THE THEORY OF COMPENSATING WAGE OR EQUALIZING DIFFERENCES

- **Wage differentials due non-monetary disadvantages among activities and tastes differentials**

  References: A.Smith "Wealth of Nations."

- **Differentials:**

Working conditions	- working place - risk of life and health - exposure to pollution
Location conditions	- climate - crime - pollution
Job characteristics	- shift work - flexible schedule - risk of layoffs - pay package - vocations - pensions

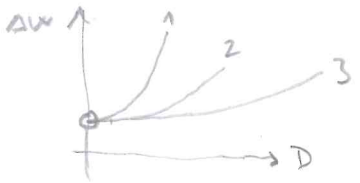
- **We have workers-fixed characteristics (tastes)**
  firms-fixed characteristics

  Match occurs if it is the best alternative for both sides (feasible choices)

EQUILIBRIUM - market clearing through equalizing differences

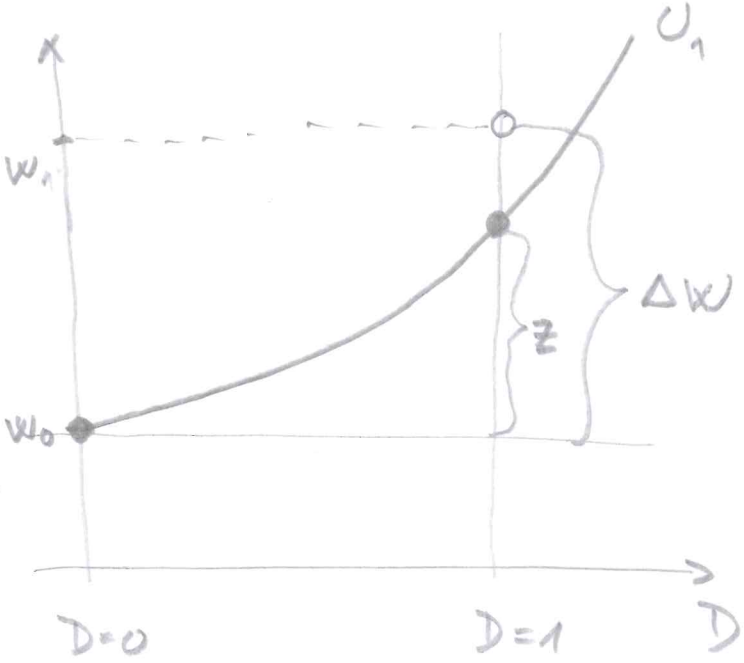
Labor supply side

HBLE, Vol I, ch 12
Borjas ch 5



Assume:

- Perfect info
- No search costs & time
- Observable "quality"
- $D \sim D_{\text{amenity}} \sim 1/0$
- $\Delta W \sim$ x compensating diff.
  $(p = 1)$
  $\sim W_1 - W_0$



