Discussion of

“Pipeline Pressures and Sectoral Inflation Dynamics”

F. Smets, J. Tielens & J. Van Hove

by

Klaus Adam

Summary

- Bayesian estimation of augmented Smets & Wouters model

- Augmented along following dimensions
  - Intermediate goods production

    7 sectors: capital, labor & intermediate goods < BEA input output matrix
  - Intermediate consumption good production

    4 consumption goods: CES-aggregate of intermediate goods < BEA bridge tables
  - Final consumption good:

    CES aggregate of the 4 intermediate consumption goods < Cons. exp. shares
  - Capital producers:

    Investment is CES aggregate of intermediate goods < BEA investment flow tables
- Sticky prices: interm. goods & interm. cons. goods < Wedge between PPI & PCE
- Sticky wages: sector specific wages (sector specific labor & capital inputs)

Summary

- Bayesian estimation of augmented Smets & Wouters model

- Augmented set of observables:
  standard aggregate variables, but with aggregate PPI & PCE inflation
  sectoral variables: PPI inflation, hours, wages, output, investment
  intermediate cons. good inflation

- Model is involved (model description completed on p. 17)

Contribution

- Model similar to Nakamura and Steinsson (QJE 2010)
- But here: estimated rather than just calibrated
- Full set of shocks, instead of just MP shocks & transmission
- Can decompose inflation dynamics:

  Which shocks drive aggregate ppi/pce inflation and how?

Contribution

Proposes (forecast error variance) decomposition:

$$\sigma^2(\pi) = \sigma^2(\alpha) + \sigma^2(\beta) + \sigma^2(\gamma)$$

$\sigma^2(\alpha)$: variance contribution from aggregate shocks

$\sigma^2(\beta)$: variance contribution of sector j shocks on sector j PPI inflation

$\sigma^2(\gamma)$: variance contribution of the **pipeline**

(1) sector *j* inflation affected by shocks in other sectors

(2) covariance term I: sector *j* shocks affects inflation in sectors *k* and *l*

(3) covariance term II: covariance since sector *j* shocks affect sector *j* and *k* inflation

Contribution

- Forecast error variance decomposition (h=infinity)

	$\sigma^2(\alpha)$ (aggregate)	$\sigma^2(\beta)$ (direct)	$\sigma^2(\gamma)$ (**pipeline**)	
Aggregate PPI:	69%	9%	21%	(12% for h=1)
Aggregate PCE:	45%	26%	28%	(24% for h=1)

Comments

- Forecast error variance decomposition

  - Uncertainty bands around the contribution?

  - Understanding the channels better

Understanding the pipeline channels better I

Decompose pipeline contribution:

(1) sector *j* inflation affected by shocks in other sectors

(2) covariance term I: sector *j* shocks affects inflation in sectors *k* and *l*

(3) covariance term II: covariance since sector *j* shocks affect sector *j* and *k* inflation

Understanding the pipeline channels better II

What economic mechanisms give rise to the pipeline contribution?

- shut down price rigidity (at different levels)
- shut down wage rigidity
- isolate the contributions of different kinds of shocks

Understanding the pipeline channels better II

- Currently quantification of pipeline pressure based on calibrated model

  "In order to present more disaggregated results, we use the estimated of the baseline model with {J=7,Z=4} to calibrate a disaggregated version of the economy with {J=35,Z=17}. The relevant structural tables and other details are in appendix E."

- Unclear why?

- Possibly affects results. Appendix E:

  - Use more disaggregated input/output & bridge tables: Fine!
  - **"For the shock processes…, we assume the processes of the "parent sector" are the same for the underlying sectors":**

    Reasonable? Now shocks all uncorrelated? Sector level less volatile?

Conclusions

- First paper to structurally *estimate* a New Keynesian model with substantial supply-side heterogeneity

- Range of interesting features, including
  - double price rigidity
  - wedge between aggregate PCE & PPI inflation

- Interesting substantive economic results:

- how sector-level shocks operate through the production chain
- how do sector-level shocks contribute to aggregate inflation

Discussion of

“The Flattening of the Phillips Curve and the Learning Problem of the Central Bank”

Jean-Paul L’Huillier and William R. Zame

by

Klaus Adam

The Problem Analyzed

- CB wants to counteract nominal demand pressures => stabilize prices
- CB learns about nominal demand pressures from price pressures
- **Paradox:**
  If prices reveal demand pressures
  $\Rightarrow$ CB can completely stabilize prices
  $\Rightarrow$ Prices will not reveal demand pressures
  $\Rightarrow$ CB cannot completely stabilize prices
- Learning from prices: EQ non-existence (Bernanke & Woodford (1997))

Structure of Discussion

- Place the problem in the paper into wider context of the literature

- Remarks about the specific problem under study:

  Relative to existing literature has interesting twist:

  Dynamic setting (three periods)

  Commitment to long-run price stability interacts with ability to learn & stabilize short-run demand pressures

Wider context: self-defeating prophecies

Siemroth (JET, 2019):

- makes important progress on REE models where policymakers learn from prices

- learning from asset prices: bank regulator learning from bank bond prices

- problem has same structure as learning from consumer prices

Wider context: self-defeating prophecies

Siemroth (JET, 2019):

Learning form market prices possible in EQ (EQ existence!), but depends on

- uninformed policymaker who *only* learns from prices
  vs. policymaker with independent additional information
- for uninformed policymaker: market ‘noise’ vs. no noise
- for policymaker w independent info: policymaker preferences
  preferences for complete vs. incomplete stabilization

Wider context: self-defeating prohecies

L'Huillier & Zame: uninformed policymaker & absence of market noise

Siemroth (2019) provides cook-book recipe for checking existence:

- Derive optimal actions M(S)
  assuming state S is revealed to policymaker by market prices
- Check if the EQ mapping P(S) implied by M(S) is invertible
- If not, then no EQ with learning from prices
- Clearly: if policymaker wants to implement P(S)=P, invertibility fails!

Wider context: self-defeating prohecies

Results in Siemroth (2019) suggest that:

- noisy observation of the price level P(S) by policymaker may help
- independent information about S by the policymaker may help

Committing or not-committing to *long-run* price stability in t=3:

Appears to exactly generate the kind of noisy information that leads to existence!

Specific context: self-defeating prohecies

What is the role of ‘long-run’ price stability in L’Huillier&Zame:

- not-perfectly stabilizing prices in t=3

  => makes it more attractive for price setters to move prices in t<3

- and since prices in t=3 move, it is not optimal for policymaker to completely stabilize in t<3

- mapping P(S) is then again invertible: EQ with learning from prices back

Specific context: self-defeating prohecies

How plausible is the proposed mechanism?

Allowing prices to move in the “long-run”
$\Rightarrow$ generates price adjustments in the short-run
$\Rightarrow$ allows learning about short-term demand pressures

Why are “long-run” prices relevant for short-term price setting?

More plausible: near-term prices are relevant for short-run price-setting…

Setup can plausibly rationalize: medium-term orientation to price stability

Summary

- Interesting problem studying trade-off between policymaker's
  stabilization objectives & learning objective

- Message/findings in the context of existing literature

- Very interesting:
  Alternative rationalization of medium-term orientation to price stability