Dissertation Workshop Presentation Notes

$$Y_t = B(L)\, Y_{t-1} + i_t \qquad i_t' i_t = \Sigma$$

$$A^{-1} Y_t = C(L)\, Y_{t-1} + s_t \qquad s_t s_t' = I$$

$$\hookrightarrow Y_t = \underbrace{A\, C(L)}_{B(L)}\, Y_{t-1} + \underbrace{A s_t}_{i_t}$$

$$\Rightarrow i_t = A s_t$$

so $i_t i_t' = A \underbrace{s_t s_t'}_{=I} A'$

$\Rightarrow \quad \Sigma = A A'$ $\rightarrow$ need to find an A that solves this.

$\theta \in (0, \infty) \quad \rightarrow \frac{1}{\theta - 1} \begin{cases} -1 \text{ if } \theta = 0 \\ 0 \text{ if } \theta = \infty \\ \text{but can be} > 0 \text{ if } \theta \overset{e.g.}{=} 2 \end{cases}$

If $\frac{\theta - 1}{\theta} = 1$ then $\frac{\theta}{\theta - 1} = 1$ perfect substits

$\theta - 1 = \theta$ only true if $\theta \to \infty$

If $\frac{\theta - 1}{\theta} = \infty$ then perfect complements

$\rightarrow$ only true if $\theta = 0$.

Lenbel: what we observe in data!

Basu:

3 distinctions

endg.

exog

IT

non-IT

surprise

not-surprise.

→ why the mapping exists

Peter: Grossman & Helpman GPT

Lenbel: 2 production goods:
IT and non-IT
↳ can identify by seeing 2 diff.

Pet: 2 sectors
- IT → sector-specific shock → $P^{IT}\downarrow$
- non-IT → produces C & I

trick to still have perfect competition

Ryan:

Vito: IT affects rel. price more than news.

Basu:
2 sector models w/ exog TFP
- Greenwood, Hercowitz, Krusell
- Oulton

The problem is there's nothing in our VAR that couldn't be mapped to 2 exog. sectors.