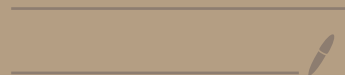


Structure of the Solution of the Two-Market Model

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<https://www.pascalmichailat.org/t5.html>



Variables: y, c, x, p, k
 l, n, θ, w

9 variables \rightarrow 9 conditions/equations

Once we know these variables:

- rate of idleness = $1 - f(x)$
- rate of unemployment = $1 - f(\theta)$
- trading probabilities: $f(x), q(x), f(\theta), q(\theta)$
- matching wedge: $\tau(x), \hat{\tau}(\theta)$

Can simplify model from 9×9 description:

$$c = y / [1 + \tau(x)]$$

8×8

$$n = l / [1 + \hat{\tau}(\theta)]$$

7×7

$$k = \alpha \cdot n^\alpha = \alpha \cdot [l / [1 + \hat{\tau}(\theta)]]^\alpha$$

6×6

$$p = p^n(x, \theta)$$

$$w = w^n(x, \theta)$$

w/ fixed price - fixed wage assumption
 p, w are parameters

\rightarrow Model boils down to 4×4 system

4 variables: y, l, n, θ

h equations

①. $\ell = \ell^s(\theta) = \hat{f}(\theta) \cdot h$

②. $\ell = \ell^d(\theta, x) = \left[\frac{f(x) \cdot a \cdot \alpha}{w/r} \right]^{1/\alpha} \left[\frac{1}{1 + \hat{\tau}(\theta)} \right]^{\alpha/\alpha}$

③. $y = y^s(x, \theta, \ell) = f(x) \cdot a \cdot \frac{\ell^\alpha}{[1 + \hat{\tau}(\theta)]^\alpha}$

$$y = y^d = \sigma(x) \left[f(x) \cdot h + \frac{\mu}{r} \right]$$

\Rightarrow ④ $y = y^d = \sigma(x) \cdot \left[f(x) \cdot a \cdot \frac{\ell^\alpha}{[1 + \hat{\tau}(\theta)]^\alpha} + \frac{\mu}{r} \right]$