Discussion of 'Escaping the Losses from Trade'

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Heterogeneous households, firms and financial intermediaries

Summary

The aggregate welfare gains of trade openness are well documented.

Main question: What are the distributional consequences?

Mechanism of paper:

trade becomes cheaper $\Rightarrow$ skill premium increases

in the short run:

- good for high-skilled workers
- bad for low-skilled workers

in the long run:

- more people acquire skills
- more capital is accumulated, both low- and high-skilled workers are better off

1 Empirics

- ▶ show evidence that more import
- ▶ adversely effects the labor market outcomes of low-skilled workers
  $\rightarrow$ trade openness should have an effect on education decisions
- ▶ leads to more enrollment in college

2 Model

- ▶ two-sector model

  - ★ manufacturing (m) and services (s)
  - ★ m more intensive in low-skilled labor
  - ★ m subject to falling trade costs

- ▶ heterogeneous agents in terms of productivity

  - ★ endogenous costly skill acquisition
  - ★ incomplete credit markets: limited borrowing

Model – Production

$$Q_i = \left[\omega^{\frac{1}{\eta}} (D_i)^{\frac{\eta-1}{\eta}} + (1-\omega)^{\frac{1}{\eta}} (D_i^*)^{\frac{\eta-1}{\eta}} \right]^{\frac{\eta}{\eta-1}}$$

$$D_i = K_i^{\alpha} \left(\gamma_i L_{ic}^{\frac{\sigma-1}{\sigma}} + (1-\gamma_i) L_{in}^{\frac{\sigma-1}{\sigma}} \right)^{(1-\alpha)\frac{\sigma}{\sigma-1}}$$

Key assumptions:

1. $\eta > 1 \Rightarrow$ reduction in cost of D_i^* leads to smaller demand for D_i
2. $\gamma_s > \gamma_m \Rightarrow$ services are more intensive in low-skilled labor

Mechanism:

reduction in cost of $D_m^* \Rightarrow$ reduction in demand for D_m
$\Rightarrow$ reduction in demand for low-skilled labor
$\Rightarrow$ increase in the skill premium

Model – Workers

- fully altruistic OLG framework
- idiosyncratic household productivity & only tool for insurance is a risk free one period bond
- there are borrowing constraints $\Rightarrow$ precautionary savings
- each agent in the first period can invest in education
  education does not increase productivity
  it gives access to the high-skilled labor market

Result:

some workers born in poor households cannot acquire education because of the borrowing constraints

Model – Mechanism

Putting everything together we get a very clear and appealing mechanism:

reduction in cost of D_m^* $\Rightarrow$ reduction in demand for D_m

$\Rightarrow$ demand for low-skilled labor falls

$\Rightarrow$ the skill premium increases

$\Rightarrow$ high-skilled households immediately gain
& low-skilled households immediately lose

$\Rightarrow$ incentives to acquire education increase

$\Rightarrow$ slow transition to new steady state with higher educ level
due to OLG & educ decision at age 1
educ level even further from non-constrained economy(?)

The strength and the weakness of this paper

- lies in the simplicity of the model mechanism
  <u>note:</u> solving the model is very far from simple

- there is nothing surprising happening
  there are no trade-offs

- as the paper stands (note that it is preliminary)
  the question is: what do we learn from this paper?

- two potential solutions:

  1. quantify carefully

     ★ for different generations
     ★ over time
     ★ the distribution of welfare losses/gains

  2. change the model

Quantifying the losses from trade

Current question: if the home bias in manufacturing *only* changed because of the drop in τ_m, then what is the distribution of the associated costs/benefits?

- method: compare steady states and transition
- assume that 1990 and 2010 were both steady states
- calibrate τ_{m0} and τ_{m1} to match the level and the change in home bias in m between 1990 and 2010
- but model does not converge to the steady state in 20 years
  $\rightarrow$ does the home bias settle quickly at the new steady state level?
- did the home bias at the same time change in services? if yes, should that be taken into account as well?
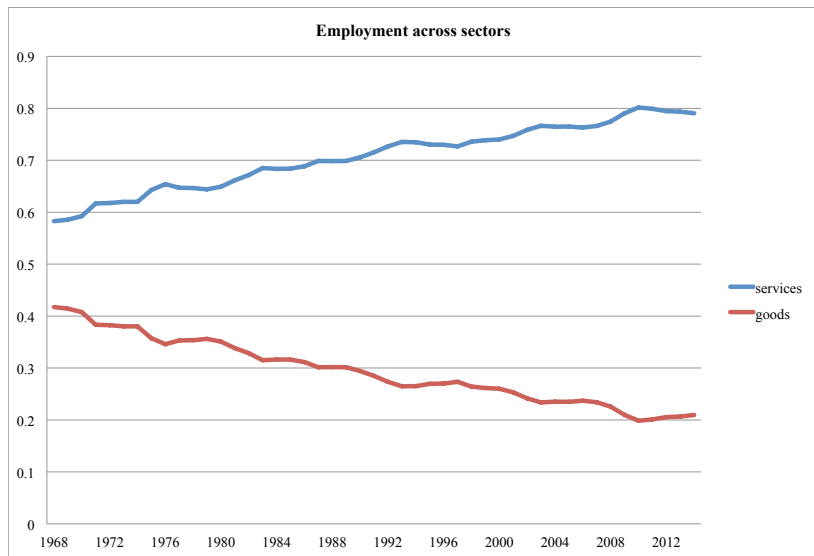
Quantifying the losses from trade

