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The asymmetric effect of uncertainty on monetary transmission

Péter Horváth

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Motivation

Empirical research → Monetary policy → Recent „hot topics”:

- Uncertainty
- Asymmetry

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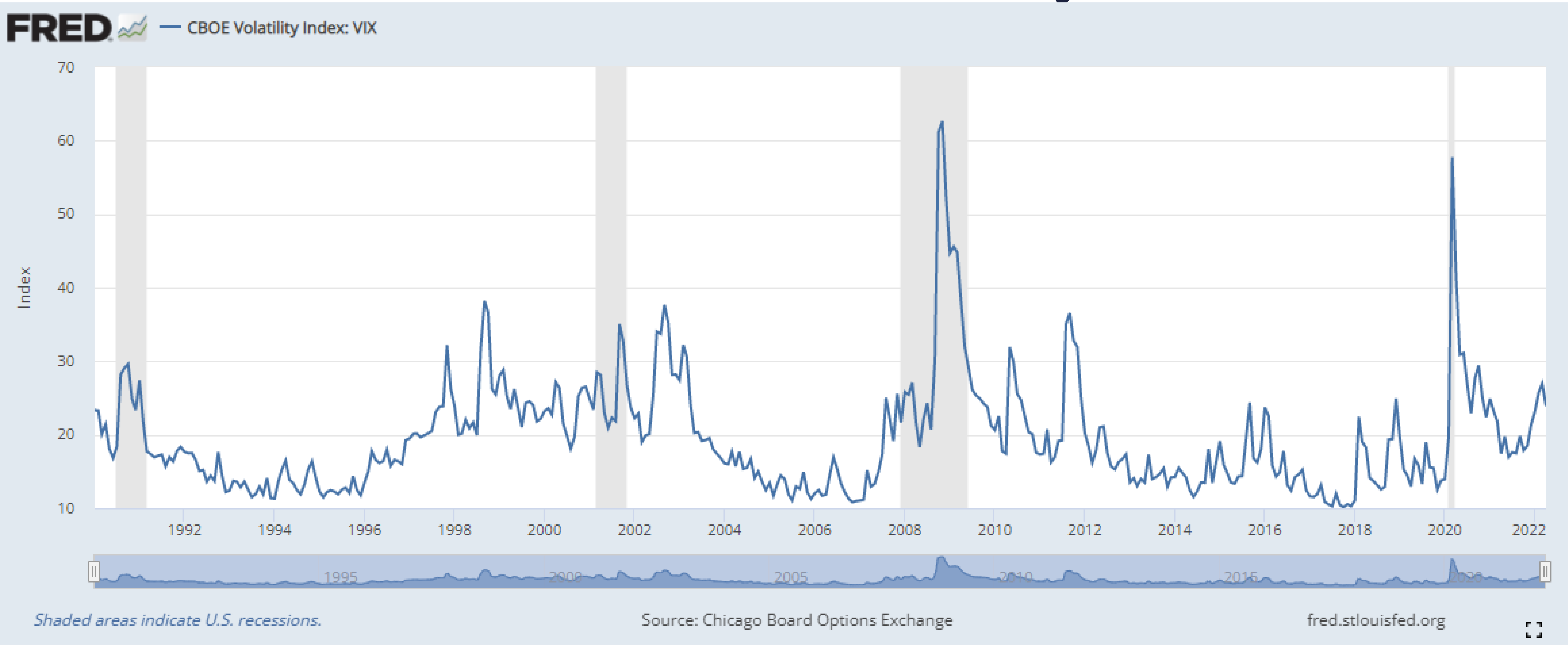
- Uncertainty
- Asymmetry

Hypothesis

The monetary transmission mechanism is less effective when economic uncertainty is high – meaning it’s less able to anchor inflation and only able to do so with a higher drop in economic activity.

How do we measure uncertainty?



