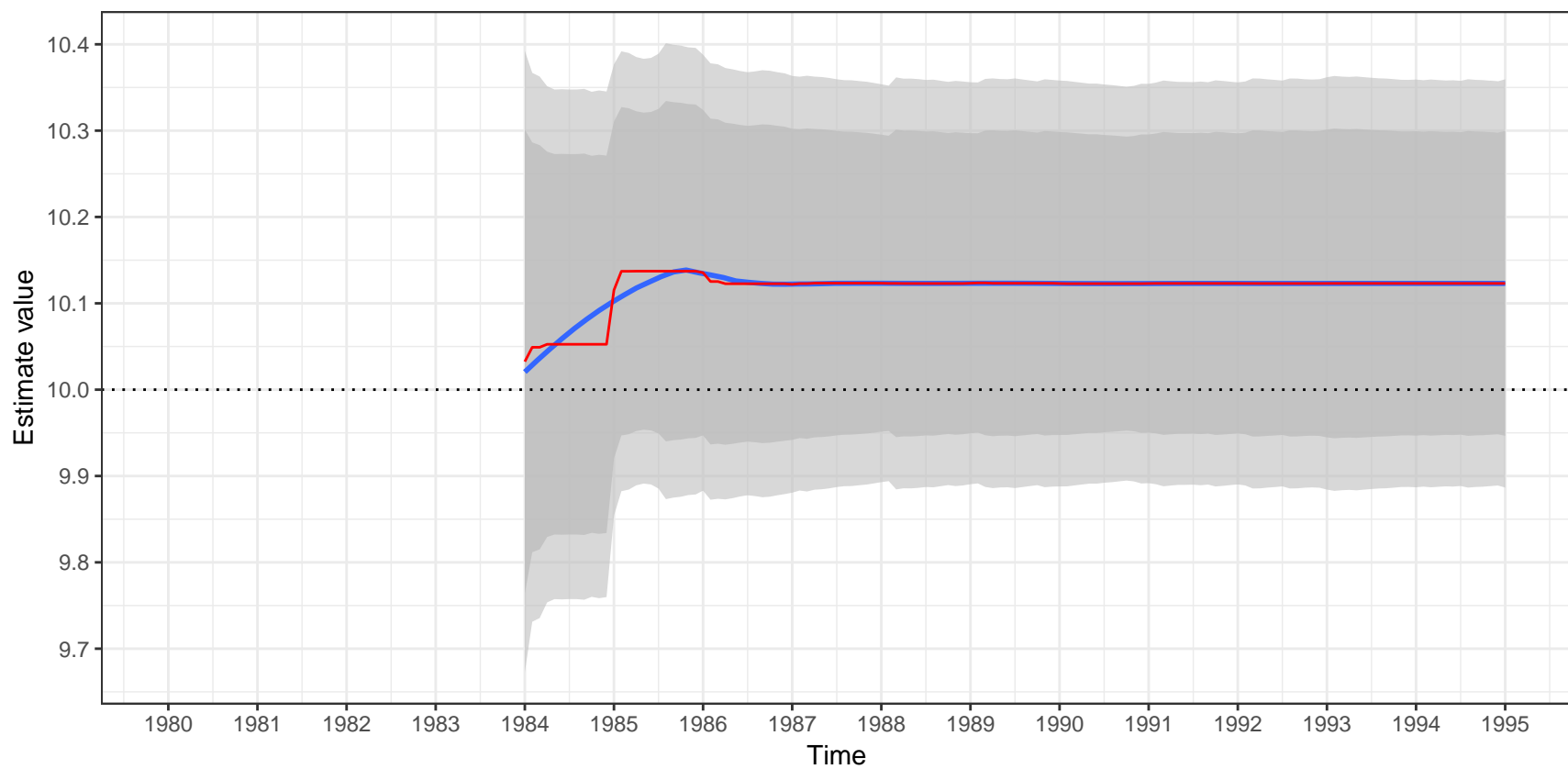


Raw data



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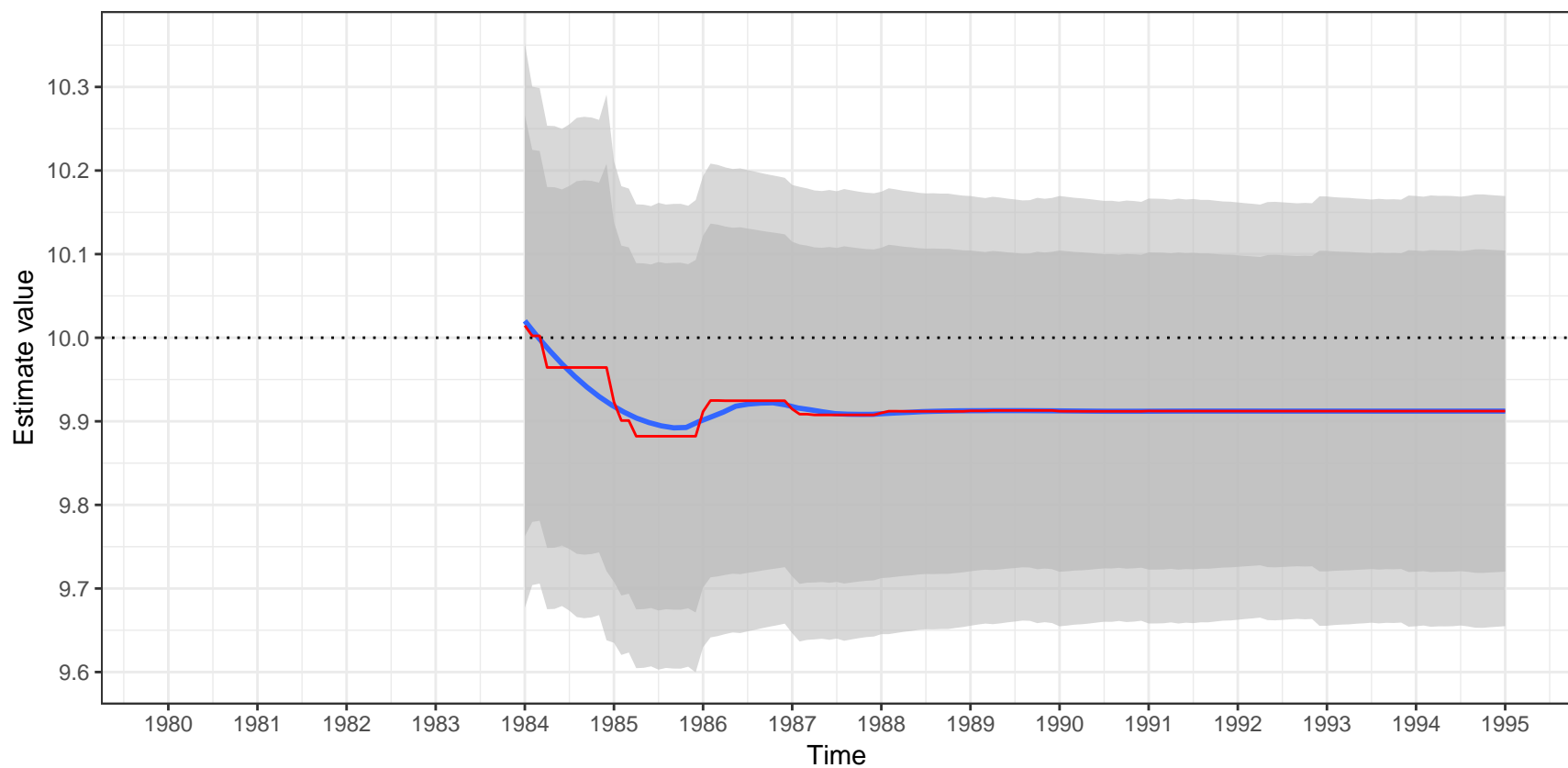


