Discussion of: "Uncertainty Through the Production Network" by Cacciatore and Candian

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[1] I thank Giovanni Pellegrino for useful exchanges.

What Matteo and Giacomo do and find

How does sectoral uncertainty propagate through a production network?

- This paper's 2 contributions:

1 Empirical: Sectoral uncertainty shock hitting sector j, effects:

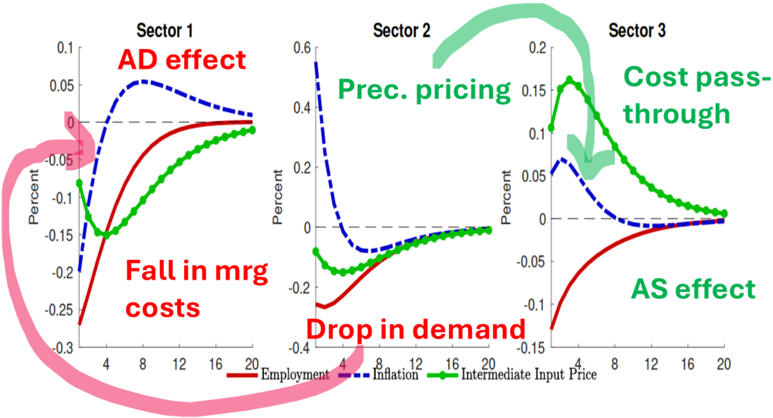
a $\uparrow \pi$ and $\downarrow$ empl. in sector j (direct effect)

b $\uparrow \pi$ and $\downarrow$ empl. in downstream sectors (spillover, "AS" shock)

c $\downarrow \pi$ and $\downarrow$ empl. in upstream sectors (spillover, "AD" shock)

2 Theoretical: "NNK" framework (NK framework with network effects) and sectoral uncertainty shocks replicates the facts

NKK: Sectoral uncertainty as AS/AD shocks



- Precautionary pricing key (Fernández-Villaverde et al. 2015, Born and Pfeifer 2020; Bianchi et al. 2023, Andreasen et al. 2024)

My take on Matteo and Giacomo's paper

- Elegant and insightful paper, modeling & policy relevant - classic Cacciatore-Candian!
- Merits of this contribution? Many!

1. Focus on sectoral uncertainty (vs. aggregate), proxies for sectoral fin. uncertainty/shocks
2. Clarifies the nature(s) of uncertainty shocks (not necessarily demand shocks)
3. Provides a "broad" theoretical intuition (e.g., global shocks, China (upstream) vs. US (downstream); commodity exporters (upstream) vs. importers (downstream), ...)

My comments

- Comments will mainly focus on:

1. Two-regime inflation view
2. Policy recommendation in NNK framework
3. [Miscellaneous]

Two-regime inflation view

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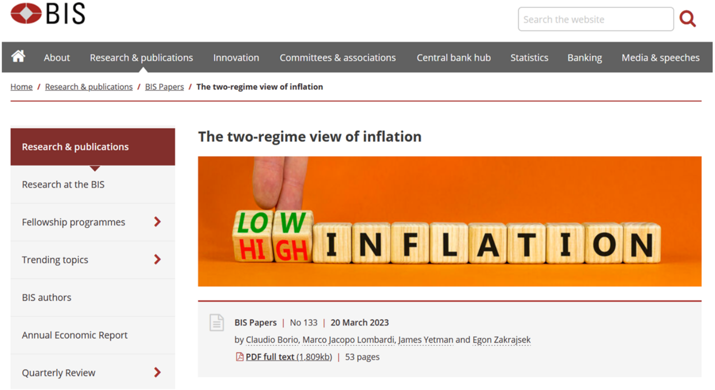
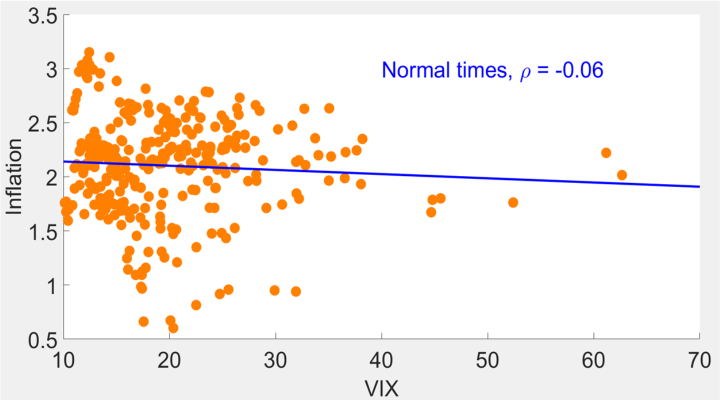


