Discussion of "The Costs of Financial Crises in the United States"

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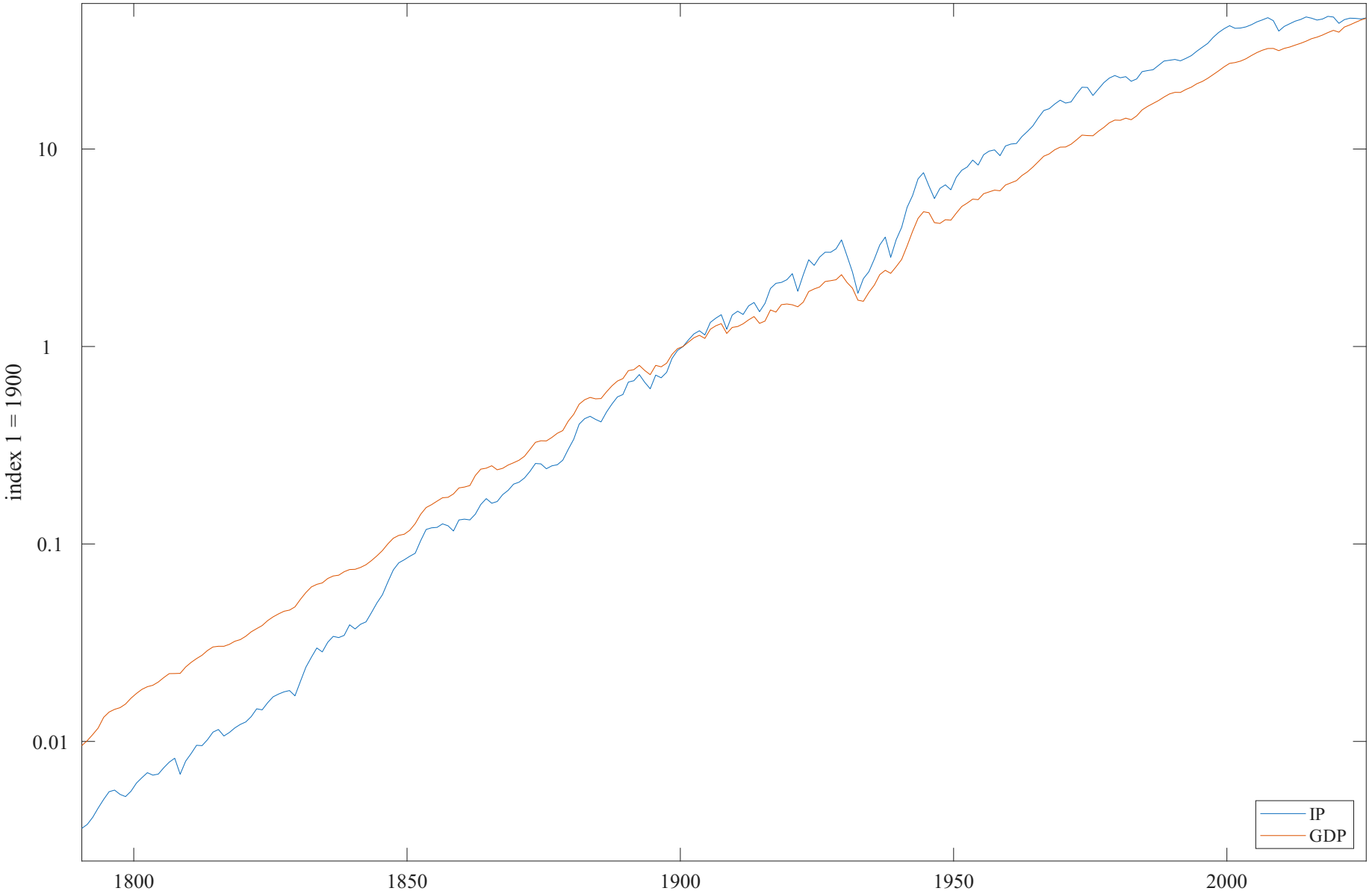
My remarks

- big paper ($\sim$ 90 pages) building on another big paper (150 pages)
- ambitious data effort:
  - state-level activity indices
  - state-level bank balance sheets
- my job is to quibble