$D = 1$ if $U(\Delta W + W_0; D=1) > U(W_0; D=0)$

$D = 0$ if ——— $<$ ———

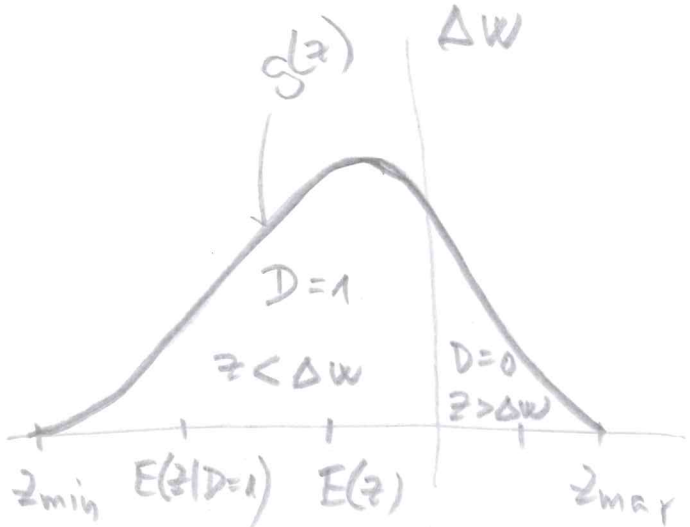
Labor Supply

$\Delta W \sim$ represents mkt

$z \sim$ reservation "price" tastes

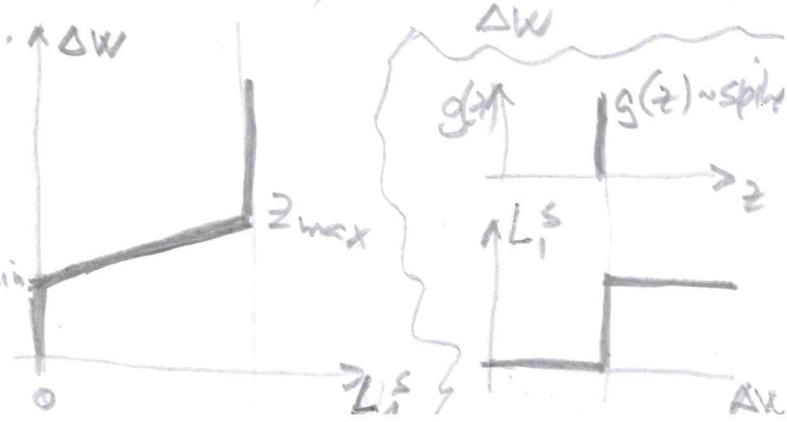
$g(z) \sim$ density of workers

$G(z) \sim$ cumulative den.

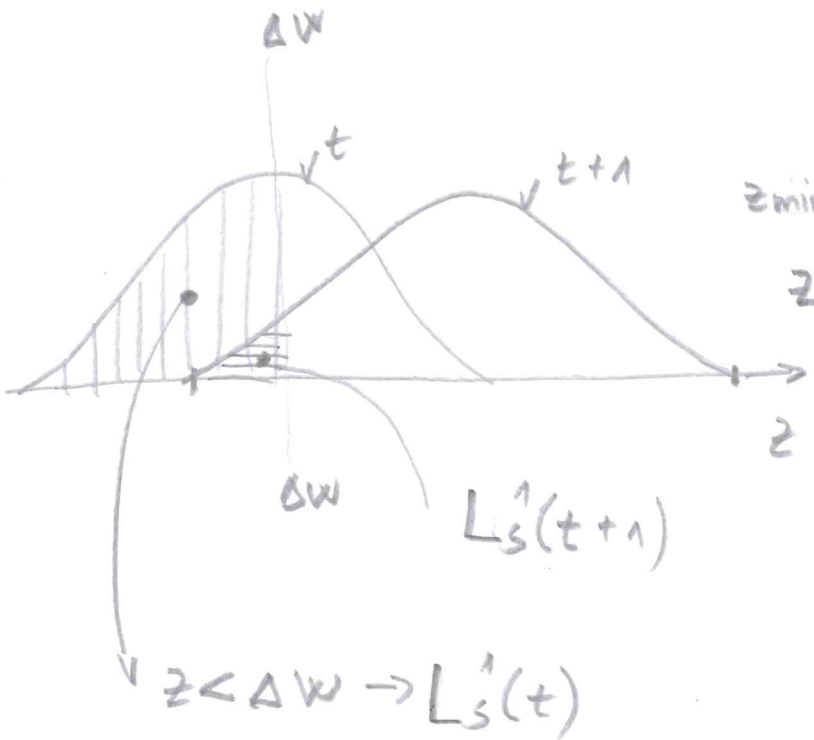


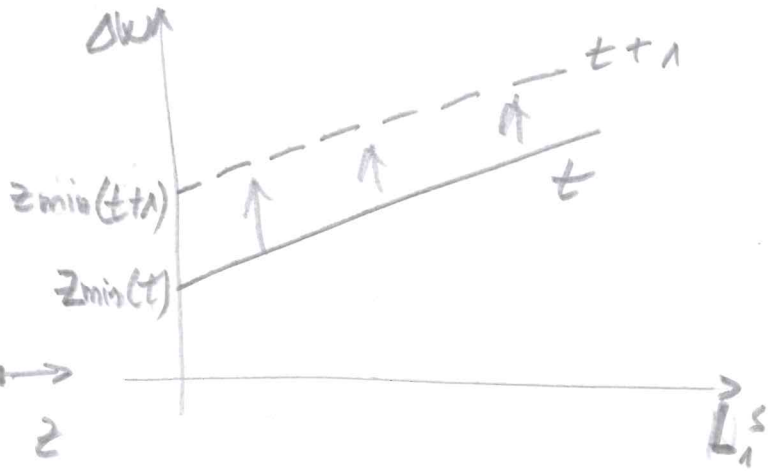
$$L_1^S = \int_0^{\Delta W} g(z)\,dz = G(\Delta W)$$