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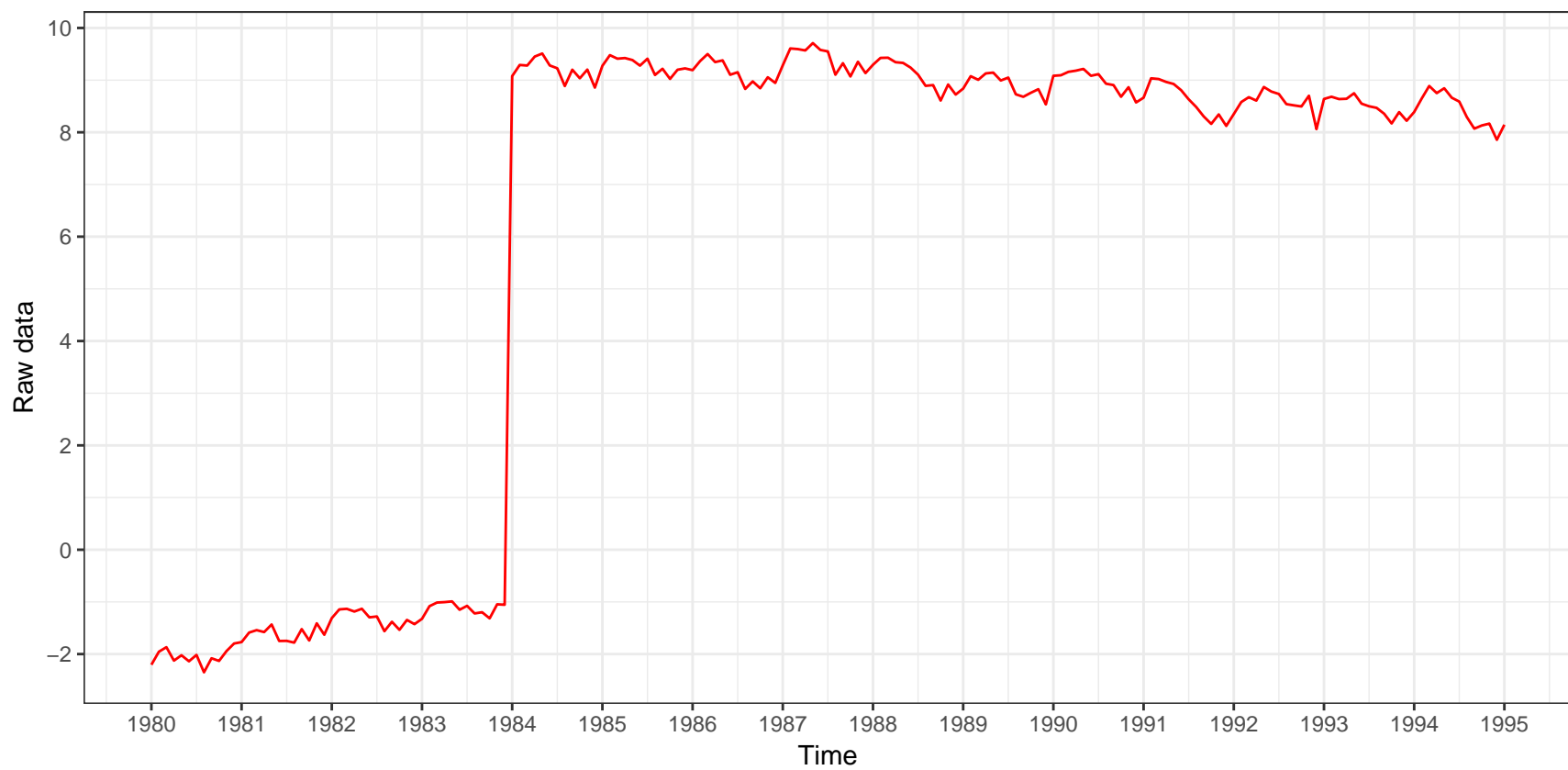


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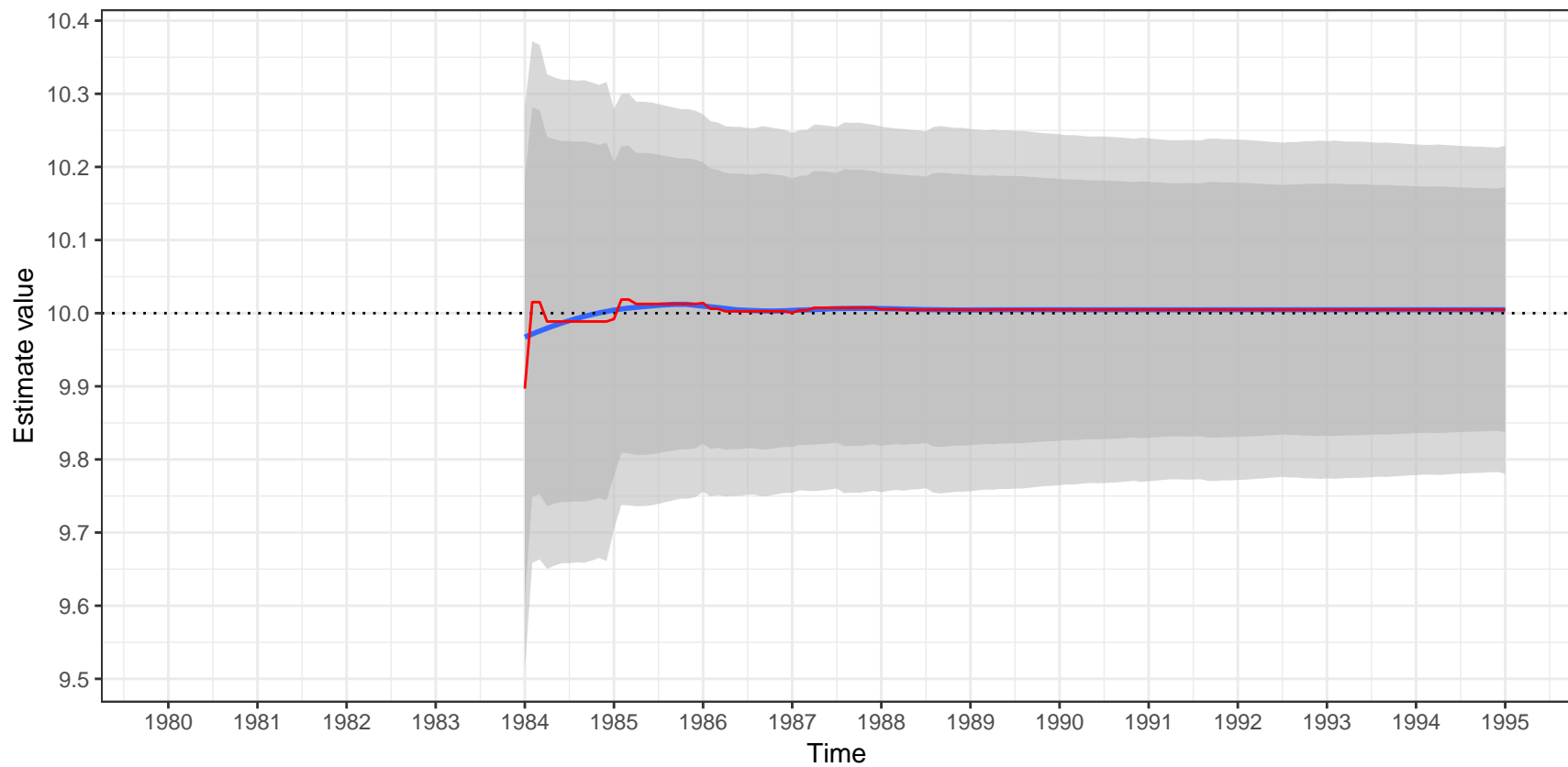