Source: FRED

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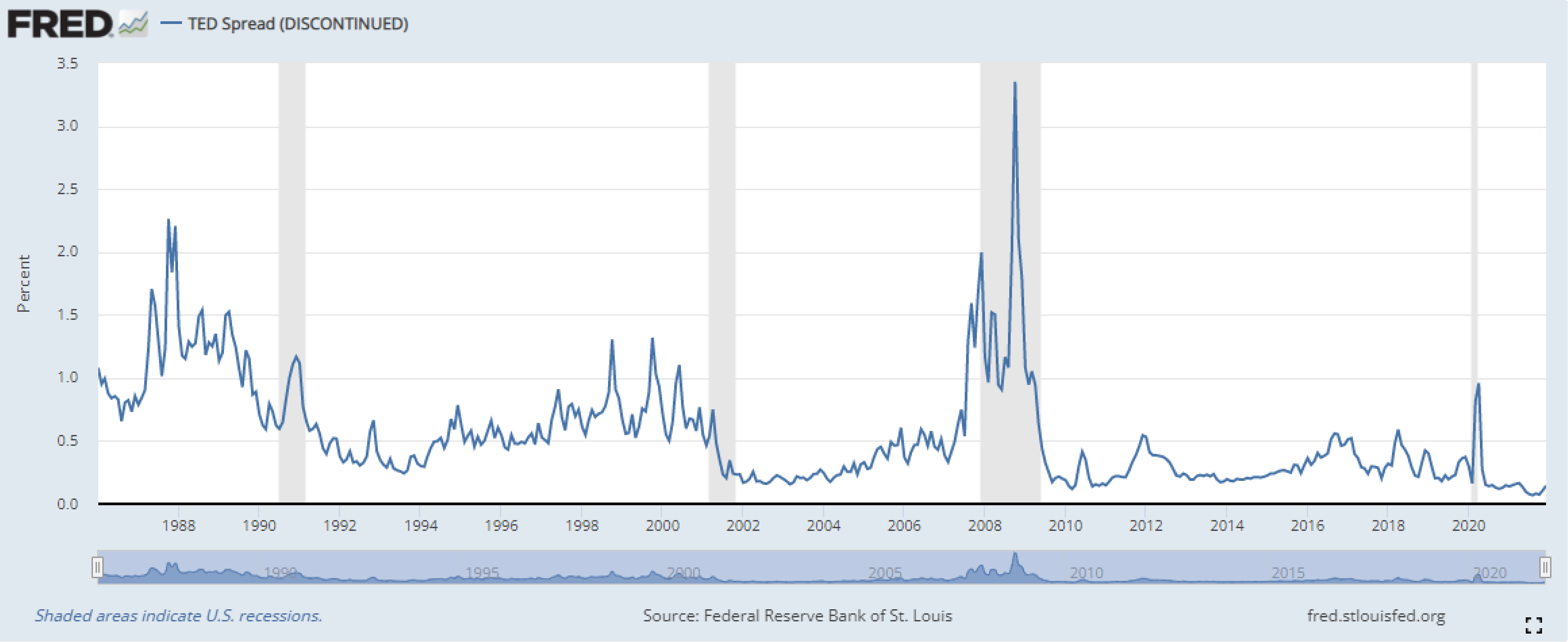

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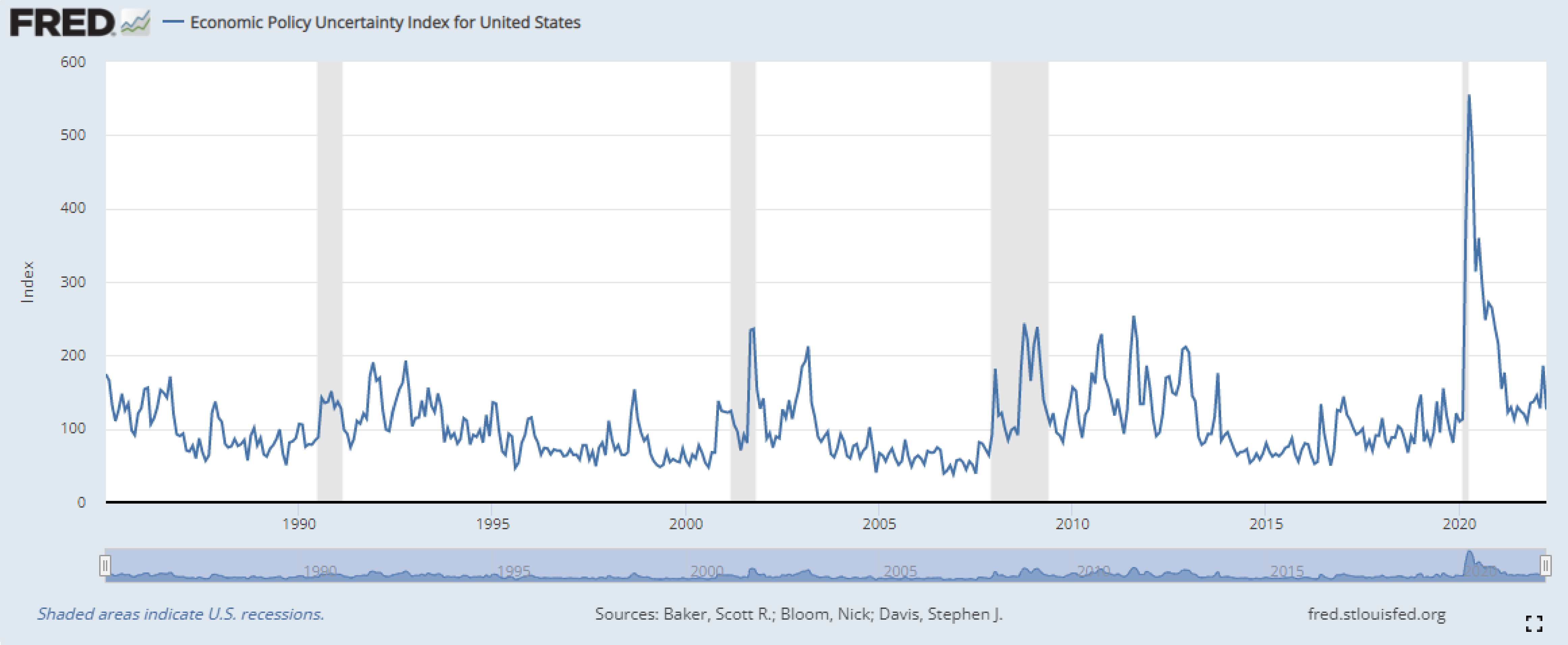

