

Volatility analysis

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Data

- ▶ We are analysing SP-500 returns
- ▶ from 2003-01-03 to 2022-12-30
- ▶ 5034 observations
- ▶ If you like thousand commas in your numbers, then 5,034 observations

The SP-500 index



Fitted model parameters

	Estimate	Std. Error	t value	Pr(> t)
omega	0.0000024	0.0000008	3.140765	0.0016851
alpha1	0.1202890	0.0097730	12.308242	0.0000000
beta1	0.8594914	0.0106664	80.579245	0.0000000

Summary

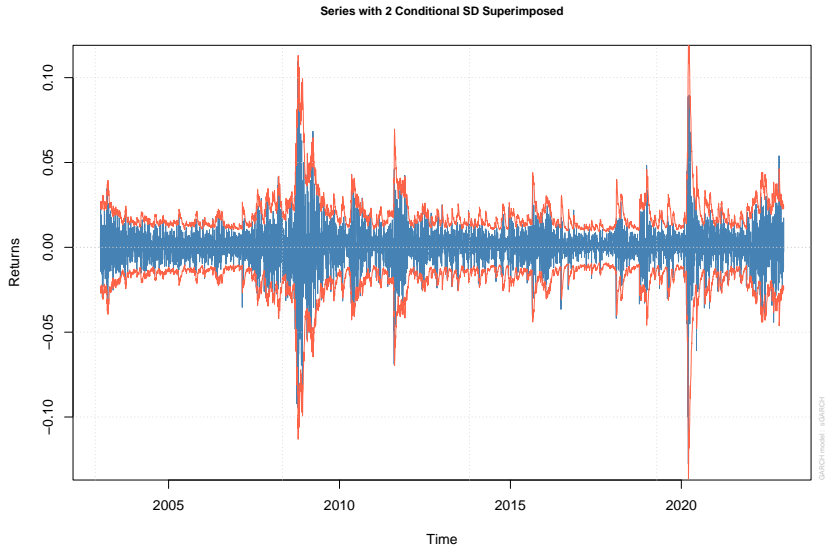
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Returns with 2 times volatility



Some VaR analysis

Risk is \$16.4 according to the VaR.