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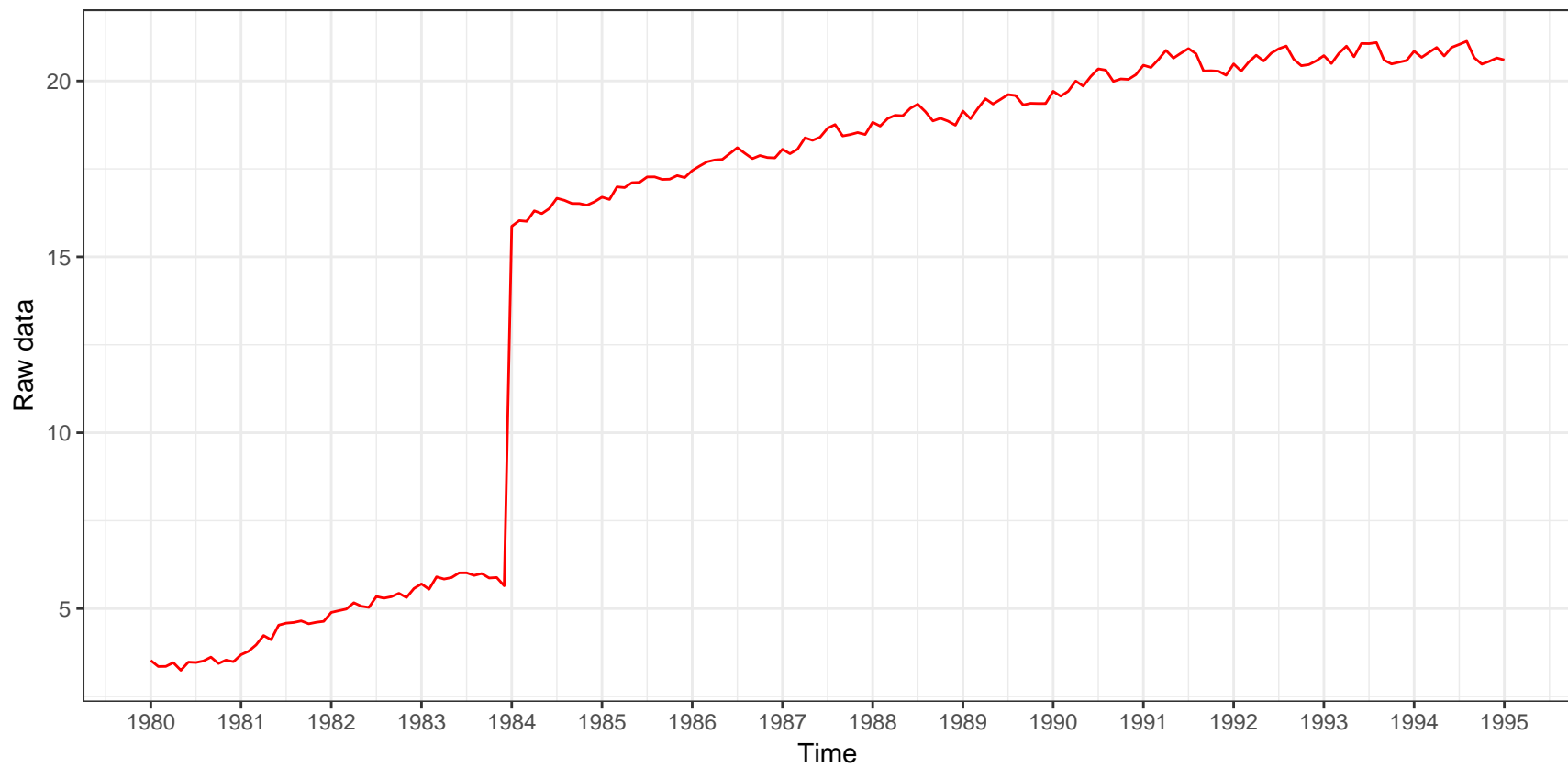


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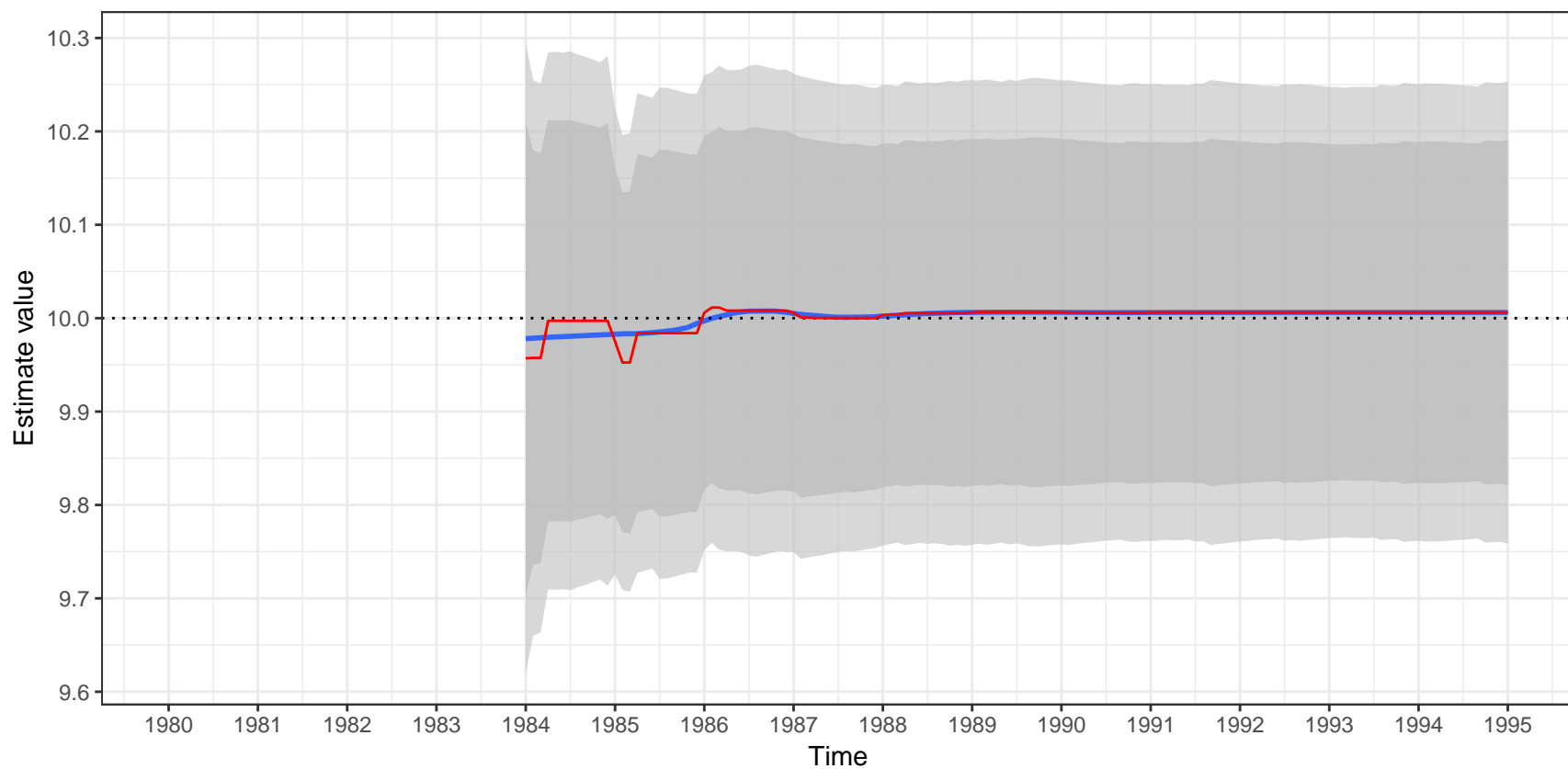