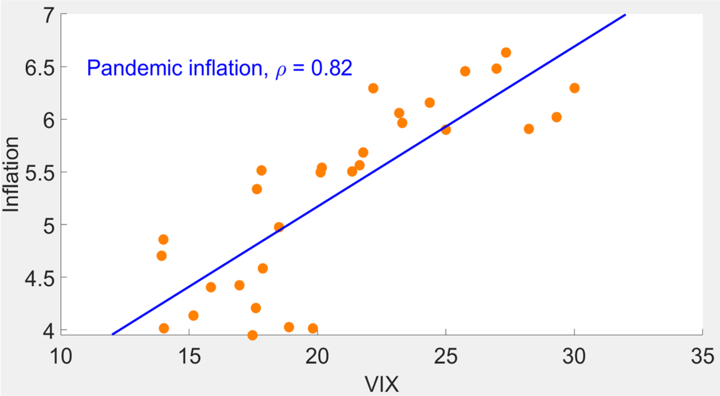
- Uncertainty-inflation relationship: State-dependent?

Uncertainty and inflation in normal times



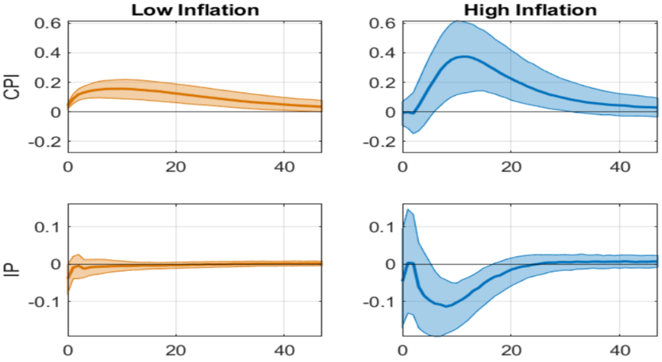
- Comovement positive (negative) for 2/3 (1/3) of the sectors
- Possible interpretation: "upstream + downstream $\approx$ 0"

Uncertainty and inflation during the pandemic



- June 2021 - November 2023 (inflation $>$ 4%)

Aggr. uncertainty shocks more powerful during the pandemic

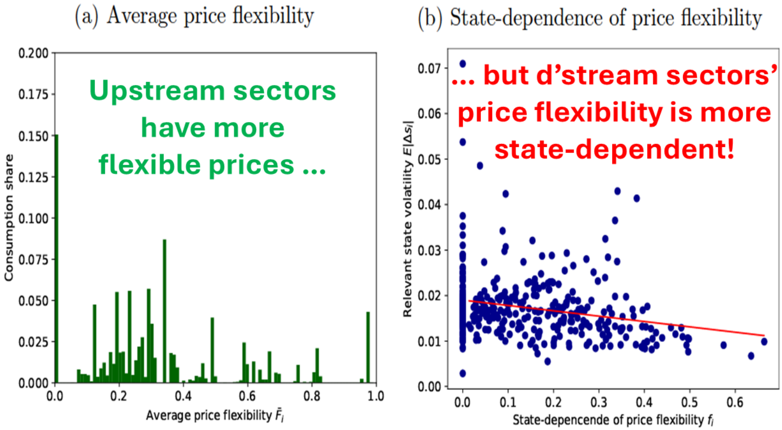


- Castelnuovo, Pellegrino, and Særkjær (2025)

What's behind the switch?

