Discussion: Trade Exposure and the Evolution of Inflation Dynamics

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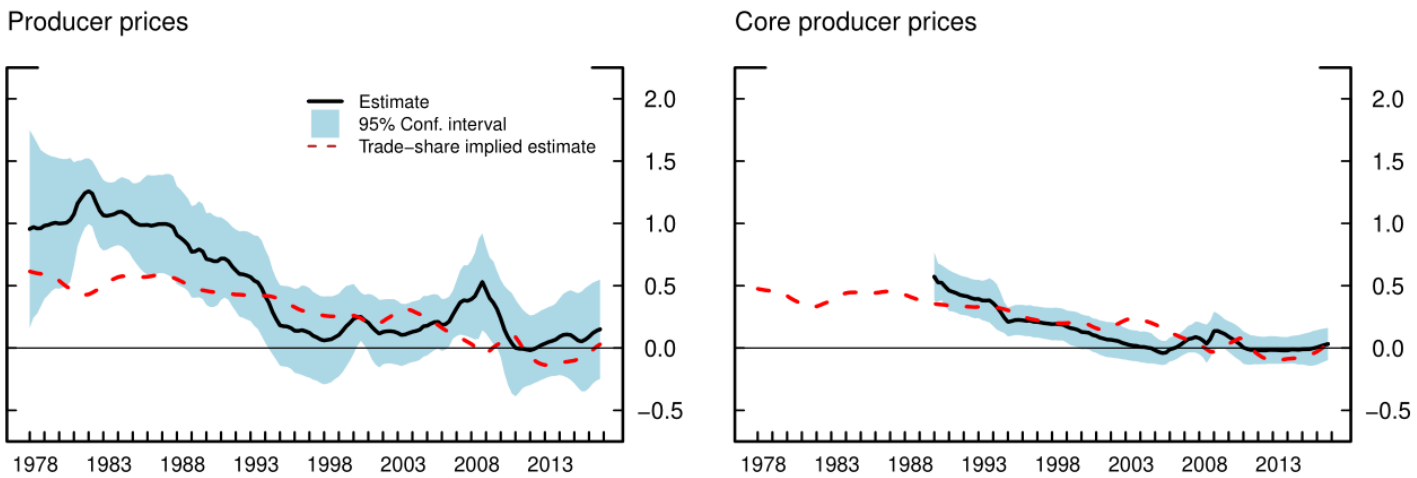
Main Results

- Can **increased trade exposure** explain the **decline in responsiveness** of inflation to changes in output?
- Higher trade exposure is correlated with lower inflation response in both the time series and the cross-section of industries.
- Use financial shocks to identify the effects of aggregate demand shocks and aggregate supply shocks.

Main Results

FIGURE 4: Time-Varying Coefficient on Economic Slack
(Phillips Curve – Producer Price Inflation)



A. Economic slack: output gap

Main Mechanism

- In open-economy setting, changes in domestic output impact prices through the terms of trade, as well as traditional marginal cost channels.
- Changes in domestic output are partially absorbed by global demand for domestic products.
- More "openness" implies the rest of the world is more able to absorb the domestic products, which dampens the price response at home.

Comment: Endogeneity of Trade Shares

What determines trade shares?

- Large literature in international trade that studies determinants of trade intensity.
  - "Traditional factors": Factor endowments, technologies, trade costs
  - Regulation / Institutions
- Typical NK model relies on preferences (Clarida, Gali and Gertler, 2002; Engel, 2011):

$$C_t = C_{H,t}^{\nu/2} C_{F,t}^{1-\nu/2}$$

- In reality, trade shares may be correlated with other characteristics of industry that affect responsiveness to output.

Suggestions: Endogeneity of Trade Shares

Provide a deeper analysis of trade shares:

- Does the source of the trade share matter?
- How stable are trade shares over time and across industries?
- Are there heterogeneous responses for imports and exports?

Date: Trade Shares (2013 - 2018)

- Nominal imports and exports from Census Bureau
- Value added from BEA

Industry	Description	m / y	x / y	Trade Share
315AL	Apparel	13.03	1.06	14.09
3361MV	Motor vehicles	2.12	0.91	3.03
335	Electrical equipment	1.82	1.01	2.83
331	Primary metals	1.49	0.98	2.47
313TT	Textile mills	1.63	0.72	2.34

Imports, Exports and Trade Shares

- Industries with highest trade shares in 2013 also had highest trade shares in 2017.
- Industries with a high import share also have high export share.

Rank: m / y	Rank: x / y
Apparel	Apparel
Electrical equipment	Motor vehicles
Other transportation	Electrical equipment
Primary metals	Textile mills
Misc. Mnfg.	Primary metals

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- What are possible confounding factors? How are they correlated with trade shares?
  - Likelihood of financial distress (Gilchrist and Zakrajsek, 2016)

Suggestion: Interpreting Cross-Sectional Results

Can we relate the cross-sectional results with the time-series results?

- Cross-sectional results show industries with higher trade shares are less responsive
- How much of the time-series decline in inflation responsiveness can be explained by:
  (1) The composition of high-trade-share vs. low-trade-share in the U.S. economy
  (2) All industries becoming more tradable

Comment: Inflation Expectations

TABLE 5: Industry-Level Phillips Curve

	Sample: 1984:Q1–2017:Q4		Sample: 1998:Q1–2017:Q4	
Explanatory Variables	(1)	(2)	(3)	(4)
$[q_{it} - \tilde{q}_{it}]$	0.014^{**}	.	0.020^{***}	.
	(0.006)		(0.007)	
$\Delta_4 q_{it}$	.	0.027^{***}	.	0.030^{***}
		(0.008)		(0.008)
Sum: inflation lags[a]	-0.057^{*}	-0.054^{*}	-0.082^{**}	-0.079^{**}
	(0.031)	(0.030)	(0.037)	(0.037)
Adj. R^2	0.220	0.222	0.246	0.246

- Higher expected inflation is correlated with lower inflation today?
- Controlling for expected inflation is hard!
- Can you aggregate the data more? Control for inflation expectations at 2-digit NAICS?
- Limit the analysis to larger industries?

Conclusion

- New empirical results relating trade exposure to the slope of Phillips Curve are very interesting!
- These results seem important for explaining variation in the inflation behavior.
- Main suggestion is to do more to understand the trade share variable.
- The slope of Phillips Curve in international New Keynesian models depends on trade invoicing currencies (Engel, 2011; Zhang, 2019)
  - Suggests different effects for Phillips Curve across countries.