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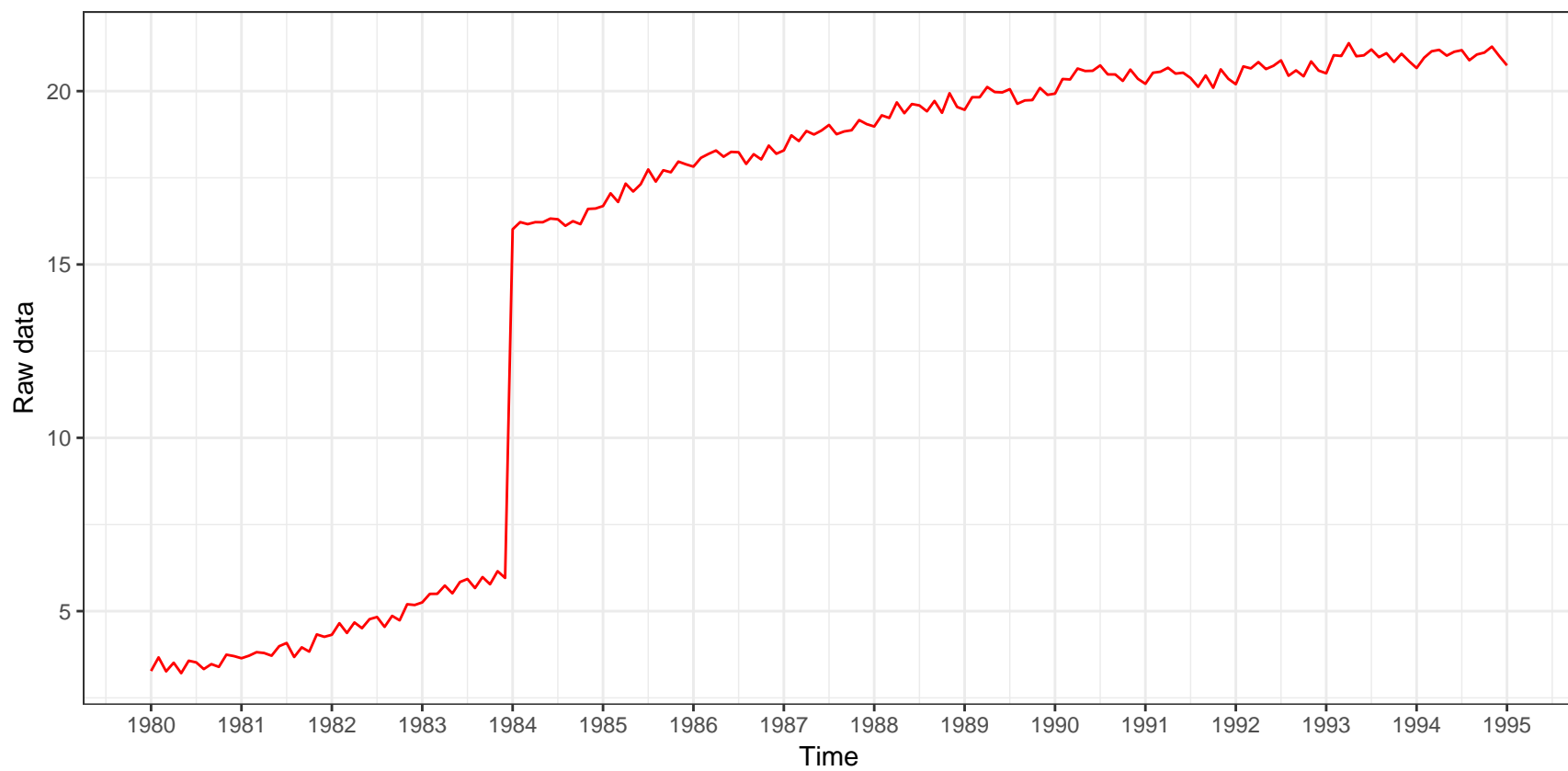