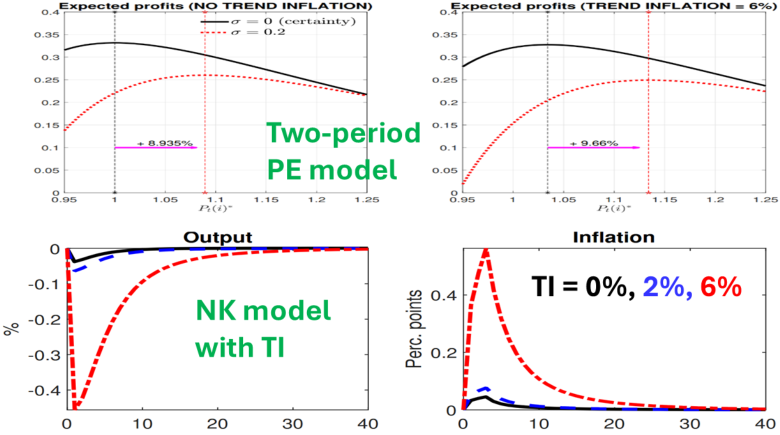
- Empirical: Time-varying role played by sectoral uncertainty shocks?
  * Larger role of common (vs. sectoral) disturbances? (global supply chain disruptions, shocks to energy/oil markets)
- Theoretical: Functioning of NNK model when inflation is high? Role of spillovers?
  * State-dependence when big shocks occur (Antonova 2025)
  * Trend inflation (Ascari and Sbordone 2014; Castelnuovo, Pellegrino, Særkjær 2025)

State-dependence is relevant, above all downstream



- State-volatility proxy for price flex, Antonova (2025)
- Downstream sectors more relevant during the pandemic?

Precautionary pricing when inflation is high



- Precautionary pricing "enhanced" by TI (Castelnuovo, Pellegrino, Særkjær 2025) across sectors
- Diminished role of spillovers? (Common vs. sectoral uncertainty)

Policy recommendation in NNK framework

Policy recommendation

- Uncertainty shocks look like supply shocks
- One-sector-only models: Optimal monetary policy (SIT) implies no inflation-output gap trade-off (Cho, Han, Oh, Rogantini Picco 2021)
- Intuition: SIT "kills" precautionary pricing, countercyclical markup, output gap response (Castelnuovo, Pellegrino, and Særkjær 2025)
- How about NNK model? Should mon. policy target aggregate or sectoral inflation?

Policy recommendation

- Compare different Taylor rules with:

i) Aggregate inflation, SIT vs. FIT

 * Sectoral implications? Firms' profits, markups, price dispersion

ii) Sectoral inflation, conditional on the same policy coefficient

 * What sector(s) should be targeted? Upstream (source of inflation) vs. downstream (aggregate demand-type of effects)

Wrap up

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- Beautiful contribution on sectoral uncertainty and inflation
- I would like Matteo and Giacomo to:

1. Think about normal times vs. pandemic inflation when it comes to the role of sector-specific vs. common uncertainty shocks and their effects
2. Exploit their NNK model to provide us with policy recommendations

If you work on uncertainty, you gotta read this paper!

Thank you very much!

Miscellaneous

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- Sectoral shocks: Generated regressors, bands?
- Empirical evidence: Lower bound more than point estimate? "Cascading shocks" à la Diercks, Hsu, Tamoni (2024)? Relative upstream/downstream relevance?
- Controls: Oil/energy shocks? (above all if pandemic included in the analysis) Information shocks à la Jarocinski and Karadi (2020), Miranda-Agrippino and Ricco (2021)?
- Network multiplier for aggregate inflation/employment: Quantification? Saijo (2025)