

Discussion of

Globalization, Market Structure and Inflation Dynamics

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Introduction

- Exciting paper!
- Fact: Inflation has become less responsive to output gaps
 - interpreted as a flattening of the Phillips curve
- Can globalization flatten the Phillips curve?
- To answer this question, the paper brings together three literatures:
 - ① New Keynesian monetary model with sticky prices
 - ② Oligopolistic competition and incomplete pass-through
 - ③ Heterogenous-firm trade model and globalization shock
- The answer is yes, if:
 - large firms exhibit great strategic complementarities and have lower pass-through of the cost shocks
 - globalization favors large firms (vs. competition!)

What are we talking about?

- New Keynesian Phillips Curve (NKPC):

$$\pi_t = \beta \mathbb{E}_t \pi_{t+1} + \kappa \cdot x_t + \varepsilon_t$$

- inflation $\pi_t = p_t - p_{t-1}$
- output gap $x_t = \gamma(mc_t - p_t)$

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- **slope of the NKPC:**

$$\kappa = \frac{\lambda}{1 + \Gamma},$$

where

- $\lambda = \frac{(1-\theta)(1-\beta\theta)}{\theta}$ decreases in price stickiness θ
- **$\Gamma \geq 0$ is real rigidity**
(\sim strategic complementarities, round-about production, local input markets)

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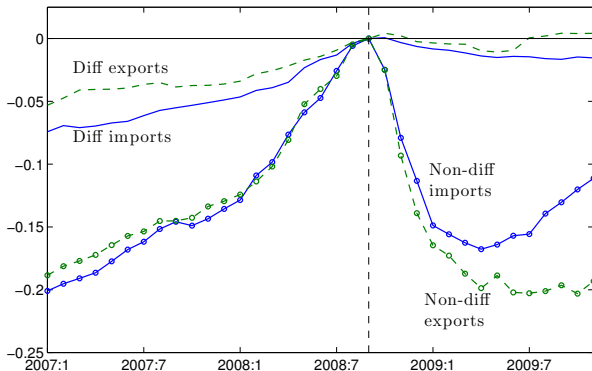
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- Can globalization increase Γ and reduce κ ?

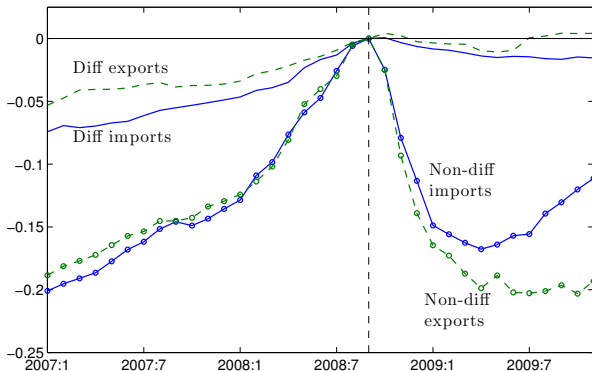
Flattening of the Phillips Curve

- ...or is there a Phillips curve?
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- Flat Phillips curve or missing inflation/deflation?

Mechanism I: Flex Price

- General flex-price model (Amiti, Itskhoki and Konings, 2016):

$$p_i = \underbrace{\frac{1}{1 + \Gamma_i}}_{\text{Pass-through elasticity}} \cdot mc_i + \underbrace{\frac{\Gamma_i}{1 + \Gamma_i}}_{\text{Strategic complementarity}} \cdot p$$

- Often, $\Gamma_i = \Gamma(s_i)$, an increasing function of market share
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- Aggregate inflation in a flex-price environment:

$$\pi = \frac{1}{\frac{S}{1+\Gamma} + \frac{S^*}{1+\Gamma^*}} \left(\frac{S}{1+\Gamma} \Delta mc + \frac{S^*}{1+\Gamma^*} \Delta mc^* \right)$$

- S and $S^* = 1 - S$ are home and foreign expenditure shares
- Γ and Γ^* are average real rigidities of home and foreign firms respectively

Mechanism II: Sticky Price

- Calvo price setting:

$$\bar{p}_{it} = (1 - \beta\theta) \sum_{\ell=0}^{\infty} (\beta\theta)^{\ell} \mathbb{E}_t \tilde{p}_{i,t+\ell},$$

$$p_t = \theta p_{t-1} + (1 - \theta) \int \bar{p}_{it} di$$

- Solution:

$$\pi_t = \beta \mathbb{E}_t \pi_{t+1} + \lambda \left[\frac{S}{1 + \Gamma} (mc_t - p_t) + \frac{S^*}{1 + \Gamma^*} (mc_t^* - p_t) \right]$$

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- Globalization shock:
 - $S \downarrow$ and $S^* \uparrow$, and $\Gamma \downarrow$
 - With heterogeneous firms, *it is possible that* $\Gamma^* \uparrow$
 - Then, *it is possible that* $\kappa \downarrow$ (relevant for $mc_t = mc_t^* \uparrow \downarrow$ shocks)

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- Solution:

$$\pi_t = \beta \mathbb{E}_t \pi_{t+1} + \lambda \left[\frac{S}{1 + \Gamma} (w_t - a_t) + \frac{S^*}{1 + \Gamma^*} (w_t^* - a_t^* + q_t) \right]$$

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- Over-id tests for additional empirical discipline:
 - ① Differential response to a_t and a_t^*
 - ② Response to RER q_t
 - ③ Globalization with Europe vs China (“dollarized” exports)
(see Gopinath, 2015)

Technical challenge

- Sticky prices with large firms:
 - Menu costs: multiplicity of equilibria (whether to adjust) (Neiman, 2010; 2011)
 - Calvo: large state space (who adjusted when)
- Two solutions in the literature:
 - ① Sbordone (2010): drop large firms, adopt non-CES demand
 - ② Benigno and Faia (2010): large firms with Rotemberg pricing
- This paper:
 - Benigno and Faia (2010) + heterogeneous firms
- Alternative modeling approach (Mukhin, in progress):
 - ① Calvo pricing with large **firms** → market power
 - ② Each firm is a collection of a mass of **products**, each subject to *iid* Calvo arrival, so LLN applies within a firm → tractability

Pro-competitive effects of globalization?

- Large closely-related literature in trade
- Recent surge in interest:
 - EMX (2015) and ACDR (2016)
- Pro-competitive effect suggests $\Gamma \downarrow$ stronger than $\Gamma^* \uparrow$?
 - fall in domestic markups and increase in importer markups
- The running null is that pro-competitive effect is a wash?
 - fall in domestic markups is nearly fully offset by increase in importer markups

Other implications

- Cyclicalities of markups
- Sungki Hong (2016)
 - ① Both small and large firms have countercyclical markups
 - ② Small firms are substantially more countercyclical

Conclusion

- Fascinating topic!
 - expect more work in this area
- Very useful framework:
 - multiple additional applications