QuantNet 2.0 @ GitHub

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Outline

Reversible Jump Markov Chain Monte Carlo

Reversible Jump MCMC

Standard practice for approximation of posterior distributions for model parameters: Metropolis-Hastings samplers

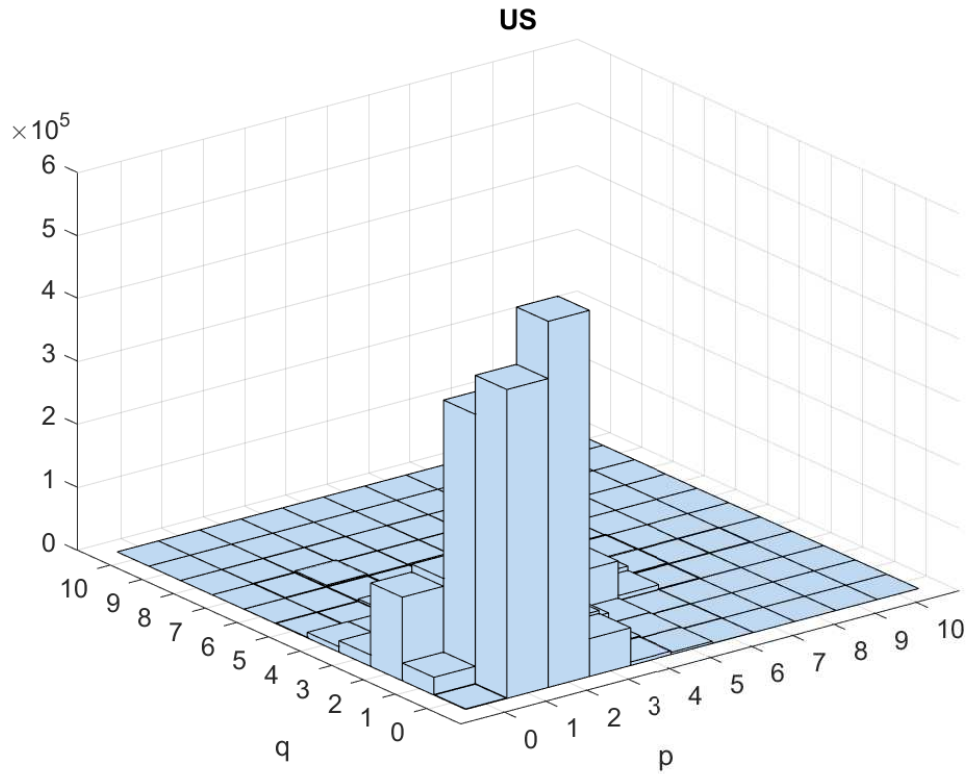
Problem: Want to analyze posterior distribution also spanning model space
$\Rightarrow$ Dimensionality of parameter space varies

Solution: Reversible Jump Markov Chain Monte Carlo

- Generalization of Metropolis-Hastings samplers
- Samples from a joint posterior distribution across different models and their corresponding parameter spaces

Posterior Distribution Across Models

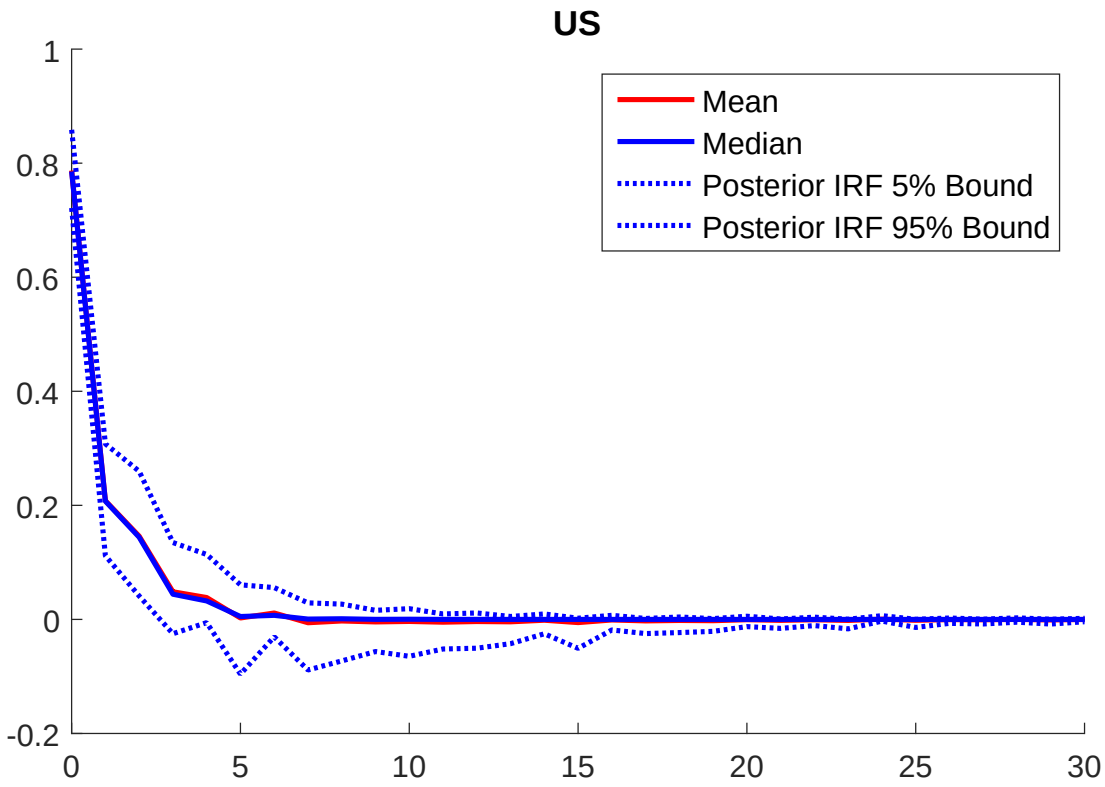
Posterior distribution across ARMA(p,q) models:



⇒ Posterior model probabilities

Posterior Distribution: Impulse Responses

Can analyze posterior distribution for any statistic while accounting for model uncertainty!



Modern Scientific Paradigm

Modern scientific practice:

- Transparency
- Reproducibility

Also: Want to publicize new technologies!

Problem: Need to publish source codes and data!

The Solution

QuantNet 2.0

- provides a technology to easily share data and programs
- provides a platform focused on scientific applications
- makes technology searchable
- supports transparency and reproducibility
- enhances and encourages collaboration through seamless GitHub integration
- visualizes connections between scientific applications

What is GitHub?

- A distributed version control system (Git)
- A collaboration platform (Hub)

Advantages

- QuantNet will be fully integrated with GitHub in the near future!
- It will be easy for other researchers to find your code
- Your code is checked by the audit team!

What I did

1. Create GitHub repository
2. Move code into GitHub repository
3. Develop with an eye on style guidelines
4. Write readme.md
5. Declare running version ready for audit

After the audit is complete, the end product on the QuantNet 2.0 page

Thank you for your attention!