Trade Liberalization, Wage Rigidity, and Labor Market Dynamics with Heterogeneous Firms

E. Gurkova, E. Helpman & O. Itskhoki

Discussion by Erhan Artuc

May 2025

Overview

- Well executed applied theory paper with some quantification
- Extremely important and policy relevant topic
- I predict that Katya will do a great job so I am not preparing a summary slide
- Three general remarks and some minor complaints

1> Quantification

- The paper does a very good job in shedding light on mechanisms
- Quantification is mostly illustrative, with reasonable round numbers from the literature
- Is it US or EU?
- What is the optimal level of quantification in a trade model?
  - Number of theoretical components, number of data components, number of moments matched, number of simultaneous equations solved, etc.

1> Levels of quantitative trade models

- Level 0: Pure theory
- Level 1: Applied theory
- Level 2: Applied theory with example numbers
- Level 3: Quantifiable applied theory $\rightarrow$ this paper
- Level 4: Structural models with quantification $\rightarrow$ my preference
- Level 5: Quantitative trade models
- Level 6: Very quantitative trade models with more stuff
- Level 7: Very very quantitative trade models with a lot of stuff

...

- Level 18: CGE models with trade
- Level 19: Everything bagel
- Level 20: Kitchen sink cookie

2> Big news: Wage rigidity increases welfare

- Why? Does the model break Hosios rule?
- Gains of the searcher should be equal to the additional surplus generated by the searcher
- Consider worker's bargaining power β (different from β in the paper)

$$\beta \times Surplus \times \frac{Matches}{Unemployed} = Surplus \times \frac{\partial Matches}{\partial Unemployed}$$

$$\beta = \frac{\partial Matches}{\partial Unemployed} \times \frac{Unemployed}{Matches}$$

- Worker's share of surplus = Elasticity of matches wrt unemployed

2> Wage rigidity and efficiency in the model

- This paper $\frac{1}{2} = \frac{1}{2}$ rule is satisfied $\rightarrow$ so the rule does not apply here (due to departures from the textbook models)
- Wage rigidity clearly changes worker's surplus
- How does this increase efficiency?
- Sophisticated search models may break efficiency in a way that is difficult to track
- Can you explore different rigidity levels and other relevant parameters in relation to welfare gains?

2> Literature

- Wage rigidities can explain unemployment dynamics with smaller shocks: increase responsiveness of search models
  - For example, Hall (2006)
  - I think this paper similar but depends on the outcome
- Research on impact of wage rigidities on welfare is more scarce
- Shimer (2004) finds rigidity decreases welfare
  - Extreme rigidity $\rightarrow$ fixed wage
  - Small amount, by 0.12 percent (≈ 0)
- Maybe more connection with the macro literature could help the readers $\rightarrow$ Contribution beyond trade

