RANDOM SEARCH → ALMOST ALL INFORMATION

Meeting probability

↳ Prices are decided ex post

DIRECTED SEARCH

- Meeting Probabil.
- Price Matter

WALRASIAN MARKETS ⇒ All that matter "price"

Meeting probabilities irrelevant

WHO INVENTED DIRECTED SEARCH

COMPETITIVE SEARCH EQUILIBRIUM

→ ESPEN MOEN → Pissarides → 1998 JPE

→ C.S.E.

→ ROBERT SHIMER → Acemoglu →

EARLY IDEAS 1991/1992 Peters

SOURCE J. Ec. Lit.

KIRCHER / WRIGHT; 2020

1 PERIOD SEARCH

→ OJS

→ Tenure Contr

SELLERS N_s

BUYERS N_b

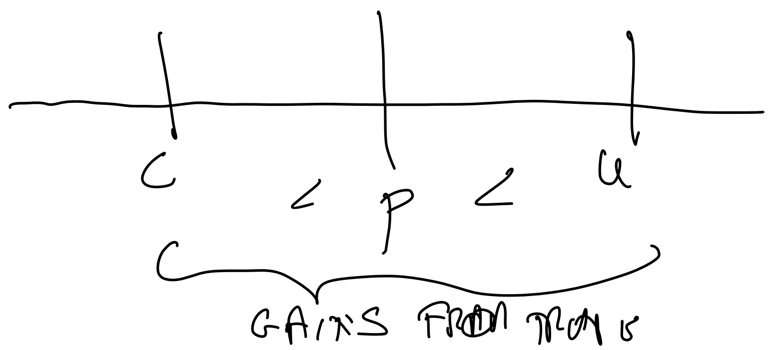
$$N = \frac{N_b}{N_s}$$

1 PERIOD MODEL

q

production costs to seller $c > 0$

utility of buyer is u



How is trading Regulated

$m(n^b; n^s)$

$m_1 > 0 \quad m_{11} < 0$

$m_2 > 0 \quad m_{22} < 0$

CRS

Seller Probability

$$\frac{m(n^b; n^s)}{n^s} = m\left(\frac{n^b}{n^s}; 1\right) = q(n)$$

$q'(n) > 0 \qquad q''(n) < 0$

$$\frac{m(n^b; n^s)}{n^b} = \frac{m(n^b; n^s)}{n^s} \cdot \frac{n^s}{n^b}$$

$$= \frac{q(n)}{n}$$

$n \uparrow \quad \dfrac{\partial \frac{d(n)}{n}}{\partial n} \overset{?}{<} 0$

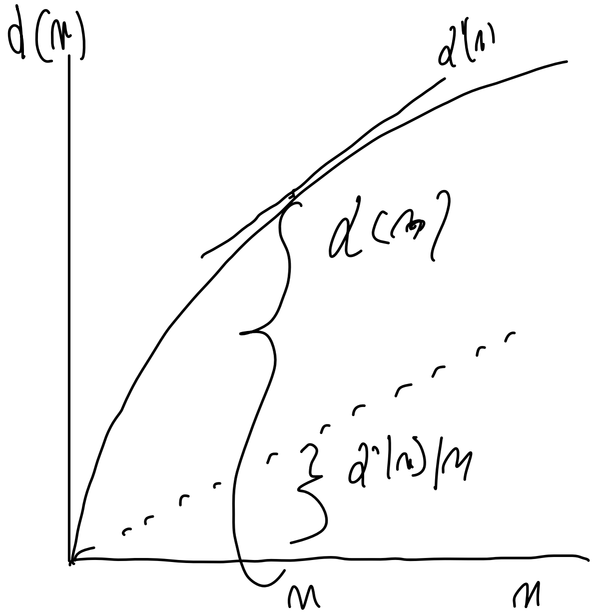
$$\frac{\partial \frac{d(n)}{n}}{\partial n} = \frac{d'(n)\cdot n - d(n)}{n^2} \overset{?}{<} 0$$

$$= \frac{d(n)\left[\frac{n d'(n)}{d(n)} - 1\right]}{n^2}$$

$d(0) = 0$

Propert concave function

$d(n) > \frac{d'(n)}{n}$



$$\frac{\partial \frac{d(n)}{n}}{\partial n} < 0$$

$$\frac{\partial \frac{d(n)}{n}}{\partial n} = \frac{1}{n^2}\left[1 - \varepsilon(n)\right]$$

