Matching Wedge

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Assumption. Each visit requires $\rho \in (0,1)$ services

Service purchased

- consumed: c (deliver utility)
- used for matching & conduct visits

service consumed < services purchased

Link between consumption & purchases.

Household conducts v visits & aims to consume c services

service purchased $= c + v \times \rho$

1 visit $\to$ $q(x)$ services (in expectation)

1 purchase $\to$ $1/q(x)$ visits

(omit randomness)

$c + v \times \rho$ purchases $\to$ require $\dfrac{c + v\times\rho}{q(x)}$ visits

$$v = \frac{c}{q(x)} + v \times \frac{\rho}{q(x)}$$

$$v\left(1 - \frac{\rho}{q(x)}\right) = \frac{c}{q(x)}$$

$$v = C * \frac{1}{q(x) - \rho}$$

Services requiring for matching

$$\rho \times v = C * \frac{\rho}{q(x) - \rho}$$

Services required for matching & consume 1 service.

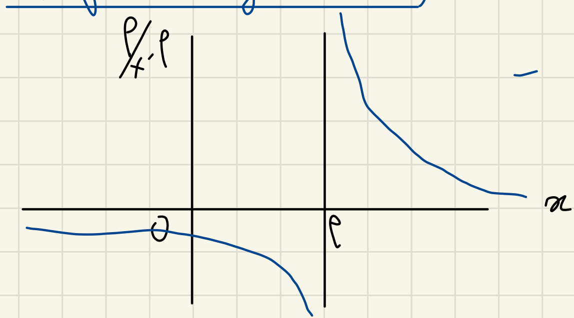
$$\boxed{\tau(x) = \frac{\rho}{q(x) - \rho}}$$

$\tau(x)$ is the matching wedge

To consume 1 service, household purchases

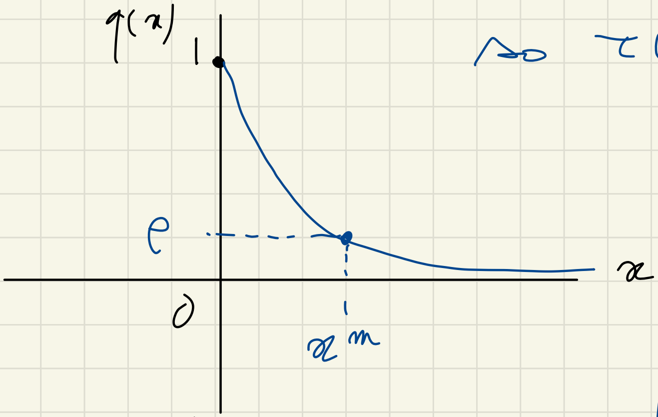
$$\boxed{\underbrace{1}_{\text{consumption}} + \underbrace{\tau(x)}_{\text{matching}}} \text{ services}$$

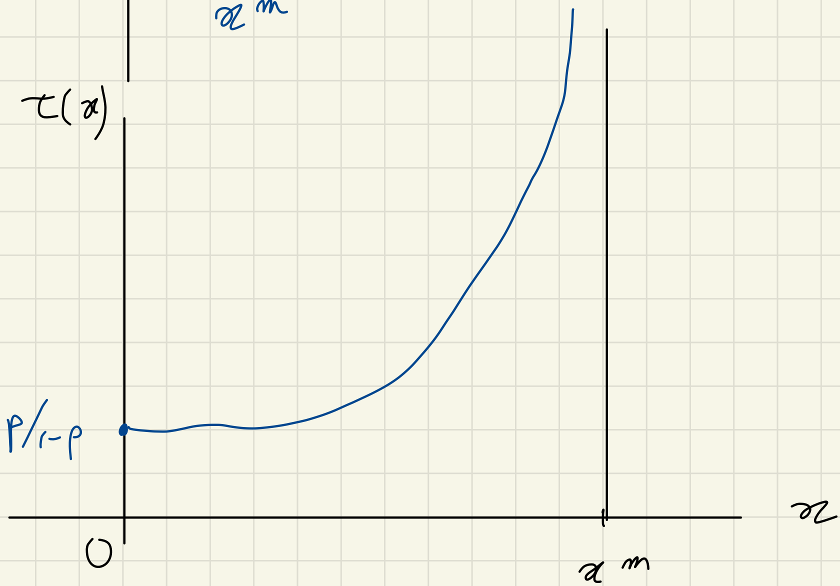
Properties of $\tau(x)$



- $\tau(0) = \rho / (1 - \rho)$
- $\tau(x)$ increasing in x (b/c $\rho/(x-\rho)$ is $\downarrow$)
- $\tau(x) \to +\infty$ when $q(x) = \rho$

so $\tau(x^m) \to +\infty$





When the market is tighter, visits are less likely to be successful, so the household must devote more services to matching → the matching wedge is larger, it is more costly to consume things