Inequality, Redistribution, and Optimal Trade Policy: A Public Finance Approach

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Motivation

- Gains from trade, unequally distributed
- What are the best tools to redistribute the gains?

The contribution

- Theory of optimal policy with trade and imperfect mobility
  - tariffs are not optimal
  - sector-specific VAT taxes
  - income taxes
- Using a quantitative model
  - sector-specific VAT taxes are essential to redistribute gains from trade
  - income taxes are not
- Very nice paper!

Outline of discussion

- Very brief overview of model and key results
- Comments/suggestions
- Dynamics might be important

The model in a few slides

- C countries, N goods
- Production: $Y_i^c = G_i^c\left(L_i^c, \left\{Q_{ij}^c\right\}_{j=1}^N\right)$
  - L_i^c effective units of labor
  - Q_{ij}^c good j used in production of good i
- Households
  - preferences over $\mathbf{x} = (x_1, ..., x_N)$ and labor l
  - type θ (e.g. education and location)
  - labor productivity in sector j: $z = a_j^c(\theta)\epsilon_j$
    where $a_j^c(\theta)$ is country-sector-type-specific productivity
    and ϵ_j is iid and Frèchet distributed
  - choose x, sector j, and labor l
- Product and labor markets are competitive

The model in a few slides

- Government policies:
  - revenue tax t_i^{pc}
  - intermediate input tax t_{ij}^{xc}
  - consumption tax t_i^{xc}
  - income tax $T^c(y)$, where y is labor income
- A CE (given government policies) is household allocations, production, and prices such that
  - households optimize
  - firms optimize
  - consolidated government budget constraint
  - consolidated goods markets clear
  - labor markets clear by country

Generality of setup

- Model nests various neoclassical models of trade, e.g. Armington, Dornbusch-Fischer-Samuelson, Eaton-Kortum
- Tariffs on good i are equivalent to setting:

$$t_i^{xc} = t_{ji}^{pc} = -t_i^{pc}$$

i.e. a tax on use (consumption or production) and subsidy on production

Key simplifying result

- Sectoral choice is independent of income taxes
- Labor choice only depends on labor productivity, given sectoral choice
- separation + extreme value assumptions allow tractable analysis

Clarifying the assumptions

- Optimal policies are determined by a *global* planner
- Limited mobility
  - costly mobility across sectors
  - *no* mobility across skills or locations
- Income taxes and VAT are *not* allowed to vary by location

Main results

- Optimal allocations can be implemented by VAT taxes (and thus no tariffs)
- Non-linear income taxes are useful IF income is correlated with gains from trade
- Do the effects of trade vary more by income or by sector?
  - if it is the latter, then optimal allocation will favor use of sector-specific-VAT.
  - this is what the authors find in their quantitative exercise.

Quantitative exercise

- Calibrate model to 2000
- Feed in China trade shock (by changing China's productivity by sector)
- Pareto optimal policies (maximize welfare of *other* countries subject to U.S. households at least welfare neutral)
- Main result:
  - VAT subsidies (taxes) to sectors that lose (gain) employment
  - income taxes not a major factor

A few comments

- Optimal policies determined under global cooperation
  - What do unilaterally optimal policies look like?
- Pareto optimal policies are defined as maximizing welfare of foreigners subject to not hurting any US groups
  - Again, what would be the optimal unilateral response?
  - What about a global planner (that also maximizes US welfare)?

A few comments

- Optimal policies determined under global cooperation
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  - Again, what would be the optimal unilateral response?
  - What about a global planner (that also maximizes US welfare)?
- China shock is modeled as an increase in China's TFP in certain sectors (as in other papers)
  - Is this equivalent to a reduction in trade barriers?
  - What happens to the trade balance?
- Static model: even the quantitative analysis is a comparative static. Adjustments and transitions could matter!

Dynamics matter (1)

- Households adjust to shocks
  - by moving to different markets (Caliendo et al. 2019; Lyon and Waugh 2019)
  - by acquiring skill (Reyes-Heroles et al. 2019)
- What is the role of Trade Adjustment Assistance (TAA), or other policies that help households adjust to the "China shock"?
- This paper prescribes subsidizing sectors that have a comparative disadvantage. Would Ricardo be tossing in his grave?

Dynamics matter (2)

- Dynamic gains from trade are larger
  - than static gains (Brooks and Pujolas 2018; Sampson 2016)
  - for poor households (Carroll and Hur 2019)
    because they benefit more from
    - cheaper tradable goods
    - cheaper investment (affecting savings)
    - higher wages (capital deepening)

Concluding remarks

- Very nice paper! Learned a lot.
- Provides much needed theory of optimal (trade) policies
- Interesting and provocative quantitative findings
- Would be useful to think about adjustments/dynamics