$$L_0^S = \int_{\Delta W}^{\infty} g(z)\,dz = 1 - G(\Delta W)$$



CASE Shift in "tastes"





Labor Demand Side ~ firm's choice

$D=0$ → + cleaning / safety → higher costs

Q: Pay higher wages (Δw) & not clean?

OR

Do not pay Δw & clean?

Assume:

- simple technology

$X = a_1 L$ if $D=0$
$X = a_0 L$ if $D=1$

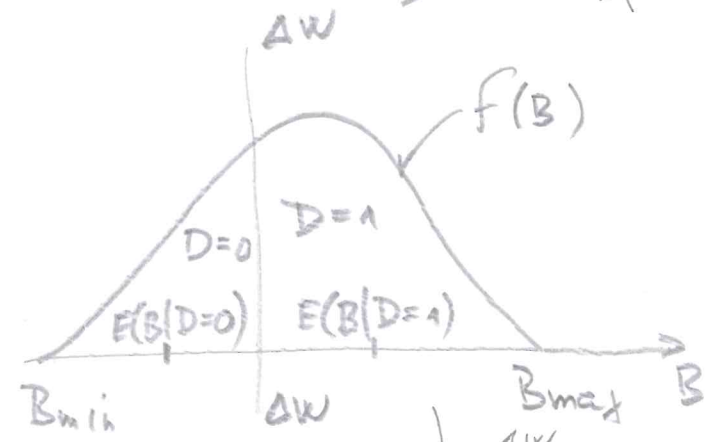
} $VMP_1 = a_1$, $VMP_2 = a_0$ (Value Marginal Product ($p=1$))

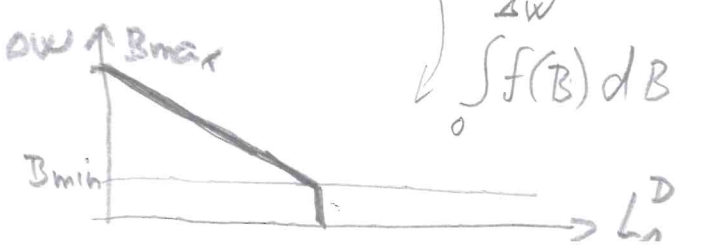
} $\Delta VMP = \underbrace{a_1 - a_0}_{B} \overset{!}{>} 0$

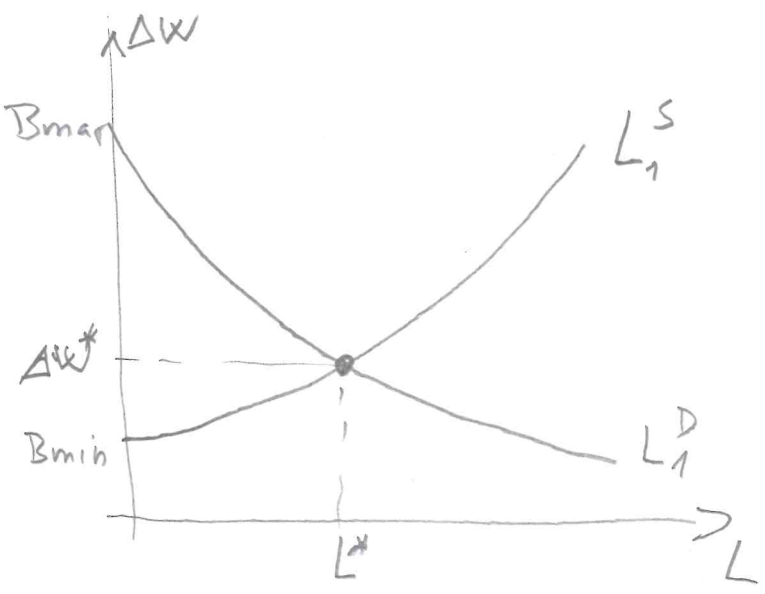
Firm's choice $D \begin{matrix} 1 \\ < \\ 0 \end{matrix}$ <=> $\Delta MC \equiv \Delta w \overset{?}{\gtrless} \Delta VMP \equiv B$