Big Picture Stuff



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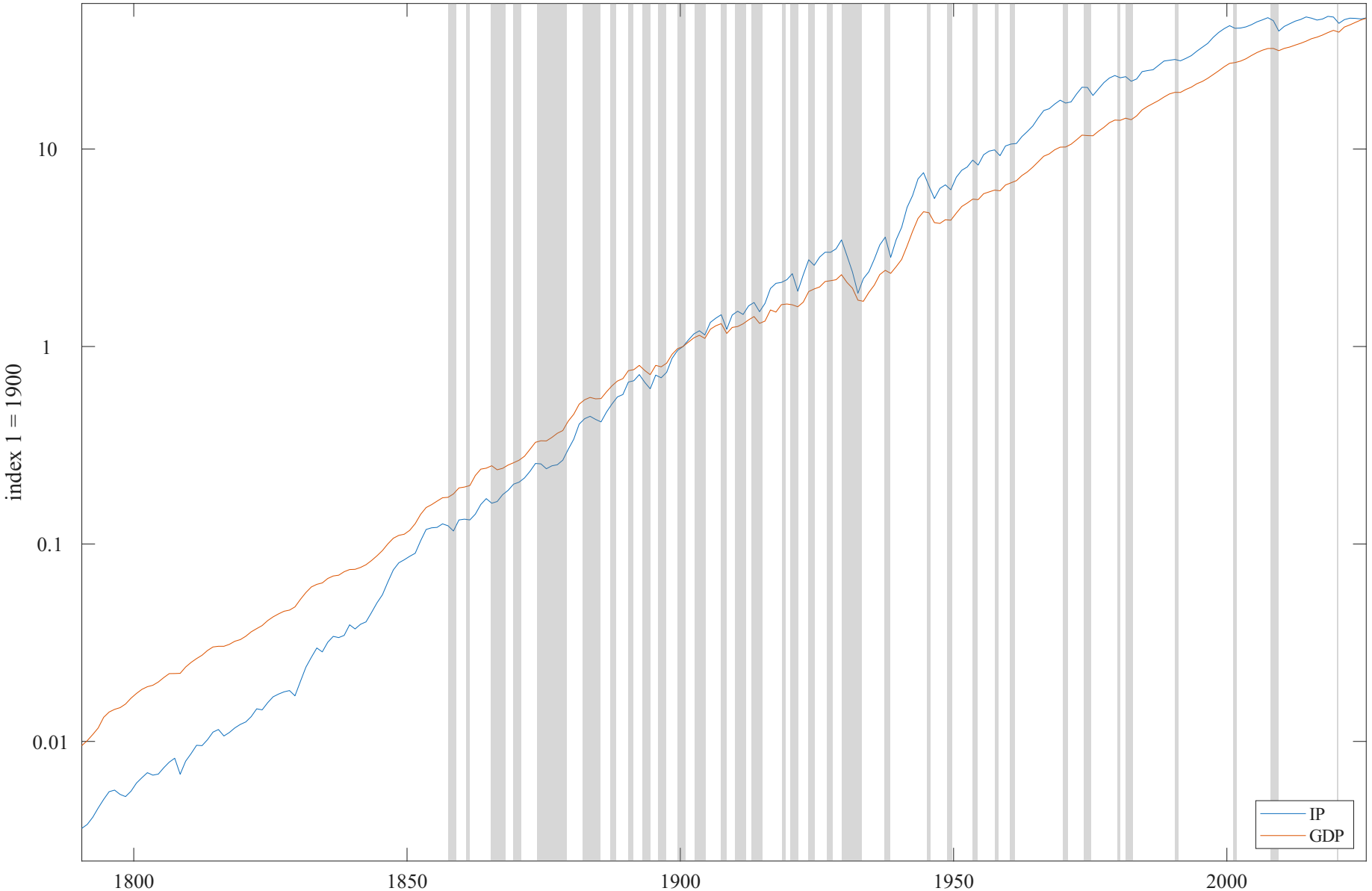

