Tariffs and Technological Hegemony

by L. Fornaro and M. Wolf

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Disclaimer: The views expressed herein are mine and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System

Outline

- Paper in context of the recent (booming) tariff literature
- Key elements of the model
- Comments, some evidence and conclusions

Why another tariff paper?

- Liberation day has triggered a renewed interest in tariffs and their effects

Google interest in Tariffs v/s Covid

Interest in Tariffs 11/24-11/25

Interest in Covid 01/20-01/21

Why another tariff paper?

- Liberation day has triggered a renewed interest in tariffs and their effects
- Consensus so far:
  - An all out tariff war is welfare reducing for all countries involved
  - Unilateral tariffs can be beneficial to the country which imposes them
    1. Optimal tariff argument (ToT manipulation)
    2. Retaliation
    3. Provides extra revenues that can be used to improve allocations (Alessandria et al. 2025)
    4. Protect industry/sector (e.g. manufacturing) whose growth has social returns higher than private
  - This paper not in (1),(2),(3) belongs to (4), focusing on tariff's impact on growth of high tech sector

Key elements of the model: free trade equilibria

- Two country economy with free trade symmetric equilibrium where private investment (and thus growth) in high tech is inefficiently low
  - Current firms do not internalize that their investment will benefit future firms
- *Fixed world pool of resources available for investment* $2\bar{I}$
- Policies that increase investment(and growth) at home imply necessarily lower investment(and growth) abroad
- Growth(and efficiency) is a zero sum game!

Key elements of the model: unilateral tariffs

- Home tariffs lower foreign profits and domestic GDP (standard), but do not affect domestic profits (less standard)
- Tariffs increase private profit gap, $g\pi = \pi - \pi*$
- Profit gap determines allocation of world investment (and growth) in a bang/bang fashion
- If $g\pi > 0$ entire world pool of investment resources flows toward home
- Tariffs steer growth away from foreign country into domestic country
- Extra growth increases efficiency (and home welfare)
- Unilateral tariffs can be desirable!

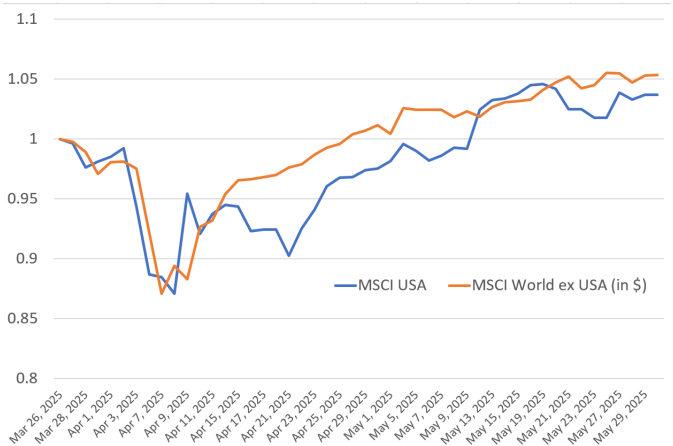
Key elements of the model: foreign retaliation

- Weak retaliation so that $g\pi > 0$: foreign GDP$\downarrow$ and growth unchanged: never optimal
- Strong retaliation so that $g\pi < 0$: foreign GDP$\downarrow\downarrow$, growth $\uparrow$ (and domestic growth $\downarrow$): might be optimal
- However, gains from foreign retaliation decreasing in home tariffs. With high home tariffs in order to get growth benefits, foreign need to impose high (and costly) tariffs
- Key: It might exist a level of domestic tariffs that is high enough to prevent retaliation
- High tariffs not needed to get the investment to flow home, but to prevent retaliation
- Logic might explain why US set high tariffs and ROW chooses not to retaliate!

Comments: what's new?

- Cool and tractable model of trade policy in open economy endogenous growth setting
- Tariffs can help medium run growth (related to infant industry argument, see Ottonello et al. 2024)
- Channel is a bit indirect
  - Standard channel: tariffs increase profits at home, more investment at home, more growth
  - This paper: tariffs reduce profits abroad, foreign firms cannot compete for investment, investment flows domestically
  - Any evidence for the relevance of this channel?

The stock market response to liberation day



- If stock markets reflect future profits, the channel highlighted by the paper would have predicted a more asymmetrical response to liberation day (bigger drop in Row)

Other comments

- An obvious one: why tariffs and not investment subsidy? Particularly relevant in the retaliation phase, retaliating with tariffs is very costly but with investment subsidy it can be done much more cheaply
- The zero-sum view of growth, reminds me of the super-fixed model (Sraffa,?),
- I understand its analytical simplicity, but my hunch is that in a model where not only the distribution of investment resources across country but also their total size is endogenous, some conclusions of the model can be overturned
- One view of the paper is that closing up to trade can have short term losses but long term gain
- I personally find also plausible the opposite view: tariffs might have short term gain (revenues) but long term losses because of the disintegration process

Conclusions

If there were an Economist's Creed, it would surely contain the affirmation "I advocate Free Trade." Yet the case for free trade is currently more in doubt than at any time since the 1817 publication of Ricardo's Principles of Political Economy, and this is due to..

changes that have recently taken place in the theory of international trade.

Paul Krugman, "Is Free Trade Passé?", 1987

- Luca and Martin also bring endogenous growth theory into the questioning of free trade.
- Very insightful and highly recommended read, I particularly like the stress on the connection between trade and longer run growth.
- Looking forward I would continue to explore this connection not only to rationalize unilateral tariff but also to explore the potential growth pitfalls of such a policy (see Alvarez, Buera and Lucas, 2013)