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Estimation of the outlier

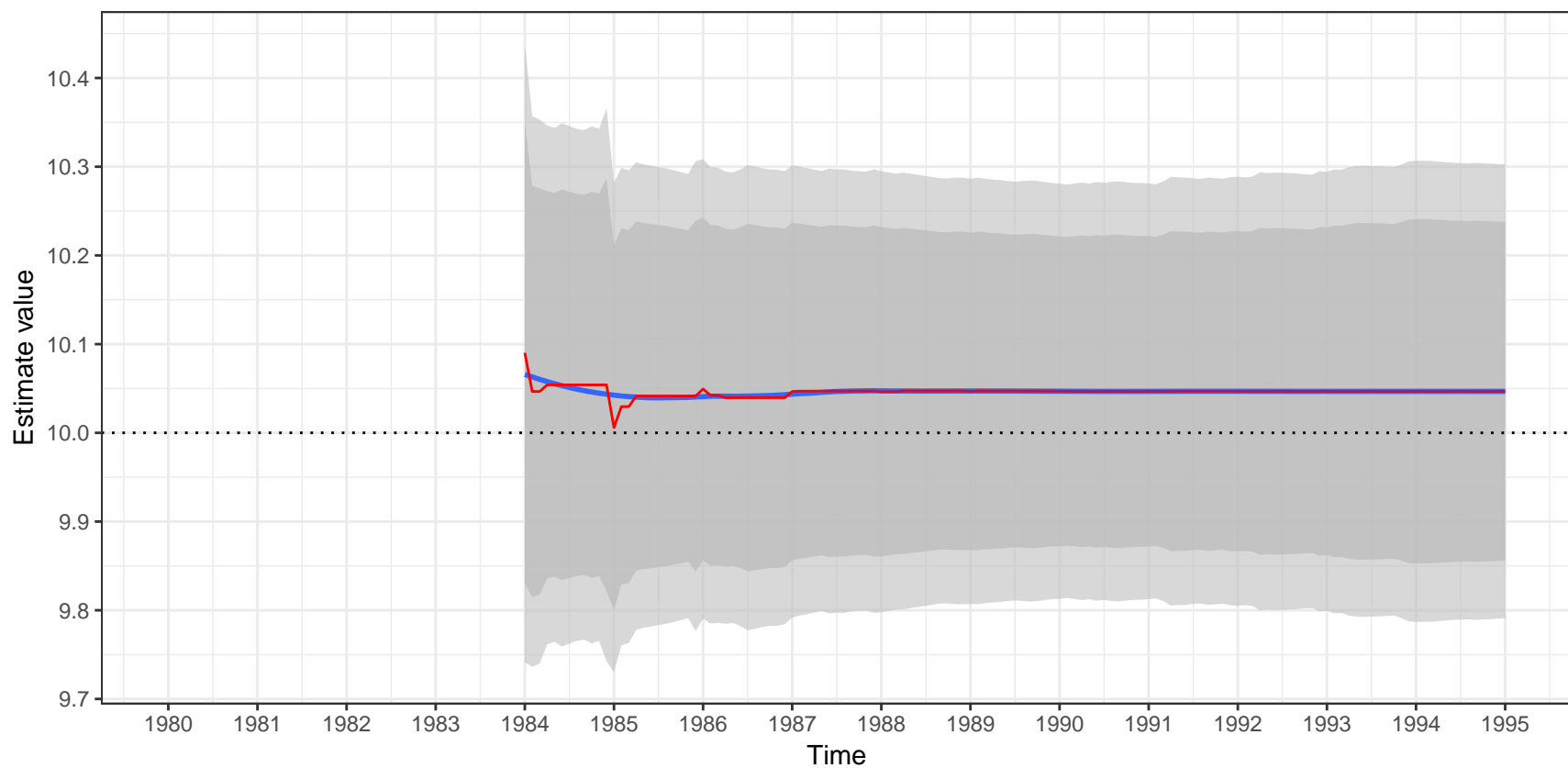


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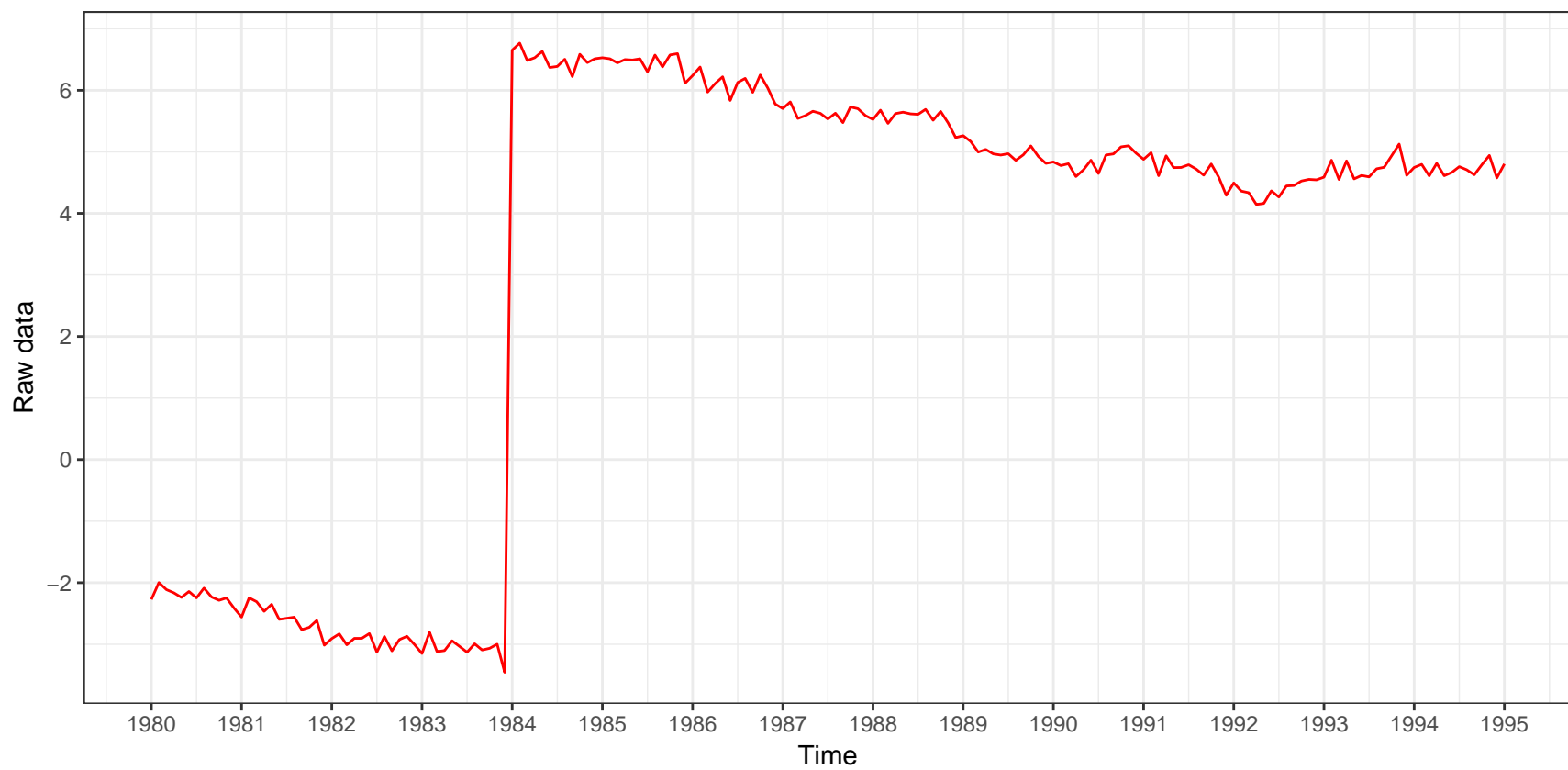


