Discussion of "Tariffs as Cost-Push Shocks: Implications for Optimal Monetary Policy" by Werning, Lorenzoni & Guerrieri

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Discussion roadmap

1. Very brief overview of the paper
2. Comment(s)
3. Conclusion

Quick summary of the paper

The Question: How should monetary policy respond to tariff shocks?

The Answer: Exact equivalence result

- Tariff in open economy $\equiv$ cost-push shock in closed economy
- Can leverage existing results from closed economy

Two main effects of tariffs:

1. Reduce productivity (distort input use)
2. Create labor wedge

Productivity effect is zero to first order; labor wedge is not

Optimal Policy:

- Allow inflation to rise temporarily
- Smooth quantities to distorted steady state

Bottom Line: Very nice and clear paper on highly topical policy question!

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- Assumption in this paper: tariff revenue rebated lump-sum
- What happens if we relax that assumption?

Revisiting the static model

Production with imported inputs (balanced trade):

$$C = A(\mu)L, \quad \text{where } A(\mu) \equiv F(1,\mu) - \mu, \quad \mu = M/L$$

Firm optimization (zero profits under CRS):

$$W(\tau) = \max_{\mu}\{A(\mu) - \tau\mu\} = A(\mu(\tau)) - \tau\mu(\tau)$$

Two distortions from tariff:

1. Productivity: $A(\mu(\tau)) < A^*$
2. Labor wedge: $A(\mu(\tau)) - W(\tau) = \tau\mu(\tau) \geq 0$

Key insight: $A'(\mu(0)) = 0$ but $W'(0) = -\mu(0) < 0$

- Productivity effect zero to first order
- Wage/wedge effect is first order $\Rightarrow$ drives policy response

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What does this mean for labor supply? Recall:

$$W(\tau)U_C(C, L) \quad = \quad -U_L(C, N)$$

with KPR preferences the first-order condition for labor supply becomes:

$$f(L) = \frac{W(\tau)}{C} = \frac{W(\tau)}{W(\tau)L}$$

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$\Rightarrow$ Income and substitution effects exactly cancel: so L is constant!

Static model with KPR + no rebate

- Wage still adjusts to make firms happy to produce at $P = 1$
- L is constant implies no first order distortion from the wage
- Only distortion is from productivity, still 0 to first order
- Redistribution from private to government consumption
- In their setup reduction in labor supply due to income effect from lump-sum tariff rebate

Result

With KPR preferences and no rebate, labor supply is constant and unaffected by the tariff. The tariff acts as a **pure negative productivity shock**, lowering the Production Possibility Frontier (PPF) without distorting the labor choice.

Next: What about the in the dynamic model?

Dynamic model revisited

- Dynamic model features MaCurdy preferences $\Rightarrow$ satisfies KPR
- Same assumption as before: $C = WL$
- Note: government eats the tariff revenue and dividends from intermediate goods firms eaten by government (alternatively, capitalists)
- $\Rightarrow$ as in the static model, this implies that labor supply is constant
- Equilibrium conditions the same, except replace $(1 + \phi)l_t = \omega_t$ with $l_t = 0$

What happens under flexible prices?

1. Labor is fixed at its steady state: $l_t = 0$.
2. The flex-price real wage must fall to absorb the tariff cost and ensure firms break even.

$$\omega_t = -(s_M/s_L)\tau < 0$$

3. Since labor is fixed, the only margin of adjustment is imported inputs, which become more expensive. Firms use fewer imports

$$m_t = \eta(\omega_t - \tau) = -\eta\tau(1/s_L) < 0$$

The flex price or natural rate of output, $y_t^n = s_L l_t^n + s_M m_t^n$, falls because the use of imported inputs declines:

$$\boldsymbol{y_t^n = s_M m_t < 0}$$

What about the optimal monetary policy response?

- Optimal labor supply will still be constant $l_t = 0$.
- Tariff again acts as a TFP shock, imports fall $m_t^n < 0$.
- As in static model, no "labor wedge" to correct.

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Optimal policy: The divine coincidence holds!

The central bank should **fully accommodate** the shock. Its goal is to replicate the flexible-price outcome and guide the economy to its new, lower efficient potential as smoothly as possible.

Implications:

- Jump immediately to new steady state, permanently lower output.
- Requires a temporary burst of inflation, or a one-time rise in the price level.

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- Now, looks like a TFP shock with sticky wages
- $\Rightarrow$ divine coincidence fails.
- Monetary policy involves a tradeoff...
- ...beyond the scope of this discussion

Final thoughts

- Very nice paper - I will teach it in my PhD course!
- Provides elegant and tractable framework to work through these questions
- Highly relevant topic where we need to bridge science and practice
- The details of how tariff revenue is spent may matter
- Further, open question to think about redistribution induced by tariffs (direct from revenue, indirect)
- Showed in RANK what you do with tariffs matters, even more in HANK, incidence of shocks, exposure, etc