

Aggregate Demand and Aggregate Supply Curves

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Aggregate supply : # services sold given capacity of firms & matching process

$$y^s(x, k) = f(x) \cdot k$$

↑
selling probab.
↑
firms' capacity

Use production function: $Y = a \cdot n^\alpha$

$$y^s(x, n) = \underset{\substack{\uparrow \\ \text{technology}}}{a} \cdot f(x) \cdot \underset{\substack{\uparrow \\ \# \text{ producers}}}{n^d}$$

Given matching cost & matching function: $\pi = c / [1 + \hat{c}(\theta)]$

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

- $\gamma^S(x=0) = 0$ b/c $f(x=0) = 0$
- $\gamma^S(\theta = \theta^m) = 0$ b/c $\hat{\tau}(\theta = \theta^m) = +\infty$
- γ^S is \uparrow in x b/c f is \uparrow in x
- γ^S is \downarrow in θ b/c $\hat{\tau}$ is \uparrow in θ
- γ^S is \uparrow in ℓ

Aggregate demand: services that households would like to purchase, given tightness & prices (to maximize utility)

$$y^d = \sigma(x) \times \left[\text{income} + \frac{N}{P} \right]$$

real income

endowment of real wealth

$$MPS = \frac{X^\varepsilon [1 + \tau(x)]^{1-\varepsilon}}{1 + X^\varepsilon [1 + \tau(x)]^{1-\varepsilon}}$$

What is household's income? firms owned by households

Income = labor income + firms' profits

$$\text{Real income} = \frac{w}{P} \times l + \left[\frac{p y - w l}{P} \right]$$

$$= \frac{w}{P} \times l + y - \frac{w}{P} l$$

$$= y$$

$$= f(x) \times k$$

Use expression for income:

AS = income = y^s ← Say's Law

same expression as bar's model

$$y^d = \sigma(x) \times \left[f(x) \times k + \frac{N}{P} \right]$$

Behavioral AD $\epsilon^{(0)}$ gives households' desired purchases

Pure AD: substitute out the AS element.