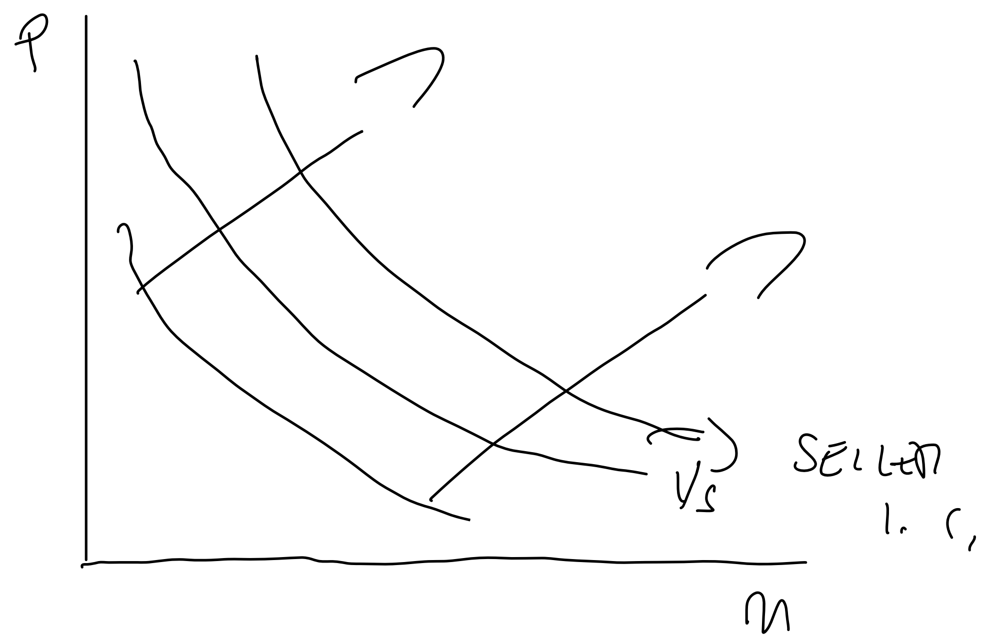
$\varepsilon_{d,n}$

SUB MARKETS

$(m; p)$ couple

SELLERS PAYOFF IN SUB. MKT $(m; p)$

$$V_s = \alpha(m)[p - c] + (1-\alpha(m))\phi$$



$d\bar{V}_s = 0$

$d\bar{V}_s = d'(m) \cdot p \, dm + d(m) \, dp = 0$

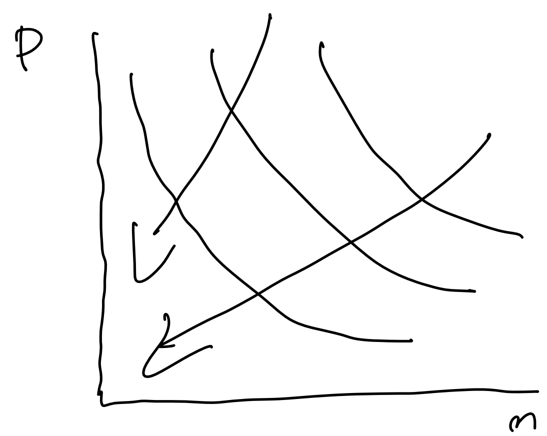
$$\frac{dp}{dm} = - \frac{d'(m) \cdot p}{d(m)} < 0$$

is it convex?

$\frac{d^2 p}{dm} \overset{?}{>} 0$ I NEED TO PROVE

BUYER UTILITY

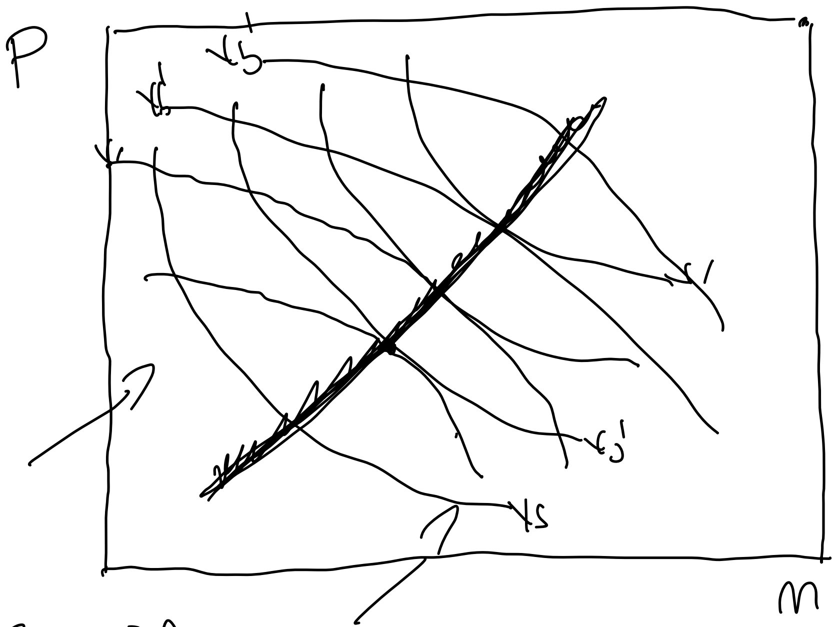
$$\bar{V}_b = \frac{d(m)}{m} [u - p]$$



$m > \frac{N(D)}{N(J)}$

$$\underline{dV_b} = -\frac{d(m)}{m}dp + \frac{\left[\overbrace{d'(m)m - d(m)}\right](e-p)}{m^2}dm = 0$$

$$\frac{dm}{dp} < 0$$



SELLER

SLOPE BUYER I.C. = SLOPE ~~BUYER~~ SELL. I.C.

SET OF EFFICIENT POINT

$$\boxed{\max_{p,m} \quad \alpha(m)\left[p - \frac{c}{k}\right] \quad \text{s.t.} \quad \bar{V}_b = \frac{\alpha(m)}{m}\left[u - p\right]}$$

SECOND.

BOXED PROB

$$\max_{p,m} \quad \frac{\alpha(m)}{m}\left[u-p\right]$$

$$\text{s.t.} \quad \alpha(m)\left[p-c\right]$$

→ How to derive ✓

→ How to close th ✓

→ is it really closed ✓