Trade Union, Economic Growth, and Income Inequality

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1. What is the question of the paper?

Generally speaking, trade unions can impact on the distribution of personal income and factor income by improving the welfare of workers. But there are some doubts about how it impacts the distribution of those incomes. Thus, this paper built a model to thoroughly examine the consequences of unionization.

2. Why should we care about it?

Most previous research has separately studied the issue of either equilibrium unemployment or economic growth. Due to these restrictions, the existing literature fails to analyze three major sets of empirical evidence.

- The U.S. and the U.K. with the largest declines in unionization have also experienced the biggest increases in income inequality over the past few decades.
- While the evidence refers to an unfavorable effect of trade unionism on unemployment, its impacts on firms' investment and hence the longer-term trend of growth is not so significant.
- A large part of the existing unemployment, particularly in Europe, is attributed to equilibrium unemployment and economic growth often goes side by side with unemployment.

To reconcile the empirical evidence above, this paper simultaneously endogenizes unemployment, labor hours, growth, and income inequality.

3. What is your (or the author's) answer?

This paper indicates that the effective labor force exhibits an intensive margin response .An increase in the degree of unionization decreases the number of employed workers, but each employed worker provides more working hours. This intensive margin response makes the co-existence of high unemployment and high growth possible. In addition, unionization gives rise to an ambiguous effect on income inequality, depending on the relative magnitude of the direct unionization effect and indirect labor force effect.

4. How did you (or the author) get there?

This paper built a model simultaneously endogenizing unemployment, labor hours, growth, and income inequality. In this model, there are four types of agents: households, firms, a national trade union, and a government.

- Households derive utility from consumption and leisure. This optimization problem can be expressed as follows:

$$\max_{C_i,\ h_i,K_i} \int_0^\infty \frac{[C_i(1-E_i)^\eta]^\varphi}{\varphi} e^{-\rho t} dt,\ E_i = h_i l$$

$$s.t.\quad \dot{K_i} = rK_i + wh_i l + b(1-l) + \pi_i - C_i - T.$$

- The firms produce goods by means of capital and labor service. The output function can be expressed as follows:

$$Y = A[\alpha_E(A_1E)^{-\beta} + \alpha_k(A_2k)^{-\beta}]^{-\frac{\alpha}{\beta}},$$
$$0 < \alpha < 1, \ \beta \geq -1, \text{ and } \alpha_E + \alpha_k = 1,$$

- The union cares about both wages and employment and the objective function reflects its relative preference for both. Objective function can be expressed as follows:

$$U = [(wh - T) - b] \cdot l^v, \ \ 0 < v < 1,$$

- The government levies a lump-sum tax in order to finance the expenditure on unemployment benefits. The government budget constraint can be expressed as:

$$b(1 - l) = T.$$

By mathematical treatment, the author gets Balanced-Growth-Path Equilibrium and Income Distribution. And based on the information above, they explore the effects of unionization on the steady-state unemployment rate, equilibrium working time, balanced-growth rate, income inequality, and labor income share.

At the end of this paper, the author numerically examines the effects of unionization on the working hours, unemployment, growth, income inequality, and labor's share, which makes their analytical results empirically convincing.

5. **Important Notation**

- k: physical capital firms hired
- l: employment rate
- Y: final good
- E: effective labor force
- h: working time
- $A_1(K)$: positive production externalities for effective labor
- $A_2(K)$: positive production externalities for capital
- π: firm's profit
- w: wage rate per hour
- r: the rental rate of capital
- T: lump-sum tax
- b: unemployment benefit
- θ: relative bargaining strength of the union
- k_i: share of individual i in the aggregate stock of capital K
- C: consumption
- μ: unemployment rate
- x: transformed variable, $x = C/K$
- γ_K; growth rate of capital
- γ_C; growth rate of consumption
- σ_y: income inequality
- S_E: labor income share