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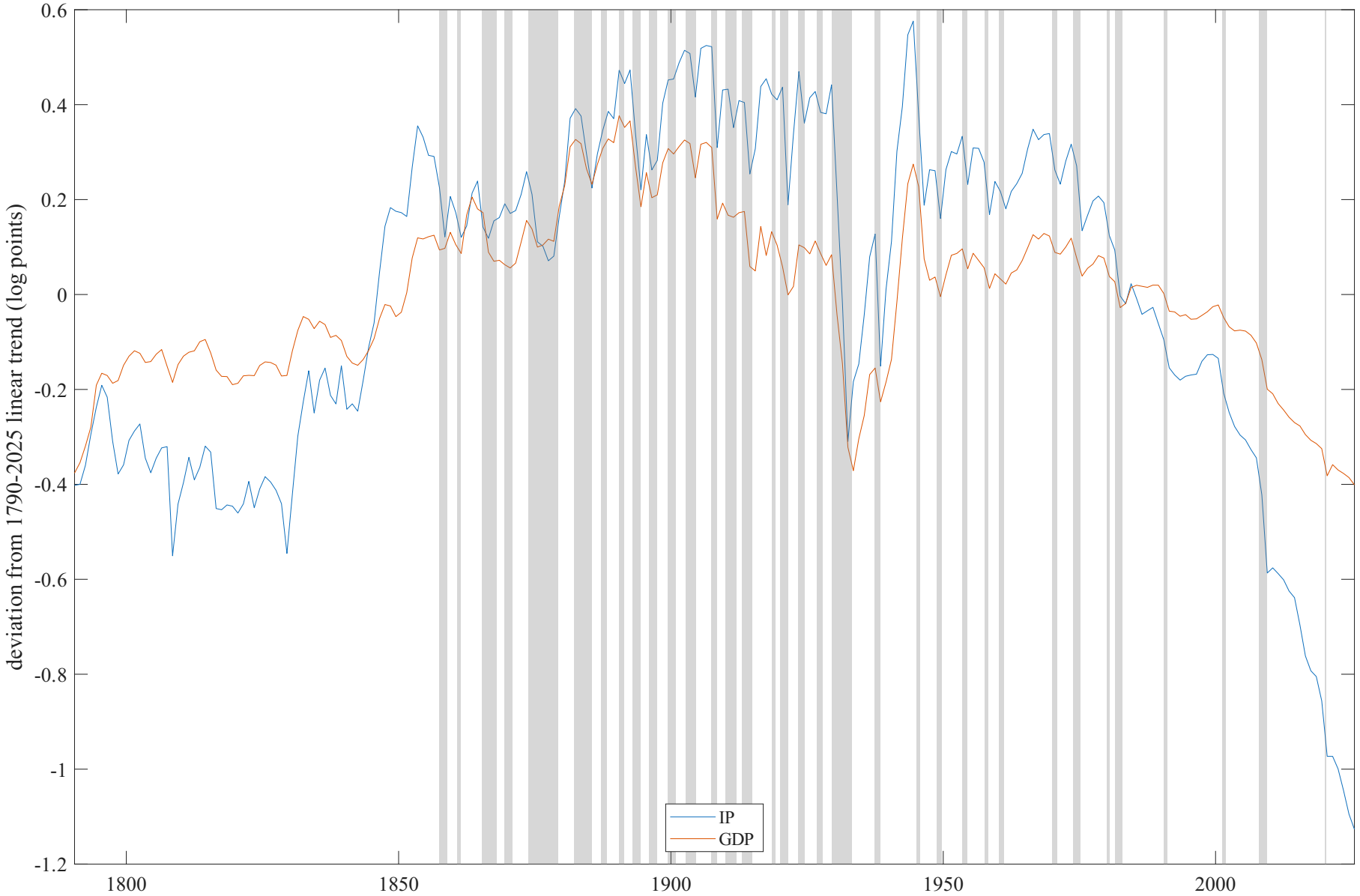

Data

- nationwide activity: GDP, IP
- state-level activity: state indices devised by the "Singapore crew" with lots of series and dynamic factor model
  - mixture of GDP inputs and other things (state revenues, house prices, . . .)
  - virtually no annual data before 1920
  - baseline index starts 1871, alternative (with banking data) starts 1863: which is used here?
- state-level banking balance sheets
  - coverage a big issue (state banks half of banking in 1910)
  - aggregates seem to match, but matching the trend isn't the goal
- crises chronologies
  - agnostic approach at national level: compare 25 existing chronologies, find ten "consensus" crises
  - "data-driven" at state level: at least 1 existing chronology has a crisis + local banking contracts + $\geq$ 1 local failure

The Devil is in the Footnotes

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- crises chronologies
  -
  -

- local projections

$$Y_{t+h} - Y_{t-1} = \alpha_h + \beta_h \mathbf{1}_{\text{crisis}} + \sum_{i=0}^{5} \Delta Y_{t-i}$$

  with Y in logs (?)
- IRF $\{\beta_0, \beta_1, \ldots\}$ is a **cumulative** response
- zeroing out the shock yields the counterfactual

Findings

1. nationwide crises are followed by downturns in state-level activity
2. state losses are persistently heterogeneous across states
3. markers of banking issues strongly predict the severity
4. new chronology of local distress: 798 crisis episodes
5. continuous "states-at-risk" index (state-level binary crisis index weighted by assets) predicts downturns