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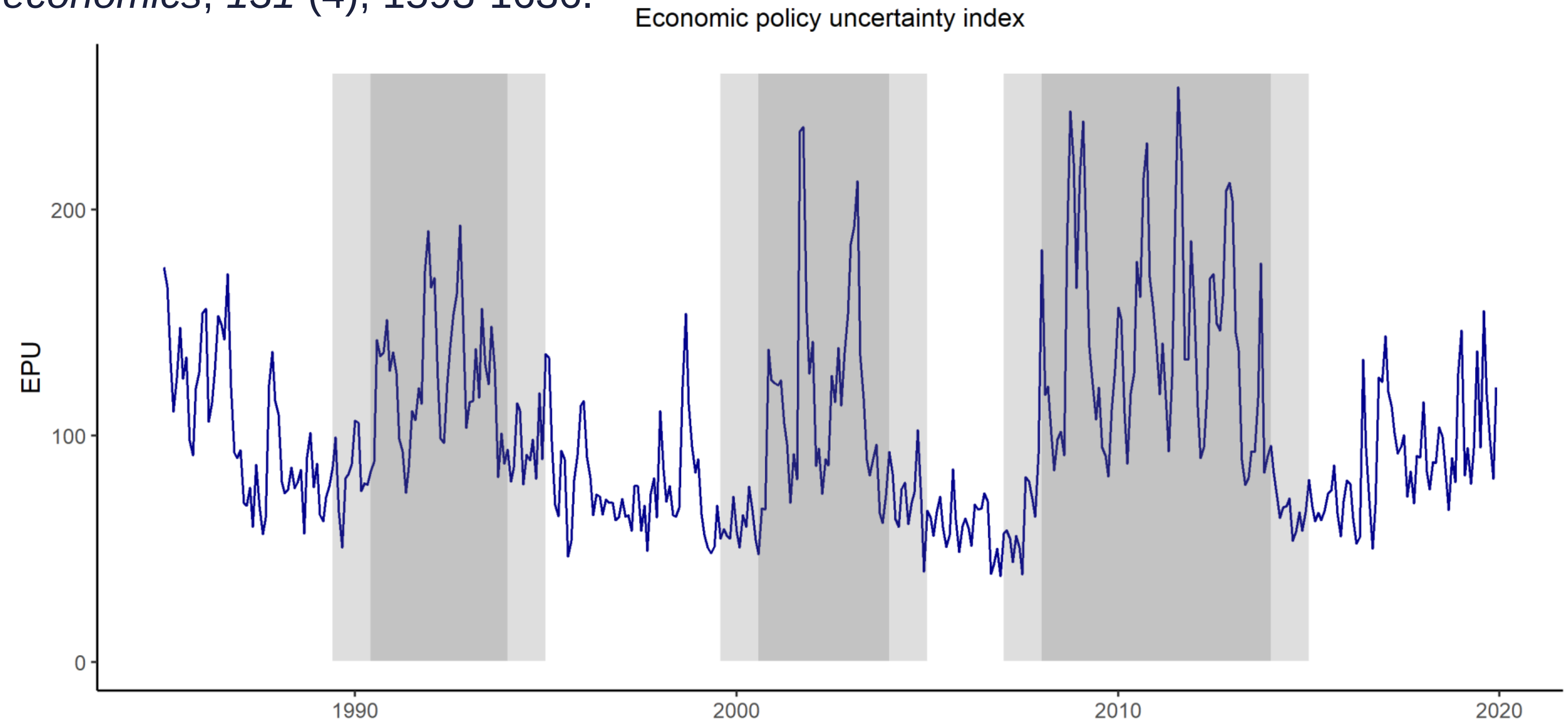