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Estimation of the outlier

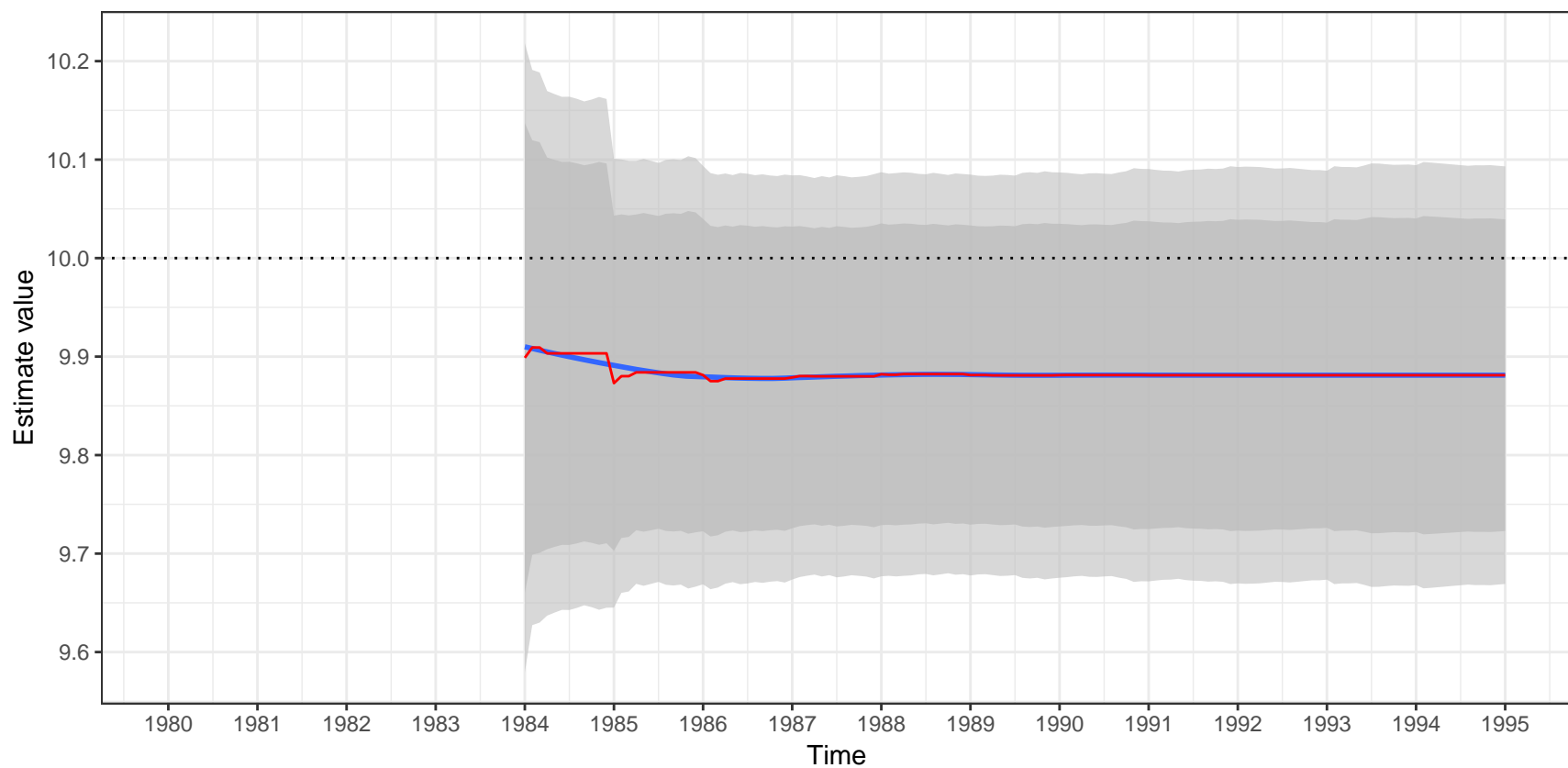


Raw data



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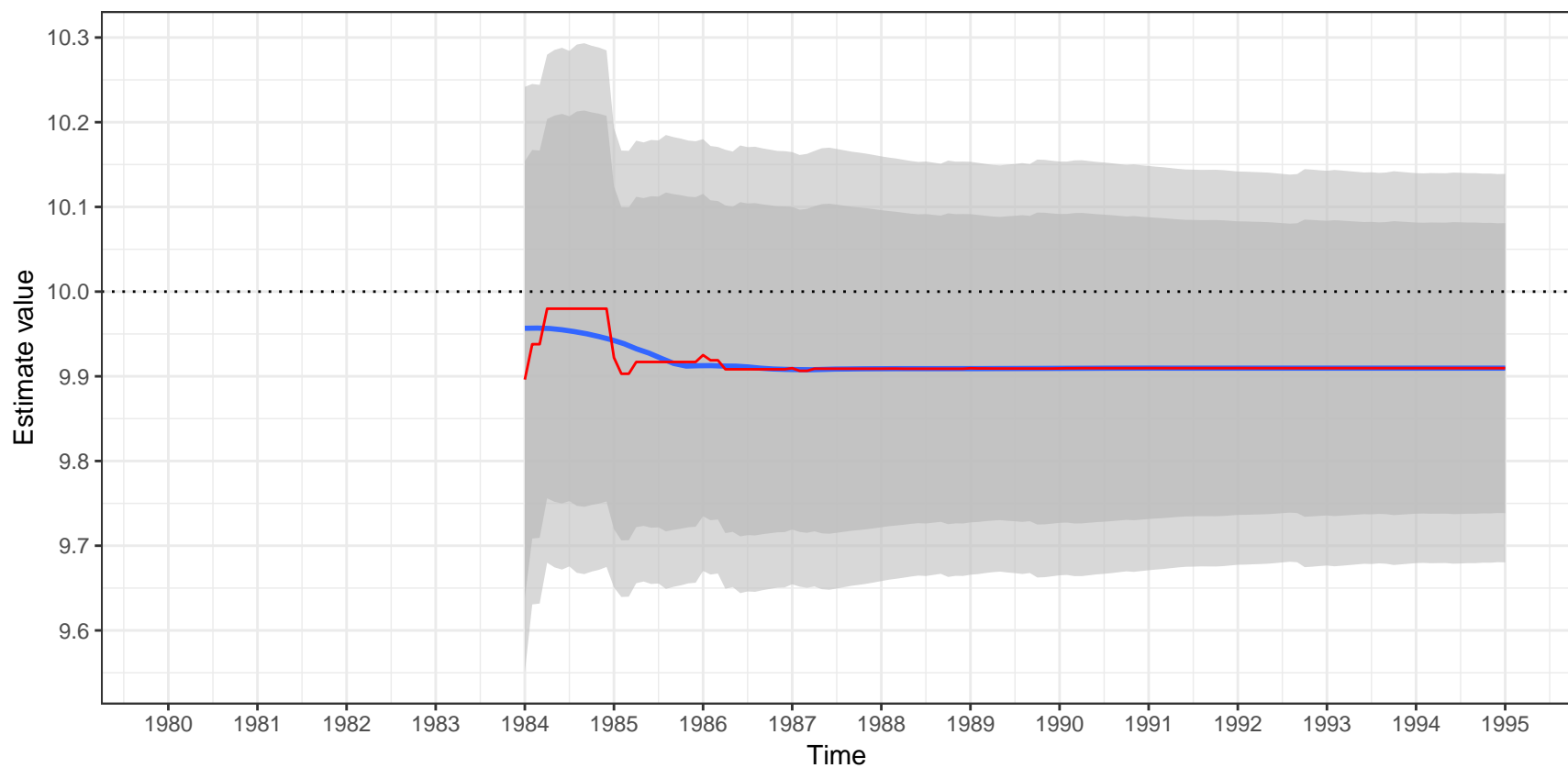