3> Dynamic search models: fast transition

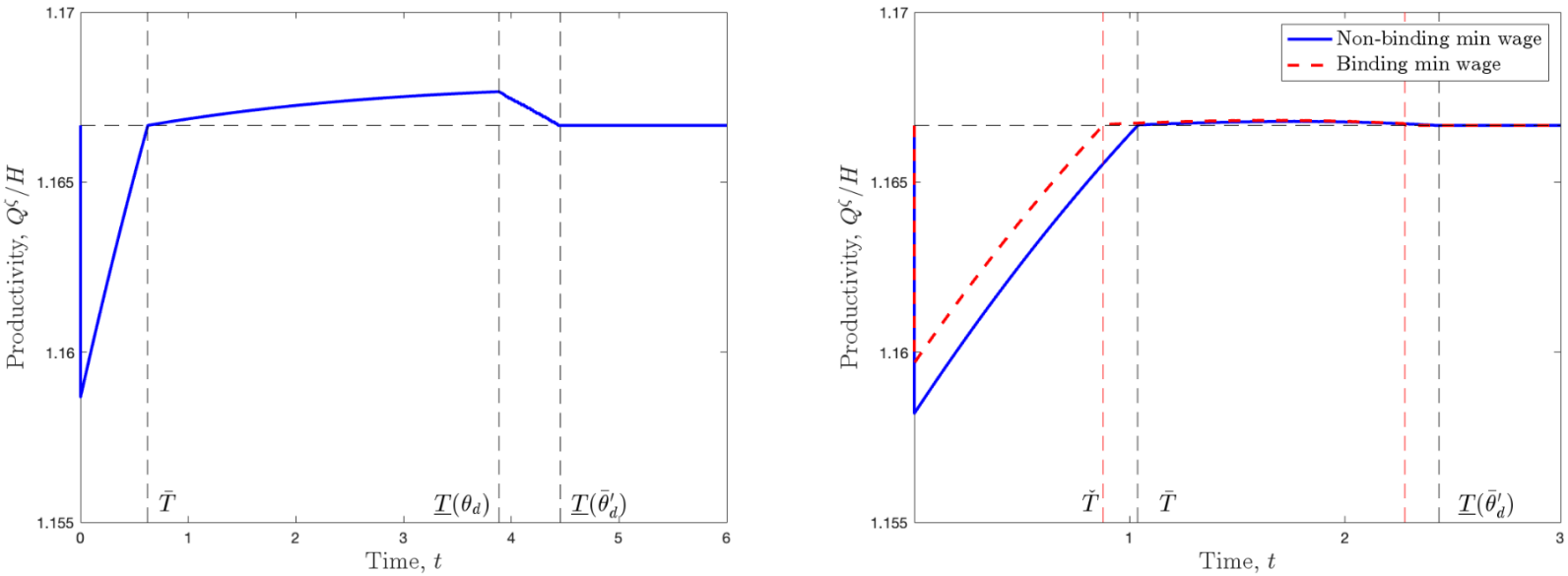

Figure 9: Aggregate productivity dynamics

- Only minor changes after first year

3> Dynamic search models: fast transition

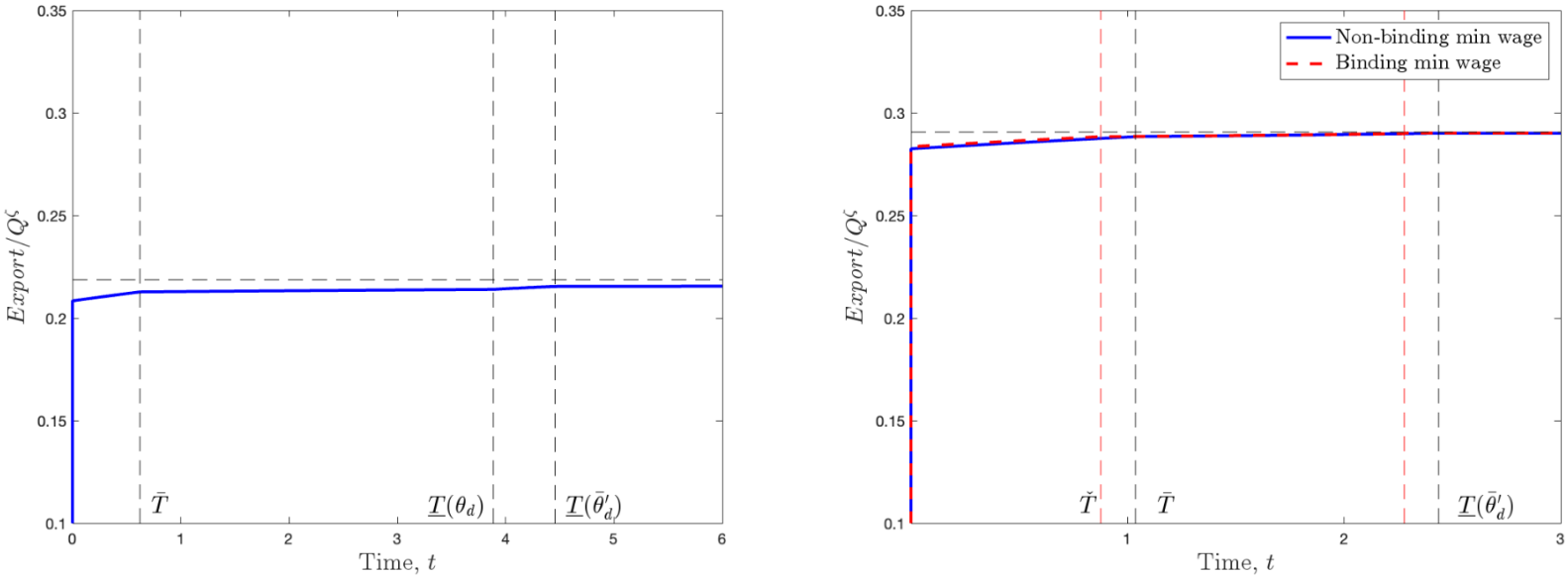

Figure 10: Aggregate trade flow dynamics

- Most of the action is within one year

3> Dynamic discrete choice modes: slow transition

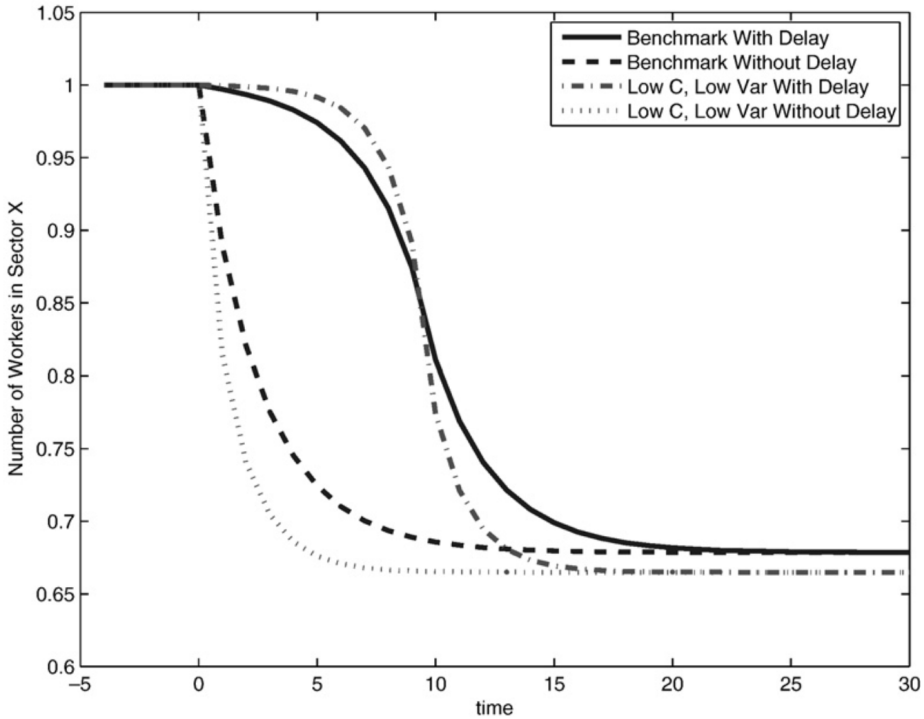

Fig. 1. Adjustment of labor—benchmark cases.

- Really slow...
- Something in between these two extremes would be better maybe?

Minor complaints: Notation

- Some parameters are defined way in advance, keep forgetting them when they appear first in equations, and some are defined too late.
- Confusing notation: $X^+ \rightarrow$ maximum operator, $X_+ \rightarrow$ next period
- Many reincarnations of time index: (-1), $+$, Δ, $t+1$, t, X', or *nothing*, just blank!
- Missing time subscripts, i.e. *nothing*, makes my life difficult
- The optimum number of θs? θ, θ_d, $\underline{\theta}'_d$, $\overline{\theta}'_d$, $\check{\theta}'_d$, θ'_d, θ_x, $\overline{\theta}'_x$, θ'_x, ...
- r is never defined

More minor complaints

- A confusing point: Φ is introduced as a measure of labor market frictions, then it is stated that it does not depend on frictions, would it not depend on bargaining power of workers?
- Giving a parameter to the bargaining power of the workers would clarify which variables are impacted by it
- Maybe start with the matching functions to make the model easier to digest
- In the calibration summary spelling out bargaining power of workers and providing a bit more detail would be helpful
- y-axis labels are missing from some figures (for example, figure 8)