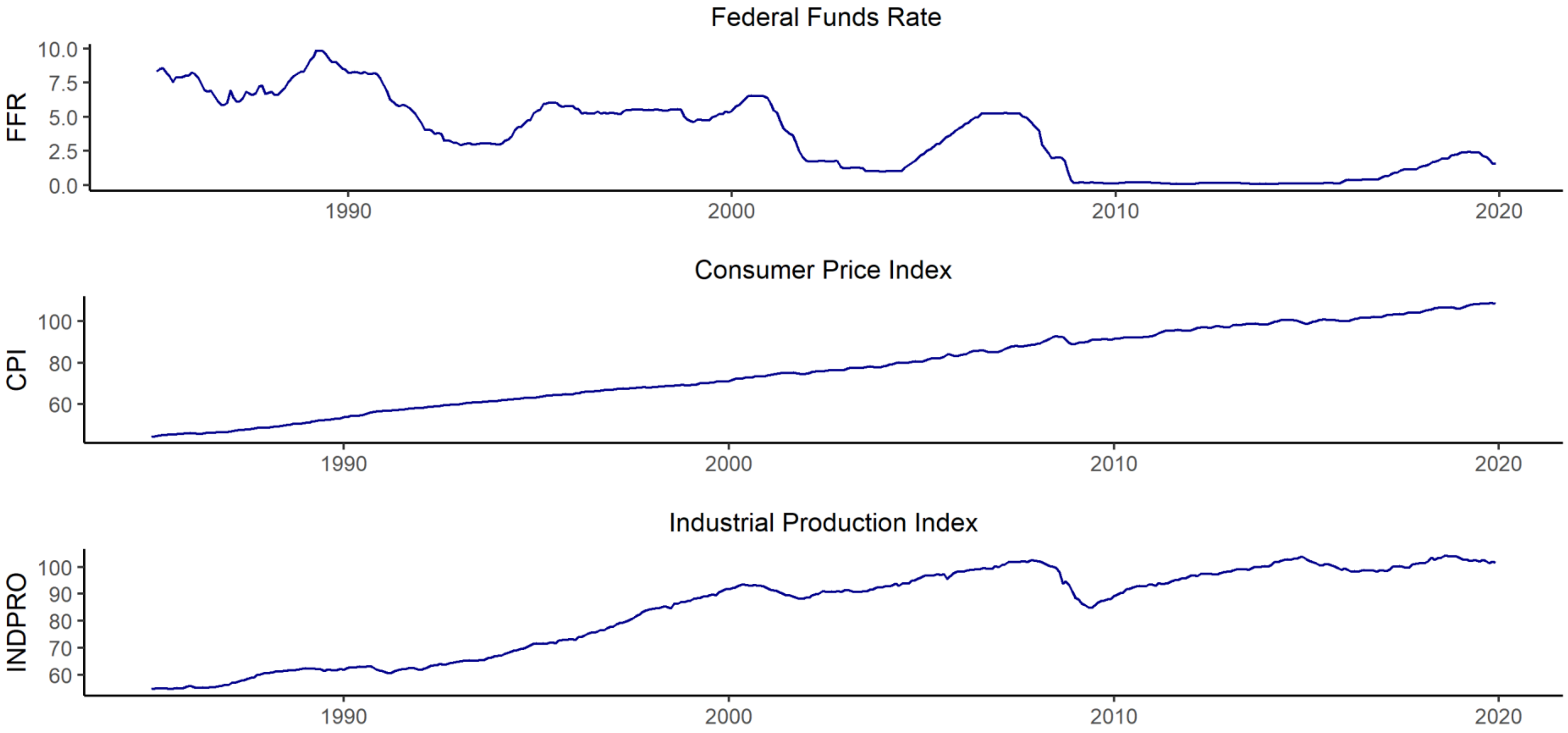
How do we measure uncertainty?