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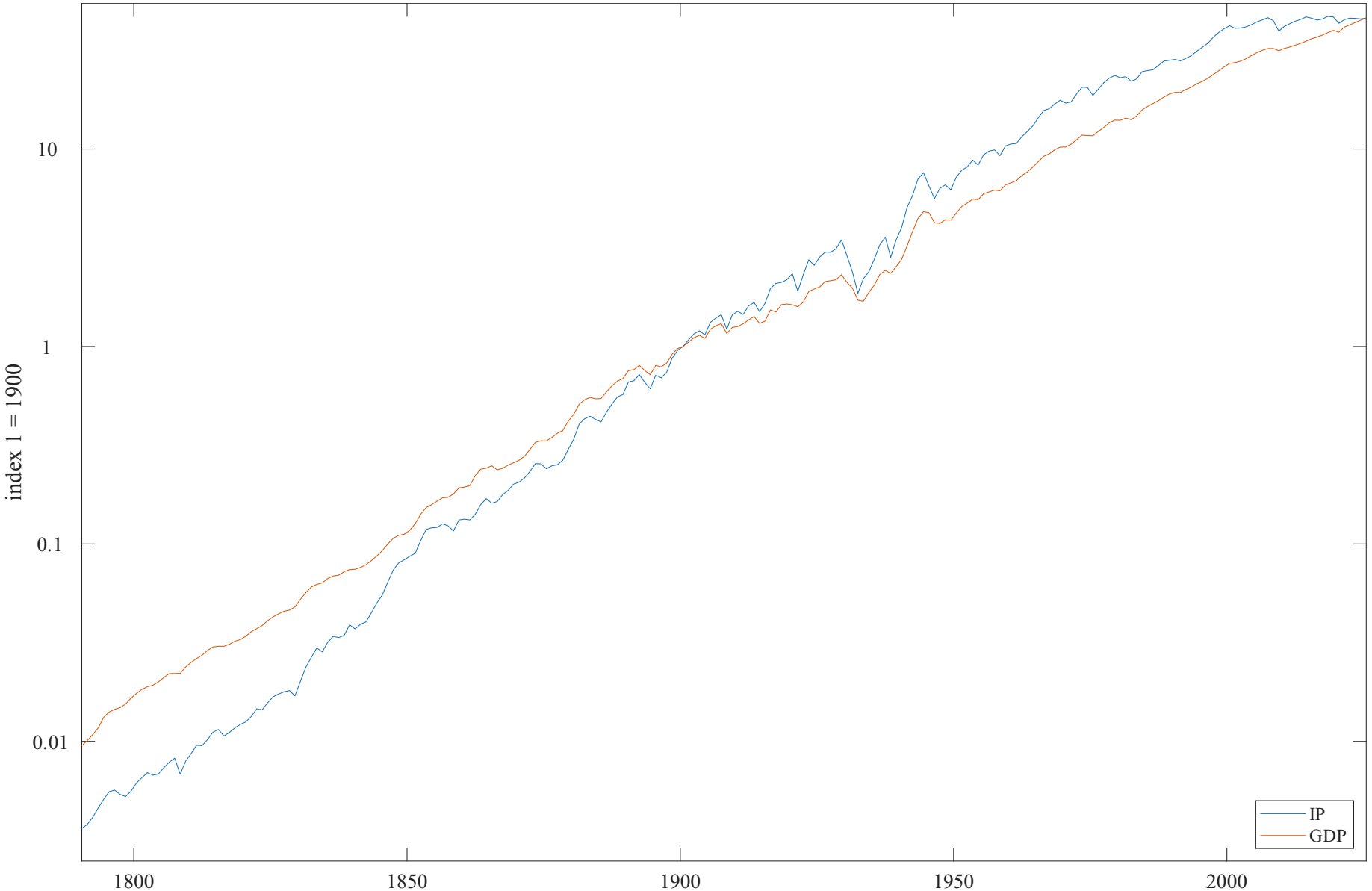