$D=1$ if $\Delta w < B$ (pay more for Dirt)

$D=0$ if $\Delta w > B$ (clean & not pay Δw)

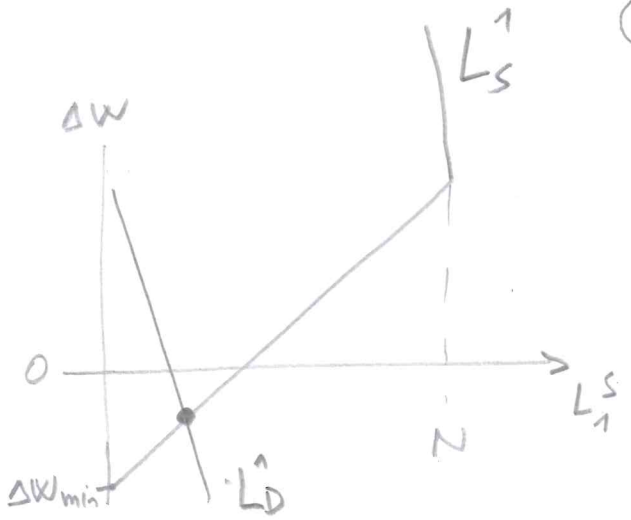






Some notes:

- Premium
- Who moves
- When some people like D
- taxation (progresive)
- safety & health regulation

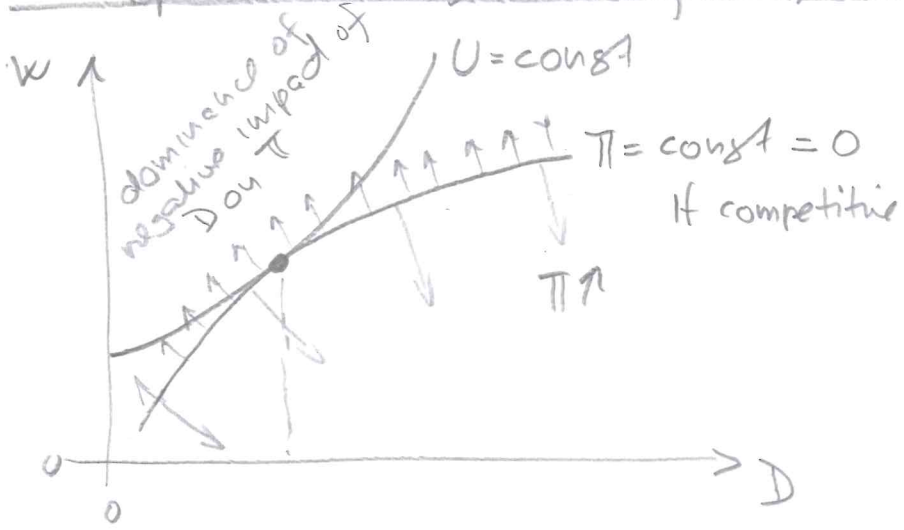


- Taxation matters
  - ↳ amenities are not taxed
  - ↳ $\uparrow t \rightarrow \downarrow D$
  - ↳ we don't observe whole Δw (health/sickness insurance)