Key mechanism in model:

more openness to trade
$\Rightarrow$ employment shifts away from manufacturing to services
$\Rightarrow$ increase in skill premium
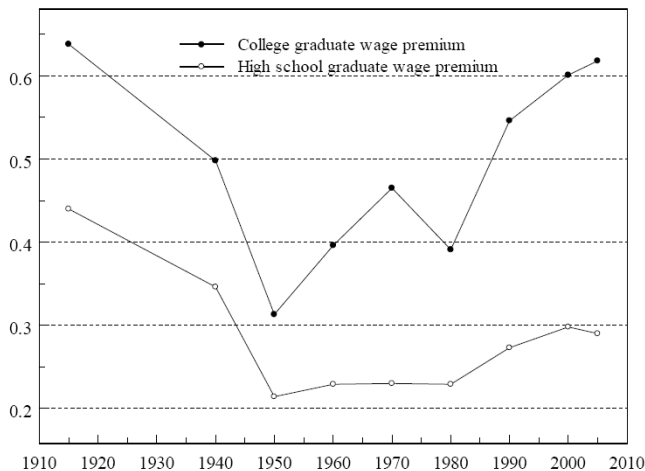
From this perspective: is it safe to assume that economy was in a steady state in 1990?

Structural transformation in the US

Employment across sectors

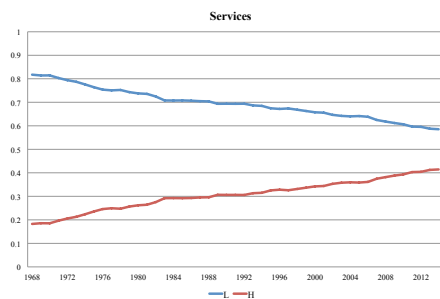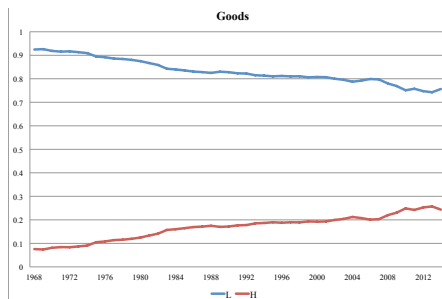Source: CPS from IPUMS

Skill premium in the US

Source: Goldin and Katz (2008)

Quantifying the losses from trade

- employment has been steadily shifting away from manufacturing, at least since the 1960s
- the skill premium has been steadily increasing since 1950s with a contraction in the 1970s
- <u>key measure of interest</u>: the change in the skill premium induced by increasing trade openness
  $\rightarrow$ very hard to quantify
- initial model needs to match
  - wealth and income distribution
  - share of high- and low-skilled workers
    - in manufacturing and in services
    - by age group: requires out of steady state in 1990
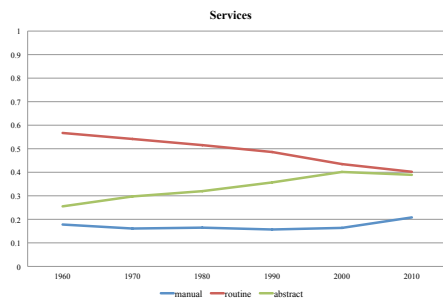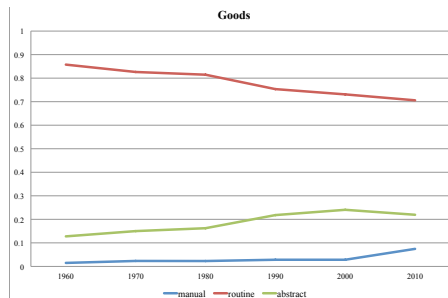
High- and low-skilled workers by sector

Why low- and high-skilled workers? Is this really the big difference between manufacturing and services?

Source: CPS from IPUMS

Occupational employment by sector

Share of manual, routine and abstract employment across sectors

Source: Census and ACS from IPUMS

Changing the model?

A different production function:

$$D_i = K_i^\alpha \left(\gamma_{iM} L_{iM}^{\frac{\sigma-1}{\sigma}} + \gamma_{iR} L_{iR}^{\frac{\sigma-1}{\sigma}} + (1 - \gamma_{iM} - \gamma_{iR}) L_{iA}^{\frac{\sigma-1}{\sigma}} \right)^{(1-\alpha)\frac{\sigma}{\sigma-1}}$$

which combines manual, routine and abstract labor

- we could say
  abstract = high-skilled
  manual+routine = low-skilled
- trade & off-shoring displaces routine workers
- skill premium increases, but also manual workers gain
- so low-skilled workers can also 'escape' to manual jobs

⇒ allows for a less monotonic reaction to trade openness

In summary

- very interesting & important topic
- model captures dynamic adjustment to skill premium change induced by trade shock
- quantification of effects not easy – not clear what to target, where to start from
- possibly more intersting findings from a slightly richer model
- I enjoyed reading and thinking about this paper a lot!