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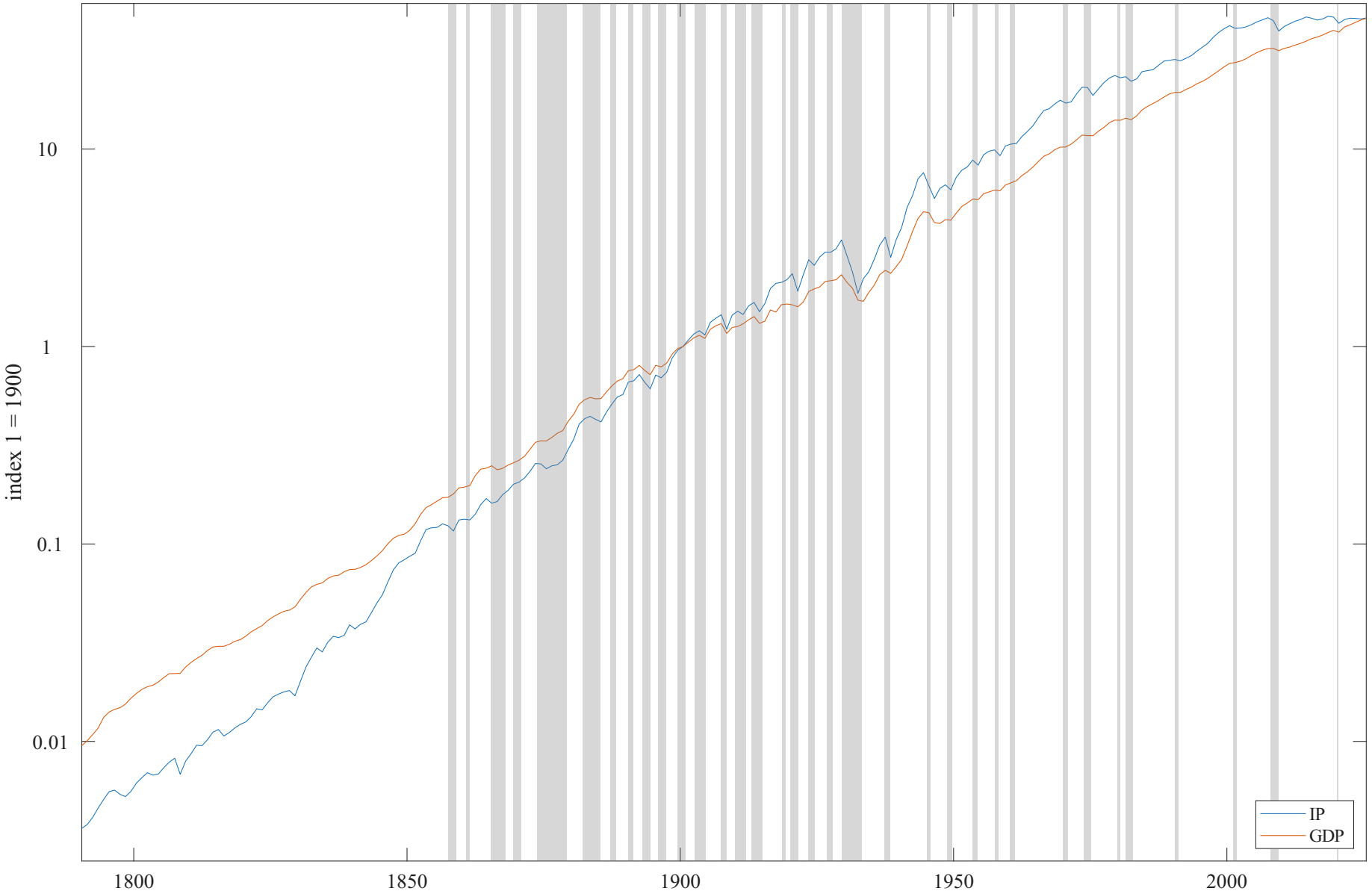
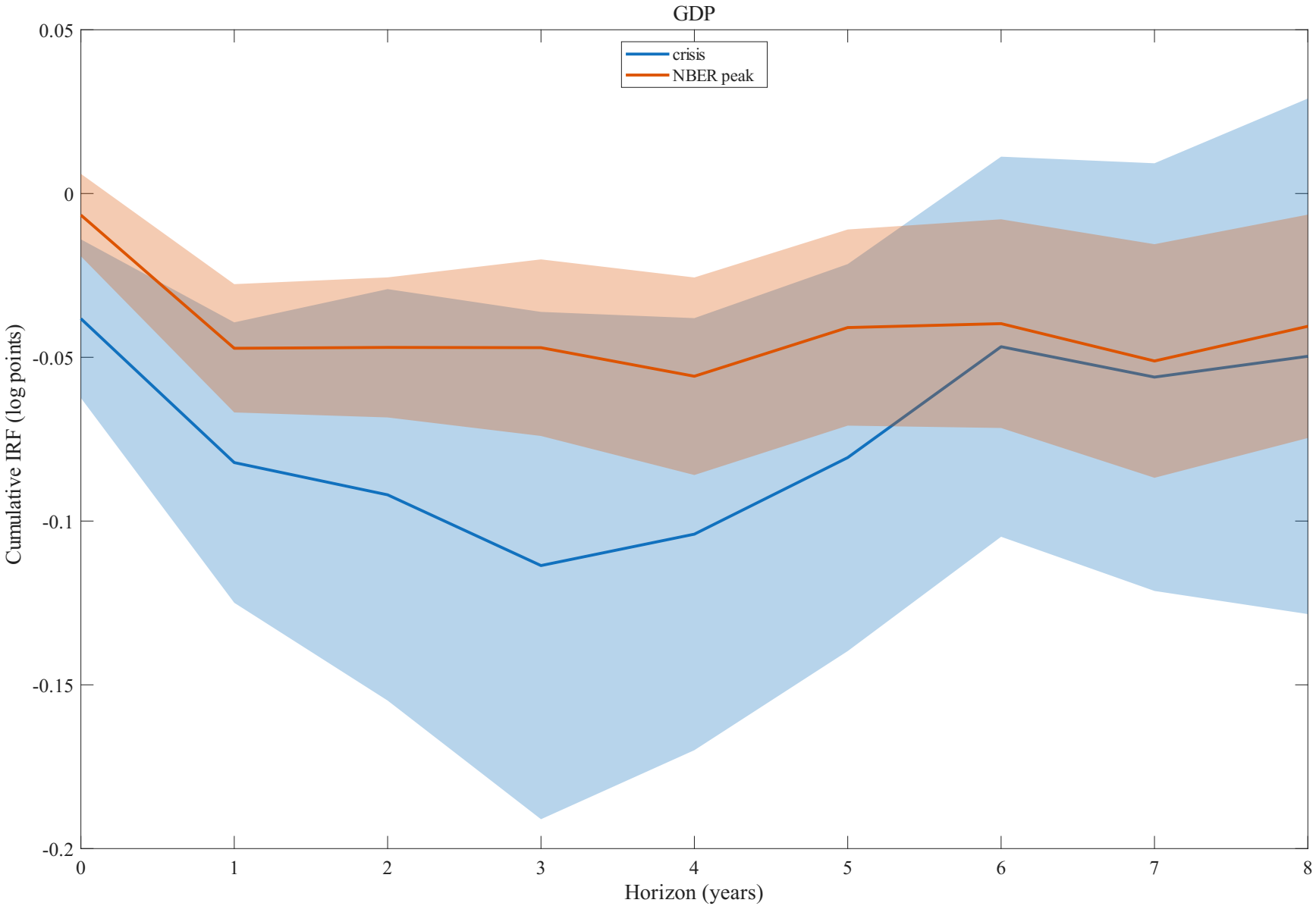