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The quarterly journal of economics*, *131* (4), 1593-1636.



Data

- Monthly US Data
- Range: January 1985 to December 2019
- As used in the model:
  - FFR – level
  - CPI – 1st difference (monthly inflation)
  - INDPRO – 1st difference (monthly growth in output)



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Methodology

- Vector-Autoregression
  - Estimate a baseline model
- VAR with time varying paramtere assumption
  - Estimate VAR-s in 60 month rolling window
- Impulse responses for assessing results
  - Point-by-point median aggregation

An empirical challange along the way

The price puzzle → Monetary aggregates? → Commodity prices? → Sign restriction!

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Methodology (continued)

- Sign restriction:

Interest rate	↑
Inflation rate	↓
Industrial growth	↓

- Only monetary shock is identified

- Uhlig, H. (2005). What are the effects of monetary policy on output? Results from an agnostic identification procedure. *Journal of Monetary Economics*, *52* (2), 381-419.

- Penalty method vs. rejection method

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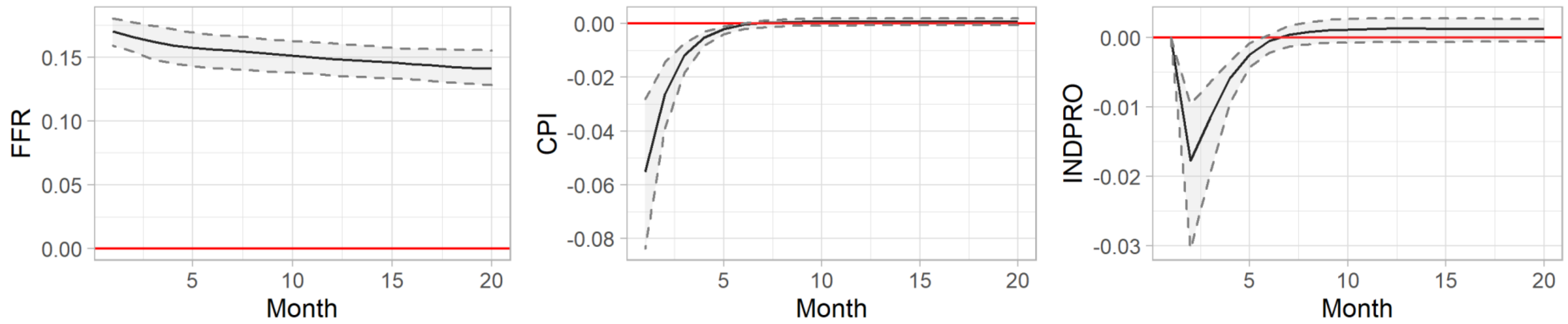
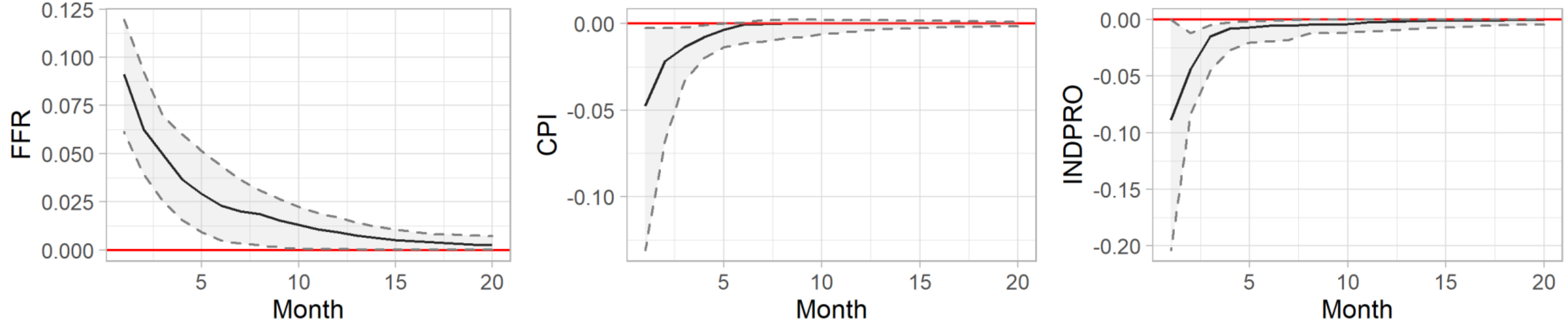
Evaluating results