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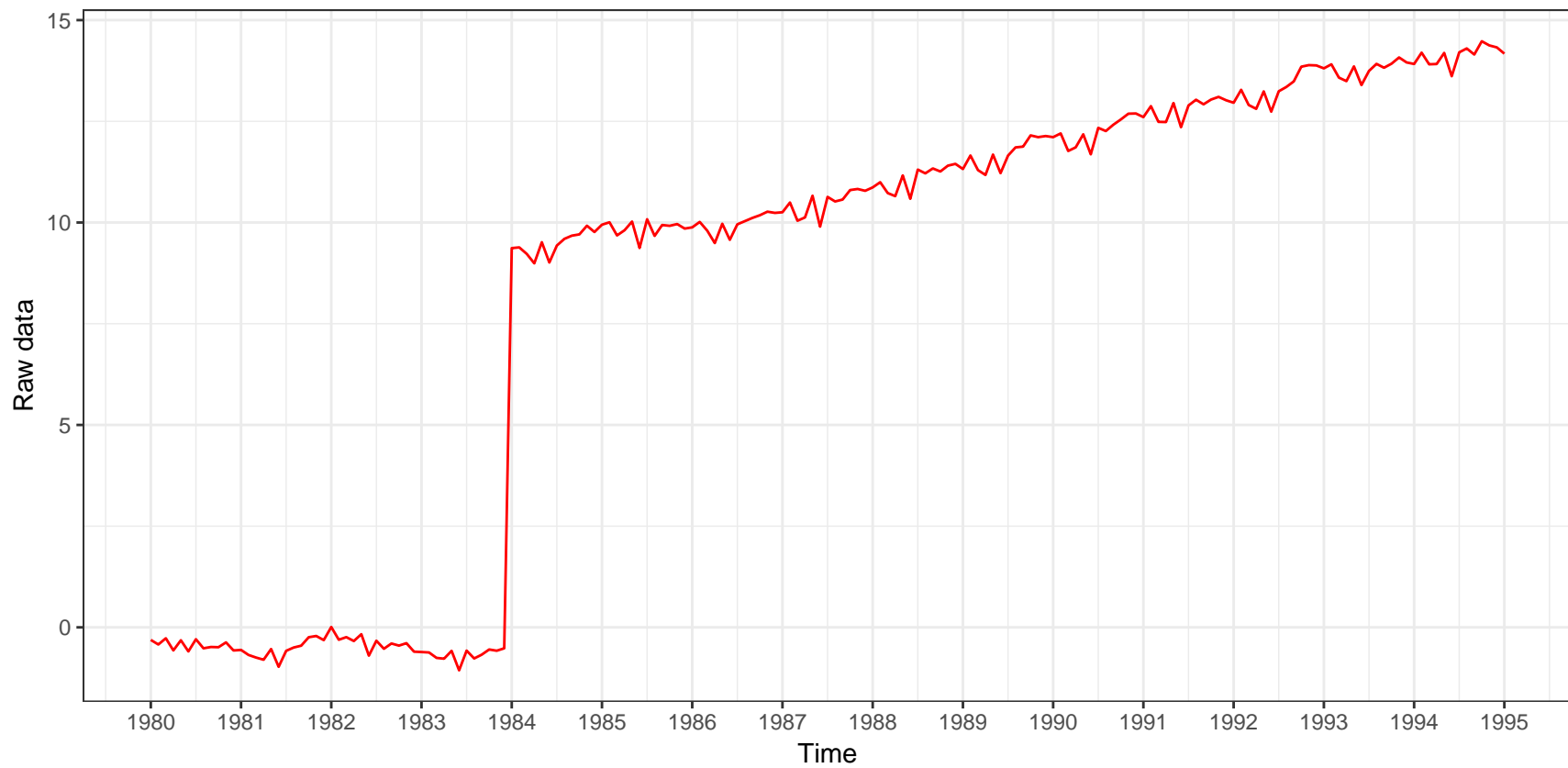


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 $(1-B)(1-B^{12})(1+0.5B-0.3B^3)X_t=(1-0.4B^{12})a_t$