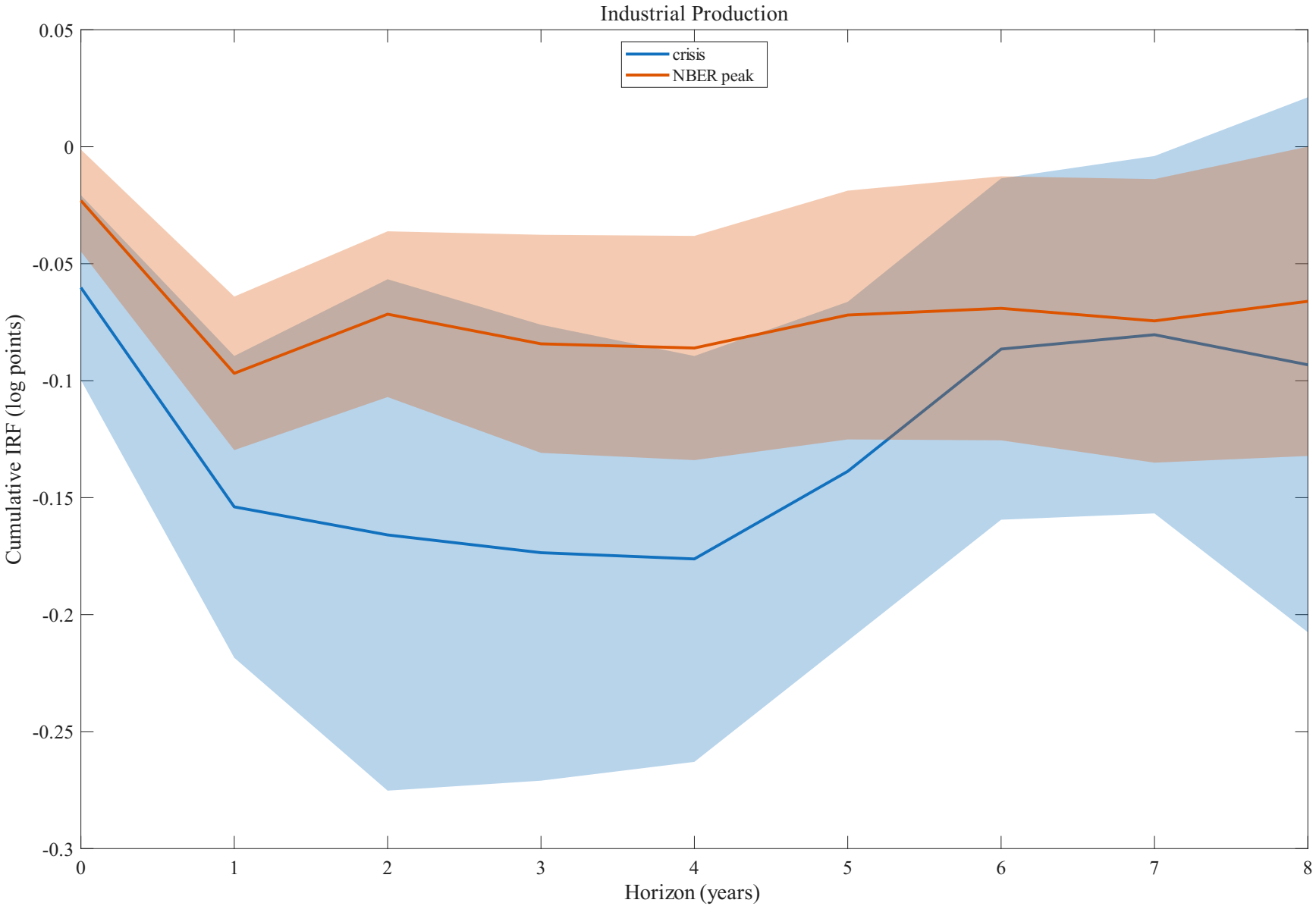
"Shocks"

- let's makes up a "shock": $\mathbf{1}_t$ if NBER peak in year t
- how does its IRF compare with that of the crisis?

