NG and ADF test (excess return)

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Data

Data: 131-8=123 series in total, 480 observations, from Jan 1964 to Dec 2003.

The "spread" series (difference between two I(1) series) are removed.

log() is done.

ADF test suggest I(0) for all four bond returns, whether use "trend" or "drift" specification.

Lasso 1

I(2) is first differenced, others are original.

$$\begin{aligned} y_t = & I(0)_{t-1} + I(0)_{t-2} + I(0)_{t-3} + I(0)_{t-4} \\ & + I(1)_{t-1} + I(1)_{t-2} + I(1)_{t-3} + I(1)_{t-4} \\ & + \Delta I(2)_{t-1} + \Delta I(2)_{t-2} + \Delta I(2)_{t-3} + \Delta I(2)_{t-4} \end{aligned}$$

Lasso 2

All stationary.

$$\begin{aligned} y_t = & I(0)_{t-1} + I(0)_{t-2} + I(0)_{t-3} + I(0)_{t-4} \\ & + \Delta I(1)_{t-1} + \Delta I(1)_{t-2} + \Delta I(1)_{t-3} + \Delta I(1)_{t-4} \\ & + \Delta^2 I(2)_{t-1} + \Delta^2 I(2)_{t-2} + \Delta^2 I(2)_{t-3} + \Delta^2 I(2)_{t-4} \end{aligned}$$

Lasso 3

Combination of Lasso 1 and 2.

$$\begin{aligned} y_t = & I(0)_{t-1} + I(0)_{t-2} + I(0)_{t-3} + I(0)_{t-4} \\ & + \Delta I(1)_{t-1} + \Delta I(1)_{t-2} + \Delta I(1)_{t-3} + \Delta I(1)_{t-4} \\ & + \Delta^2 I(2)_{t-1} + \Delta^2 I(2)_{t-2} + \Delta^2 I(2)_{t-3} + \Delta^2 I(2)_{t-4} \\ & + I(1)_{t-1} + \Delta I(2)_{t-1} \end{aligned}$$

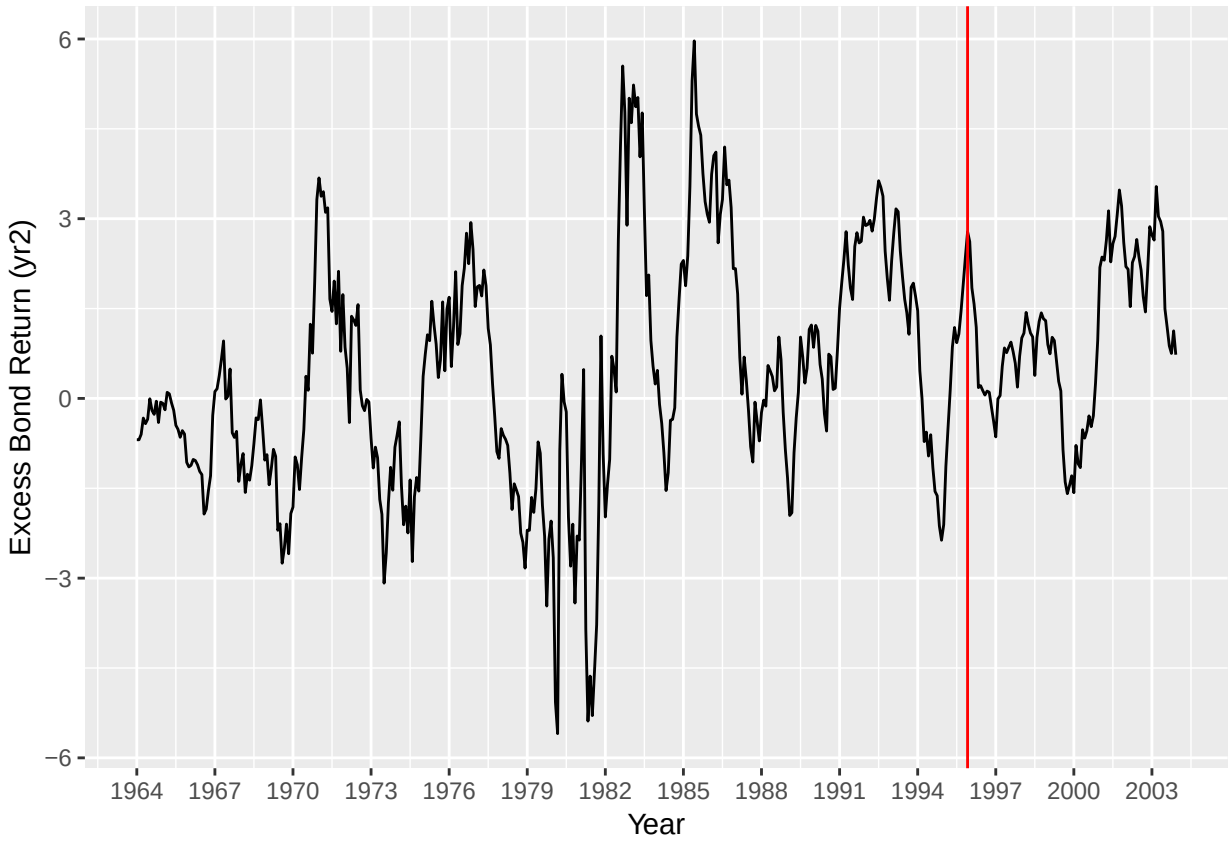

Table 1: AR

	Lags chosen by AIC	M.S.E
yr2	13	0.04421
yr3	25	0.04236
yr4	25	0.0467
yr5	25	0.05302