Estimation of the outlier

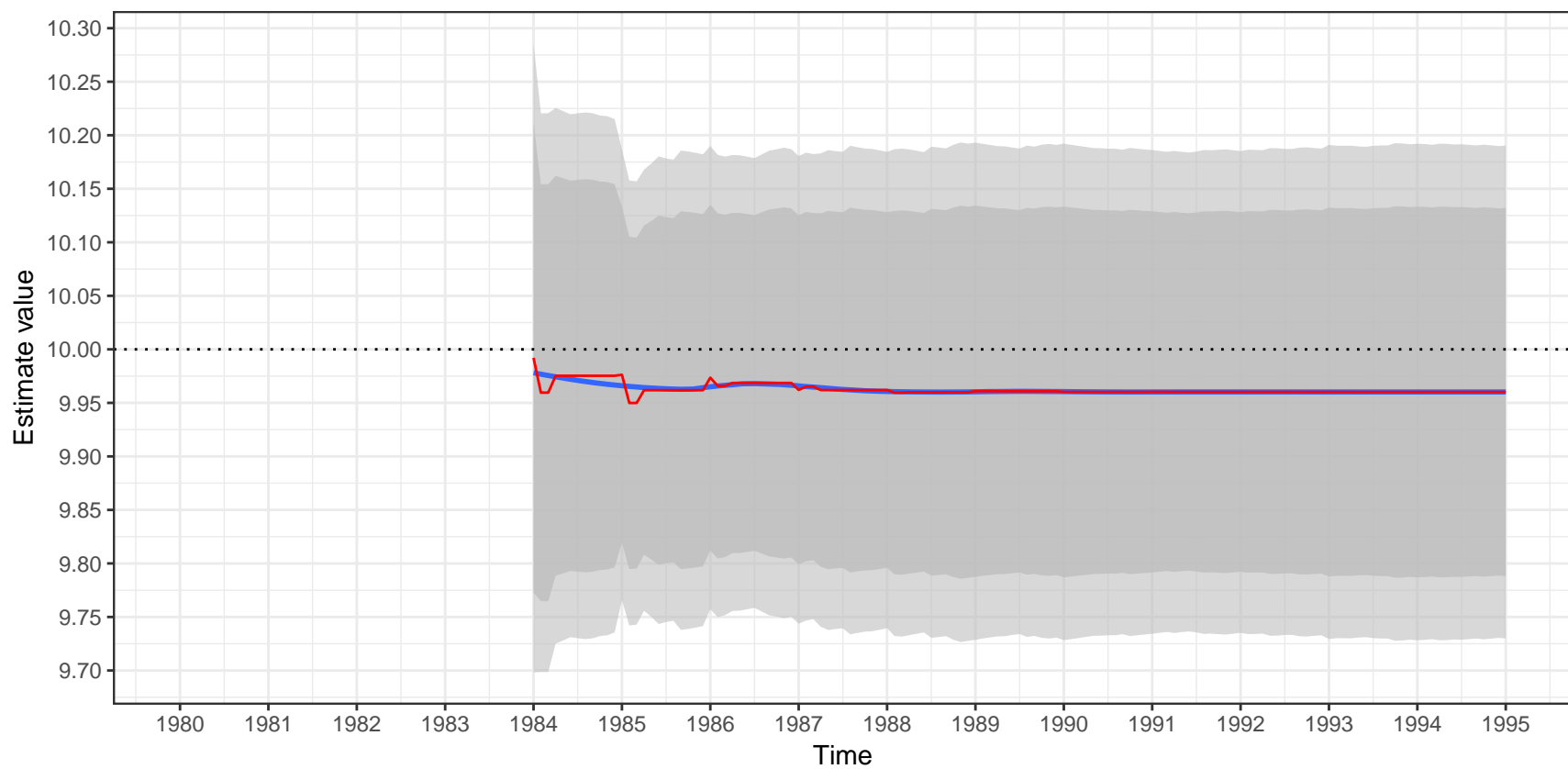


Raw data

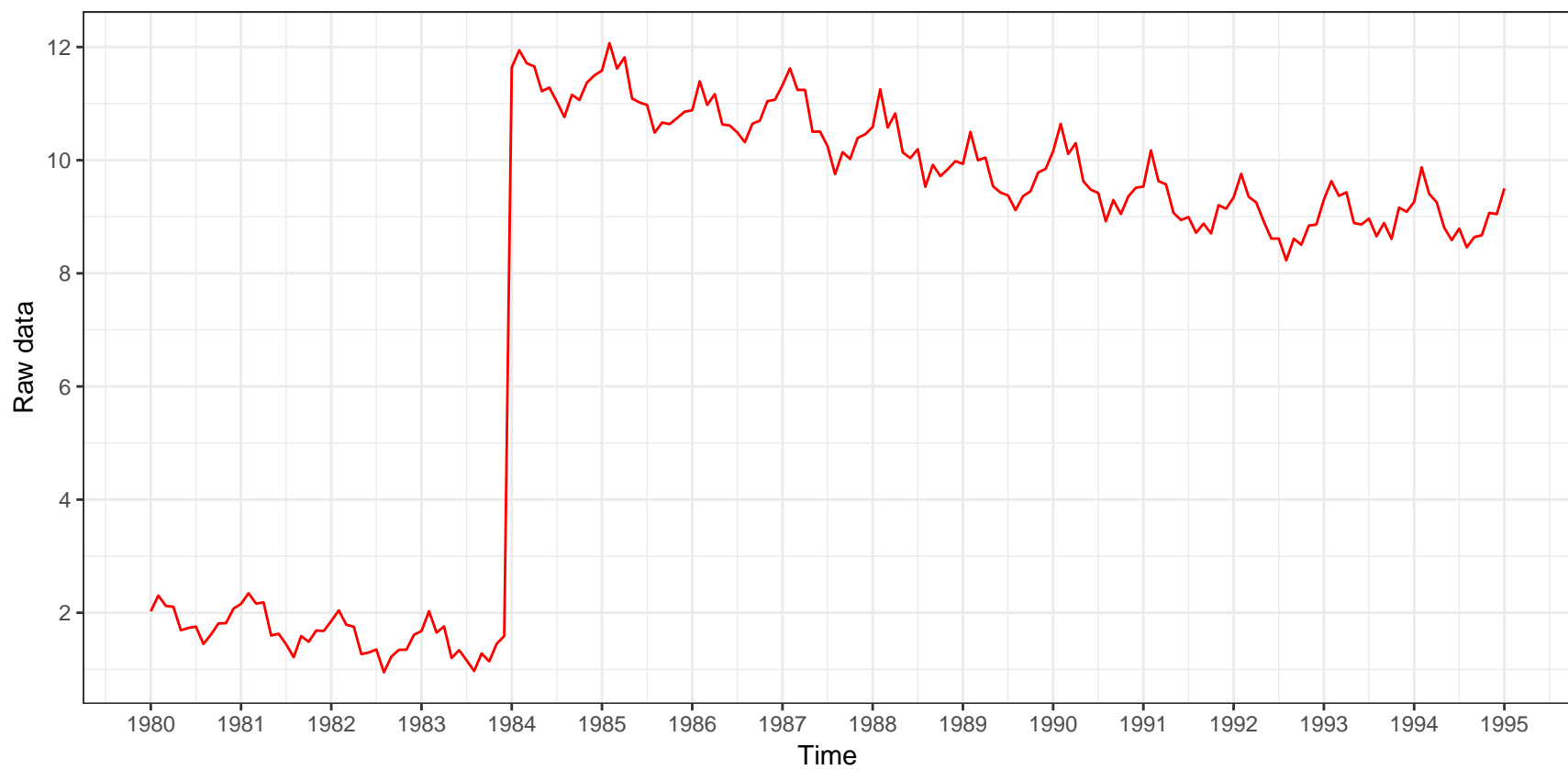


Estimate value of a LS(1984-01)
ARIMA (3,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})(1+0.5B-0.3B^3)X_t=(1-0.4B_{12})a_t$

Estimation of the outlier

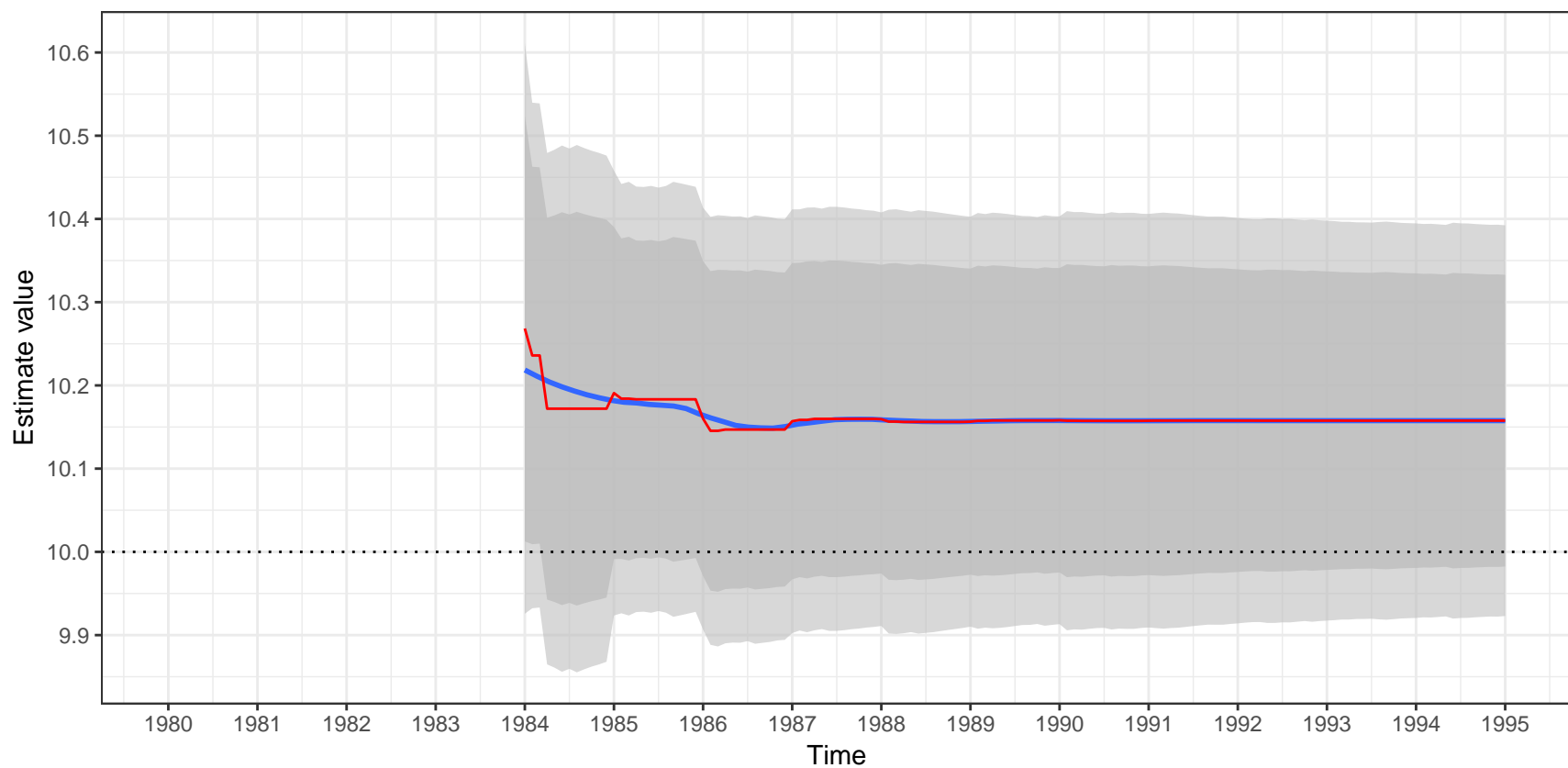


Raw data



Estimate value of a LS(1984-01)
ARIMA (3,1,0)(0,1,1) – additive decomposition
 $(1-B)(1-B_{12})(1+0.5B-0.3B_3)X_t=(1-0.4B_{12})a_t$

Estimation of the outlier



Raw data