Crisis vs NBER peak



Crisis vs NBER peak



- let's make up some numbers and test our intuition

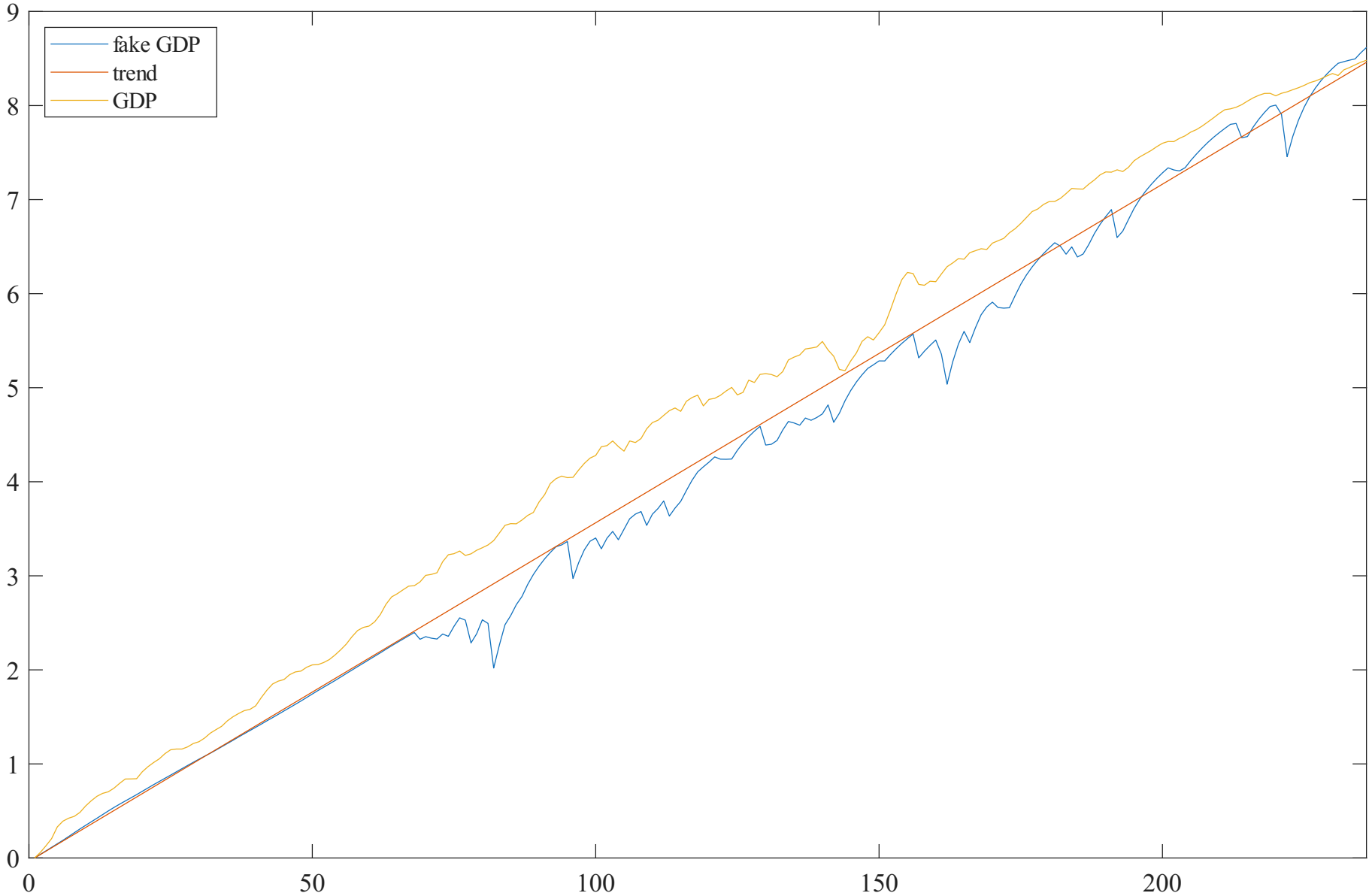
$$\hat{y}_t = \hat{y}_{t-1} + a$$

$$y_t = y_{t-1} + \rho(\hat{y}_{t-1} - y_{t-1}) - \sum_{t-3}^{t-1} \mathbf{1}_{shock,t} + u_t$$