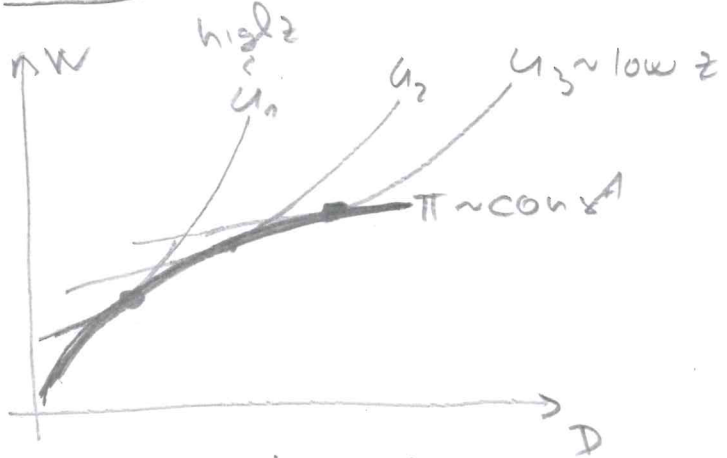
- Risks of job layoffs (compensation in advance)

Labor Demand & Supply

- One type of firms; one type of workers



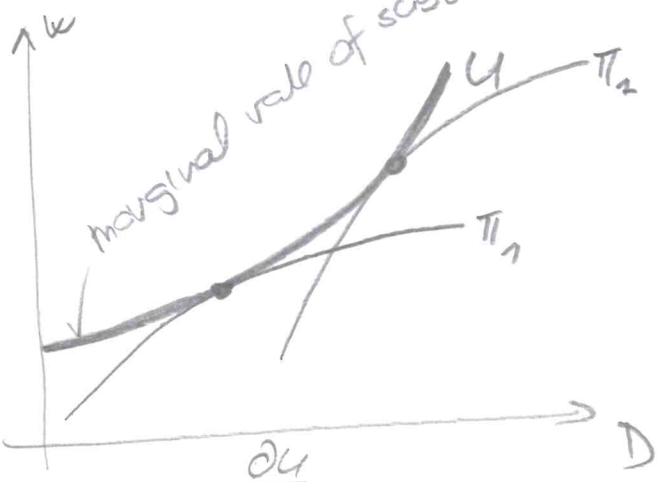
- All firms identical



different tastes

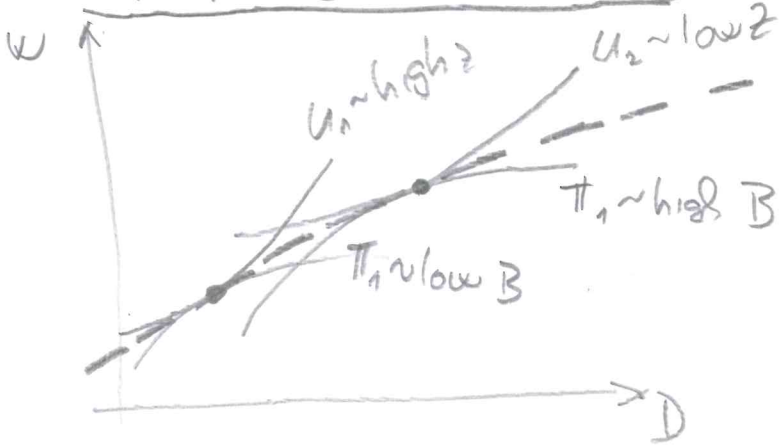
$$\frac{U_D}{U_w} = \frac{\pi_D}{\pi_w} =$$

- All workers identical



$$\frac{U_D}{U_w} = \frac{\frac{\partial U}{\partial D}}{\frac{\partial U}{\partial w}}$$

- Diff firms & workers



- w(D)
- HEDONIC CURVE
- envelope curve equalizing the wage differential
- what we observe
- negative assortative mating

On Value of Life

- Everyday dilema
- Examples (simple)
  - car seat boalts
  - car type
  - vaccination
  - hospital inspectio - (HIV)
  - fatal work injuries
  - .....

	Death per 100 000		
Agric	29.0	Educ	0.5
Mining	21.0	Financ	0.6
Transp	13.0	Retail	0,9
Constr	8.9		
Manuf	2.3	TOTAL	3.0

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- Statistical Value of Life

w_0 ~ safe environment (per year) with probability $p_0 = 0$

w_1 ~ death risky — with $p_1 > p_0$ (per year)

$$\Delta w = (p_1 - p_0) V$$

$$V = \frac{\Delta w}{p_1} \qquad \frac{\text{czk}10\,00 \cdot 12}{0.00003} = 400 \text{ mil czk}$$

how much is p_1?

- workers do not know in advance
- perception of risks (low)