Employment, inflation and income distribution in open economies

Stefan Ederer

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Structure

- Introduction
- The NAIRU model
- PTM model
- Long-run solution
- Dynamic behaviour
- Policy conclusions
The NAIRU model
The NAIRU model

$\text{W/P}$

$\text{E}$

$U_N$ $U_1$

$W_S$

$P_S$
The NAIRU model
Characteristics of the NAIRU model

- Unique rate of unemployment with constant inflation
- Any deviation causes inflation
- Adjustment to NAIRU via price changes
- Stable income distribution
- Wage-price spiral
Policy consequences of the NAIRU model

- Expansive demand policy is effective only in the short run
- Expansive wage policy is useless
- Both cause accelerating inflation
- Only institutional reforms of labour and product markets can change employment and the real wage
- Wage moderation improves international competitiveness
Pricing-to-market

- Krugman (1987)
- Firms have to consider competitors' prices from abroad
- Consequently mark-up not constant
The PTM model
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The PTM model

Wage equation:
\[ w - p^e = \mu + \beta a - \gamma u \]

Price equation:
\[ p = \lambda + \phi(w - a) + (1 - \phi)p_w \]
\[ \lambda = \varphi + \kappa(p - p_w) \]
\[ p = \nu + \delta(w - a) + \chi p_w \]
PTM – Long run solution

\[ w = a + p_w - \frac{\gamma}{1-\delta} u + \frac{1}{1-\delta} (\mu + \nu) \]

\[ p = p_w - \frac{\delta \gamma}{1-\delta} u + \frac{1}{1-\delta} (\delta \mu + \nu) \]

With

\[ p^e = p \]

\[ \beta = 1 \]

\[ \chi = 1 - \delta \]
PTM – Long run solution

\[ \Omega = w - p - a = -\gamma u + \mu \]

\[ z = p - p_w = \frac{1}{1-\delta} [ -\delta \gamma u + \delta \mu + \nu ] \]
<table>
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<th></th>
<th>$x$</th>
<th>$\mu$</th>
<th>$\nu$</th>
<th>$u$</th>
<th>$a$</th>
<th>$p_w$</th>
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<td>$\frac{1}{1-\delta}$</td>
<td>$\frac{1}{1-\delta}$</td>
<td>$-\frac{\gamma}{1-\delta}$</td>
<td>1</td>
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<td>0</td>
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<td>$\frac{dz}{dx}$</td>
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Demand/wage shock (1)

Price inflation (%)

- 0.3
- 0.5
- 0.7
Demand/wage shock (2)

International competitiveness

Real exchange rate, percentage change

0.0 0.5 1.0 1.5 2.0 2.5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0.3 0.5 0.7
Demand/wage shock (3)

Income distribution

Wage share, percentage change

0.0 0.2 0.4 0.6 0.8 1.0 1.2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0.3 0.5 0.7
Demand/wage shock (4)

- Temporary inflation
- Rise in the wage share
- Rise in the price level
- Cumulative rise in the price level depends on the extent of PTM
Mark-up shock (1)

Inflation

Price inflation (%)

1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2

0.3 0.5 0.7
Mark-up shock (2)

International competitiveness

Real exchange rate, percentage change

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0.3 0.5 0.7
Mark-up shock (3)

Income distribution

Wage share, percentage change

-1.2 -1.0 -0.8 -0.6 -0.4 -0.2 0.0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0.3 0.5 0.7
Mark-up shock (4)

- Temporary inflation
- Income distribution is stable
- Rise in the price level
- Cumulative rise in the price level depends on the extent of PTM
PTM Characteristics

- No unique NAIRU
- Long-run Phillips curve horizontal
- Temporary inflationary adjustment
- No wage-price spiral
- Income distribution depends on employment
Policy conclusions

- Expansive demand and wage policies without endless ‘wage-price spiral’
- Wage moderation less attractive
- Effects on both income distribution and international competitiveness
- NAIRU as an attractor is questionable