Wage Control Policy, Labor Misallocation and the Structure Transformation in China

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Introduction

Stylized Facts:

- Between 1989 and 2007, China’s industrial sector experienced a rapid structural change, that is, resources reallocating from state firms to private firms.
- From 1985, Chinese governments imposed a wage control policy into state firms.
- In 1996, 72.26% of state industrial firms implemented the policy.
- This policy required that the growth rate of wage per worker should be less than 10.44%, compared to the 27.7% decline in the data.

Research questions:

- Does the wage control policy cause the structure transformation, that is, labor and capital shifting from state to private firms?
- If YES, what percentage of the transformation can be explained by the wage control policy?

Method

- **Basic Model**
  
  *A small open economy with one good and two kind of firms*

  **Firms:**
  - Private firms
    
    \[ \max_{\{a_{1}, a_{2}\}} \pi_{a} = A_{1}^{-1}k_{w}^a r_{w}^{a_{1}} - w_{a}n_{a} - (\tau + \delta)k_{a} \]
  - State firms
    
    \[ \max_{\{a_{1}, a_{2}\}} \pi_{s} = A_{2}^{-1}k_{w}^s r_{w}^{s_{1}} - w_{s}n_{s} - \gamma(w_{s} - \bar{w}_{s})n_{s} + \alpha \]

  **Households:**
  \[ U_{n} = (c_{n})^{1-\epsilon}/(1-\epsilon) + \beta (c_{n_{1}})^{1-\epsilon}/(1-\epsilon) + \text{st. } \bar{w}_{s} = (1-\alpha)\left( A_{1}^{-1}k_{w}^a r_{w}^{a_{1}} \right) - \left( A_{2}^{-1}k_{w}^s r_{w}^{s_{1}} \right) \]

  **Governments:**
  \[ T_{s} = T_{a} = Sub_{t} \]

- **Equilibrium:**
  - Optimum decisions of firms and household
  - Market clearing
  - Aggregate motion: labor & technology

- **Calibration**
  
  *Parameter Choices (1990-2006)*

<table>
<thead>
<tr>
<th>Description</th>
<th>Values</th>
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<th>Values</th>
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<tbody>
<tr>
<td>Discounted factor</td>
<td>0.987</td>
<td>Population growth rate</td>
<td>8.45%</td>
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<tr>
<td>Elasticity of substitution</td>
<td>0.67</td>
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<tr>
<td>Capital ratio</td>
<td>0.6</td>
<td>Annual depreciation rate</td>
<td>10%</td>
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<tr>
<td>Technical growth rate</td>
<td>10.44%</td>
<td>Annual interest rate</td>
<td>5.28%</td>
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<td>Floating rate</td>
<td>0.549</td>
<td>Wage adjustment tax</td>
<td>33%</td>
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<tr>
<td>Deterioration</td>
<td>2%</td>
<td>INITIAL CONDITION:</td>
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<tr>
<td>Population</td>
<td>10%</td>
<td>Technical progress</td>
<td>1</td>
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<tr>
<td>Capital output ratio in SOE over non-SOE</td>
<td>1.16</td>
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Quantitative Analysis

**• Results**

- The capital-output ratio increased from 1.162 to 1.172 during 1990-2006, accounting for 0.74% in the data.
- The employment share of state firms falls by 14.8%, compared to the 27.7% decline in the data.
- The output share of SOE falls by 11.95%, compared to the 34.87% decline in the data.

**• Robustness**

- From wage control policy to labor misallocation: When the floating rate increases from 0.1 to 0.9, the decline of and return of investment shifts from 1.3% to 0.3%, which shows that the labor misallocation caused by wage policy is reduced.
- From labor misallocation to structure transformation: When the floating rate increases from 0.1 to 0.9, the reduction of employment and output share decreases from 20.51% to 4.7%, and from 16.86% to 3.77%, separately.

Conclusions

During 1990-2006, the structural transformation in China was truly remarkable.

We find that the wage control policy itself accounted for 14.80% and 11.95% of the reduction in state firms’ share of employment and output, separately.

If the floating rate is relaxed from 0.564 to 0.564 in the baseline economy to 0.9, the reduction of employment and output share will decrease by 10.05% and 8.19%, separately.

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