Orthogonal impulse responses from FFR shock, baseline model



Orthogonal impulse responses from FFR shock, rolling window



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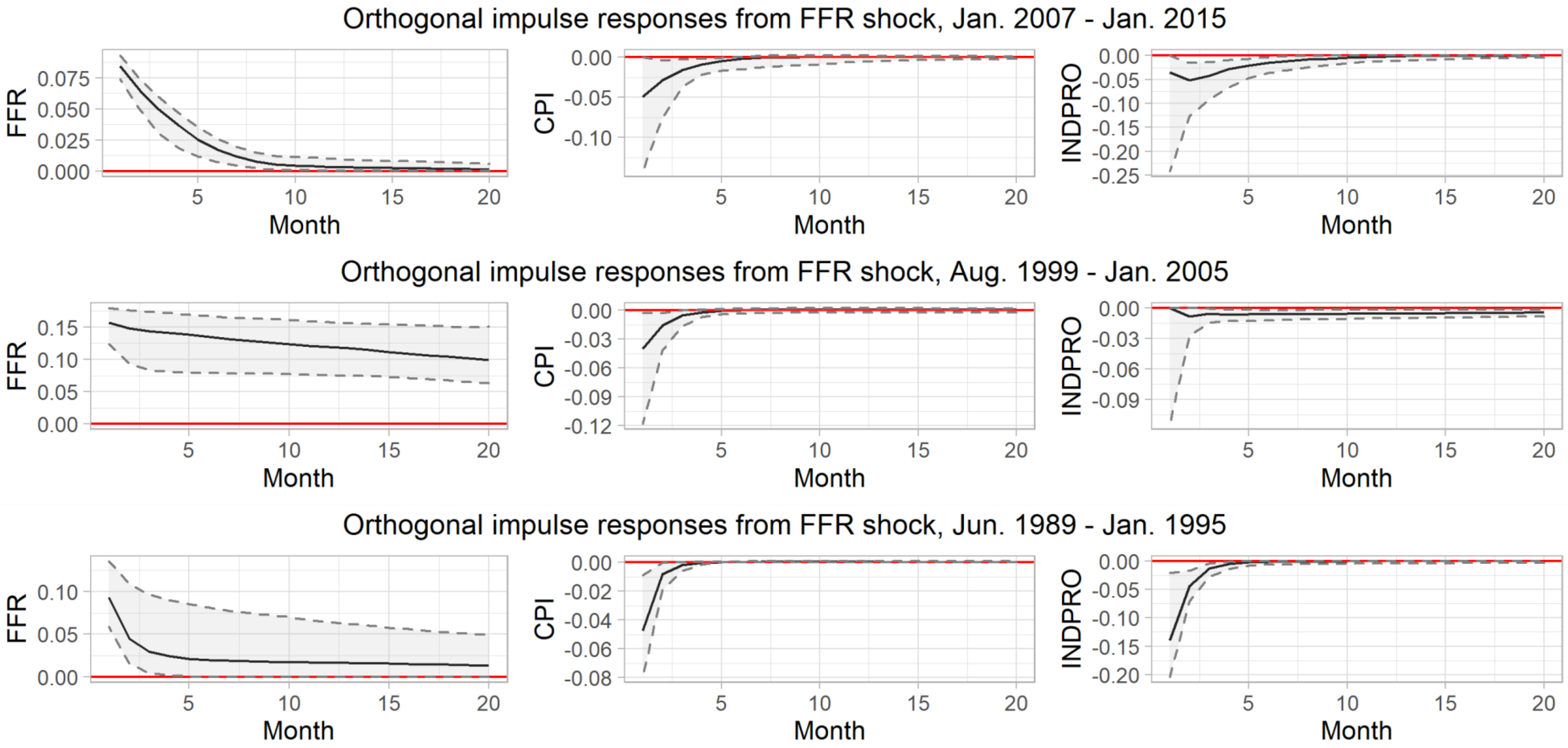
Dissecting the high uncertainty time periods



Moving forward

- More emphasis on time varying parameter assumption
- Is monthly data appropriate for my purposes?
- More elegant methodology for modelling assymmetries – TVAR / Switching VAR

Most important references

- Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The quarterly journal of economics*, *131* (4), 1593-1636.
- Uhlig, H. (2005). What are the effects of monetary policy on output? Results from an agnostic identification procedure. *Journal of Monetary Economics*, *52* (2), 381-419.

Thank you for your attention!