

Discussion of:

“Factor-Market Structure, Shifting Inflation Targets and the
NKPC”

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Motivation:

- Existing empirical support for “basic” NKPC in Canada is mixed (weak)

Contribution:

- Checks the empirical performance of the NKPC for Canada
- Considers various departures from the “basic” NKPC:
 - Shifting inflation target
 - Marginal cost measure: (1) CES production function; (2) Imports; (3) Labor adjustment costs
 - Firm specific capital

Finding

- Encouraging empirical support for resulting specification

Discussion outline:

- Revisit and comment on the importance of the various ingredients
- Omitted implication of shifting inflation target
- Potentially important considerations, beyond this paper
 - Micro vs macro evidence
 - What is the right measure of aggregate inflation?

Role of various ingredients:

Table 4: Estimation Results - Variations on the Preferred Model

Variable <i>NKPC</i>	Raw CPIX Inflation		SEP Inf. Gap		
	$\eta = 1, \gamma = 0$	$\eta = 1$	$\eta = 1$	$\eta < 1$	$\lambda_t = \hat{s}_t$
γ	0	0.97	0.37	0.37	0.53
Av. Duration	8.9 quar.	16.1	10.8	2.6	∞
\overline{R}^2	0.06	0.80	0.54	0.54	0.38
<i>LB Q - stat</i>	0.00	0.00	0.4	0.4	0.28
<i>VAR(2)</i>					
\overline{R}^2	0.83	0.83	0.52	0.52	0.52
<i>NKPC = VAR</i>	0.00	0.00	0.3	0.3	0.00

- Inflation indexing, varying inflation target: Clearly important
- Exog, firm-specific capital: Not clear
- Alternative marginal cost measure: Important, but why?

Role of exog. firm-specific capital

$$\phi = \eta \frac{(1-\theta)(1-\beta\theta)}{(1+\beta\gamma)\theta}$$

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But, with inflation indexing, how can we tell what is a reasonable re-optimization frequency?

Marginal cost measure: What makes it work?

$$\hat{\lambda}_t = \Theta \left(\hat{s}_t - \frac{(\rho_1 - 1)\chi}{s_L} \left(\Delta \hat{L}_t + \frac{\rho_2}{\rho_1 - 1} \Delta \hat{L}_{t-1} \right) \right) + \Lambda \hat{Z}_t + (1 - \Theta) \hat{p}_{m,t}$$

$$\Theta = \frac{s_L}{s_L + (1 - \sigma)(1 - s_L - s_k)}$$

$$\Lambda = \frac{1 - \sigma}{\sigma} \frac{s_k}{s_L + (1 - \sigma)(1 - s_L - s_k)}$$

lf:

1. $\sigma = 1$

2. $\chi = 0$

3. $\hat{s}_t =$ labor share of nominal GDP

$\Rightarrow \hat{\lambda}_t = \hat{s}_t =$ unit labor cost (e.g. Sbordone (2002))

Omitted implication of shifting inflation target?

Log-linearized NKPC:

$$\hat{\pi}_t = a\hat{\pi}_{t-1} + bE_t\hat{\pi}_{t+1} + c\hat{\lambda}_t + d_t$$

where $\hat{\pi}_t = \pi_t - \bar{\pi}_t$.

Cases:

1. $\bar{\pi}_t = \bar{\pi} = 0$ (standard)

$$a = \frac{\gamma}{1+\beta\gamma} \quad b = \frac{\beta}{1+\beta\gamma} \quad c = \phi \quad d_t = d = 0$$

2. $\bar{\pi}_t = \bar{\pi} > 0$ (Kozicki-Tinsley (2002), Cogley-Sbordone (2005))

$$a = a(\gamma, \beta, \bar{\pi}) \quad b = b(\gamma, \beta, \bar{\pi}) \quad c = c(\gamma, \beta, \theta, \eta, \bar{\pi}) \quad d_t \neq 0$$

3. $\bar{\pi}_t$ (Cogley-Sbordone (2005))

$$a_t = \tilde{a}(\gamma, \beta, \bar{\pi}_t) \quad b_t = \tilde{b}(\gamma, \beta, \bar{\pi}_t) \quad c_t = \tilde{c}(\gamma, \beta, \theta, \eta, \bar{\pi}_t) \quad d_t \neq 0$$

Other possibly important considerations for testing NKPC (beyond this paper)

- Test of the NKPC based on disaggregate evidence:
 - Bils and Klenow (2003), Klenow and Kristov (200?), Lucas and Golosov (200?)
 - Differentiate between aggregate and idiosyncratic shocks?

- What is the “right” measure of *aggregate* inflation and what are its properties?
 - Boivin and Giannoni (2005)



