# Aggregate Supply Shocks with Fixed Inflation

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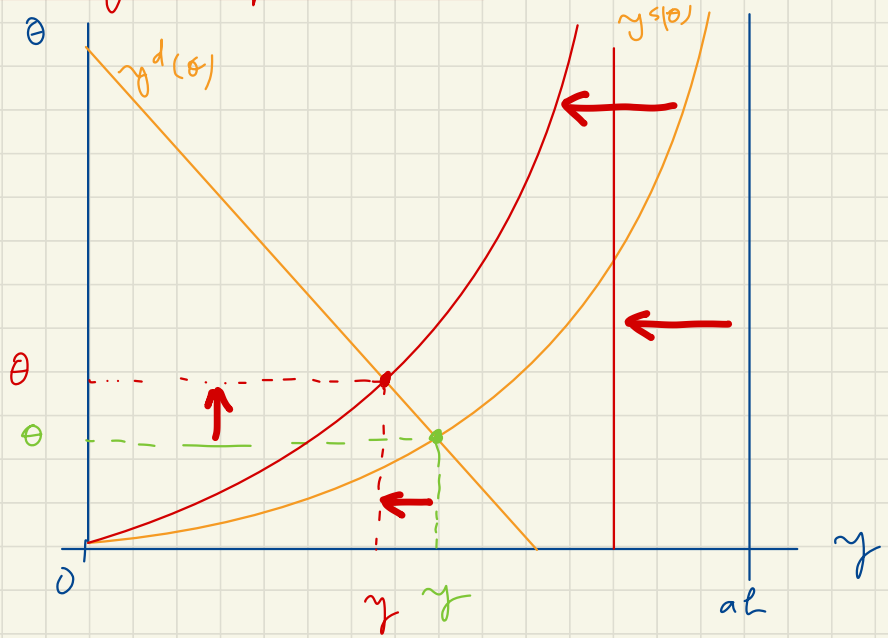
Negative AS shock: $y^s(\theta) = \frac{f(\theta)}{\lambda + f(\theta)} \cdot a \cdot h$

Lower labor-force participation: lower $h$




After reduction in labor force $h$

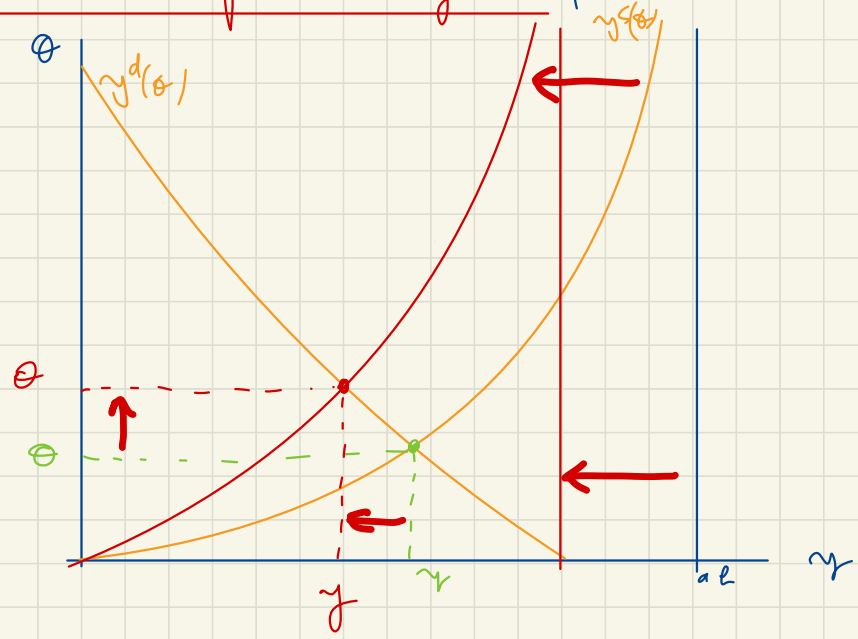
tightness: $\theta \uparrow$ (different from AD shocks)

output: $y \downarrow$

employment: $\ell = y/a$ so $\ell \downarrow$

unemployment rate: $u = \frac{\lambda}{\lambda + f(\theta)}$ so $u \downarrow$

Lower labor productivity $a$ (another AS shock)




Lower labor productivity $a$ ≠ from AD shock

| | | |
|---|---|---|
| Tightness | $\theta$ | ↑ |
| Output | $y$ | ↓ |

Unemployment rate $u = \frac{1}{1+f(\theta)}$ so $u$ ↓

Employment $\ell = (1-u) \times h$ so $\ell$ ↑

specific to productivity shocks

Evidence that $\ell$ ↓ when $a$ ↑ · Basu et al (2006)