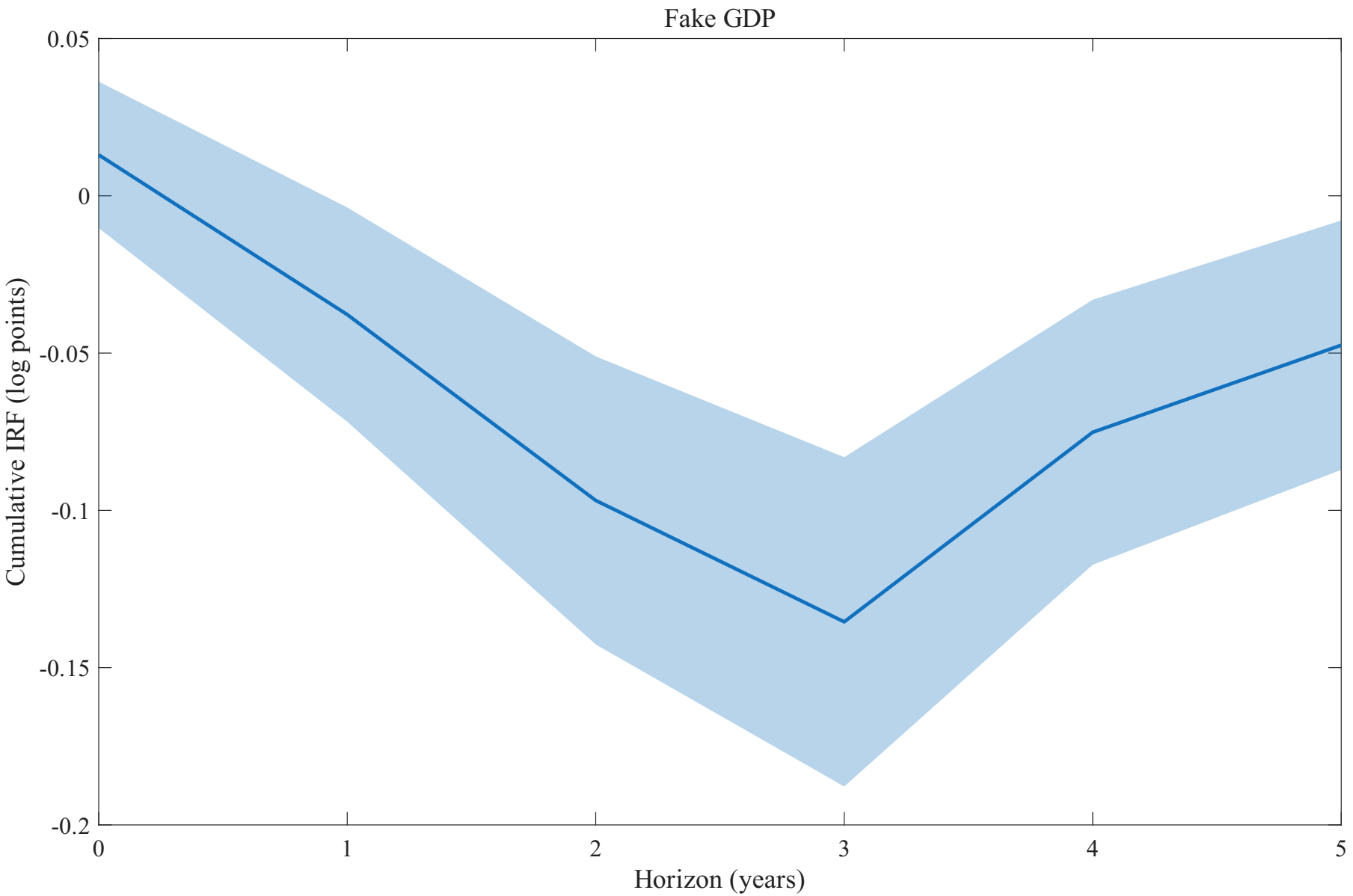
$$u_t = \rho_2 u_{t-1} + \epsilon_t$$

- y_t is an error-correction model hit by a MA(3) negative shock and AR(1) noise
- y_t returns to trend by construction
- $\hat{y}$ (the trend) is the counterfactual for no shocks
- $a0 = .036$, $\rho = 0.25$, ρ_2=0.9, $\sigma_{shock} = .07$, $\sigma_\epsilon = 1e-3$

Fake Data



Fake Data


Fake GDP
0.05
0
-0.05
-0.1
-0.15
-0.2
Cumulative IRF (log points)
0
1
2
3
4
5
Horizon (years)

What do we learn from IRFs

- hard to say without some model in mind
- persistence in IRF can be misleading

What are we looking for and how?

- what is a crisis?
- two polar views:
  - Diamond-Dybvig: multiple equilibria, avoidable
  - just another technological shock (mirrored in banking variables)
- which view is guiding measurement and interpretation?
  - econometrics treats it as exogenous shock
  - but they are measured with endogenous variables ("data-driven approach")
- authors "sidestep" the issue
  - 25 series, 25 definitions: is taking the union useful?
  - how many definitions rely on output (e.g., to define "substantial")?
- shock is not exogenous, and it's hard to reconstruct the DGP and hence the counterfactual

Where is Space?

1. mostly, it's a way to enlarge the sample size
   - each state is a draw from a population of economies
2. (slight) worry about induced spurious temporal correlation
3. spillovers/network effects? Insurance mechanisms (ex-ante private, ex-post redistribution)?

Conclusion

- contribution to a crowded "chronology" literature
- moving to the level of US states level is big progress
- a bit more structure might help differentiate further