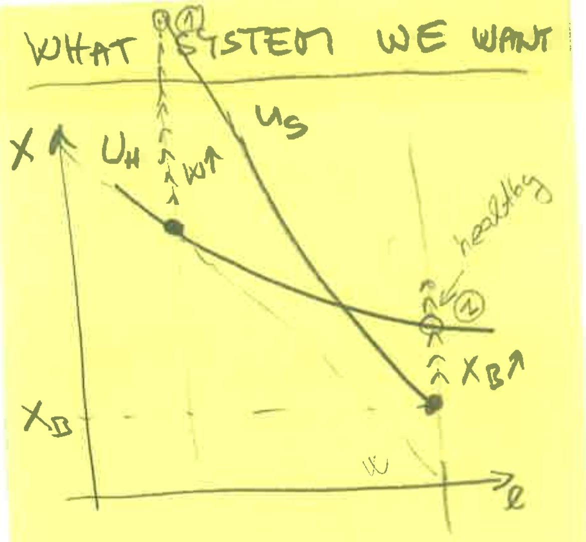
EX **ABSENTISM – SICKNESS BENEFITS**

- Show Czech Case
  - 20 CZK bl.
  - growing over time
  - » with wage rate

- variance in w
- – " – in X_B

- Perfect world (works even if system wrong)
- Imperfect world
  - ↳ sick work ①
  - ↳ healthy do not work ②

WHAT SYSTEM WE WANT



Assignment:

translate some real life {L, l, x} optimisation problem into our static framework.

e

- Institutional setups HW
  - 3 parties: worker, employer, doctor
  - financing: payroll tax, personal insurance, firm's budget
  - timing of payments
  - who pays and how long
  - optimal institutional setup

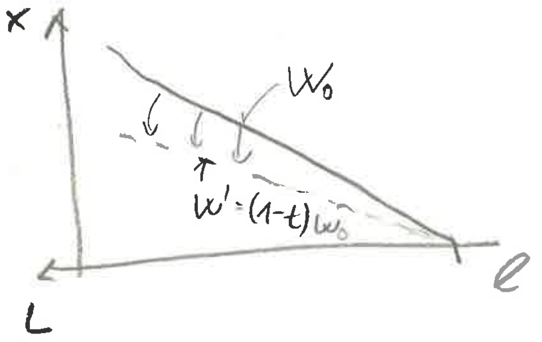
- Cases:

Sweden: before 1990s: no doctor, 90% from state
after 1990s: – " –, ~80–90%, firm 2 state

CR: see tables: doctor, state pays www.mpsv.

• PROPORTIONAL TAX

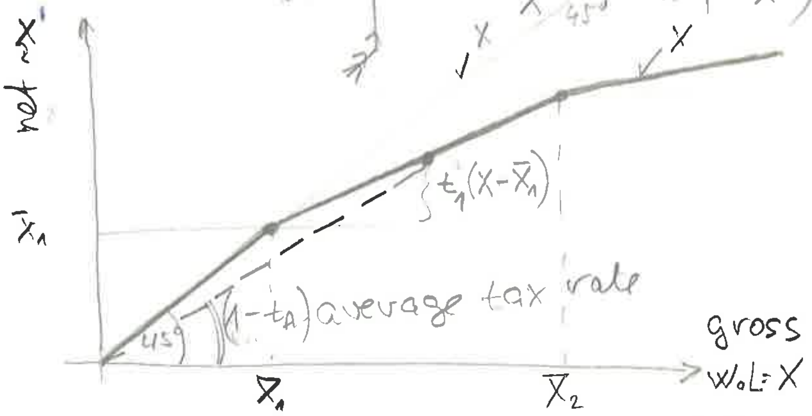
$$\underset{\text{employee}}{w'} = (1-t)\,\underset{\text{firm}}{w}$$



$$X' = \bar{X}_1 + (X - \bar{X}_1)(1 - t_1)$$

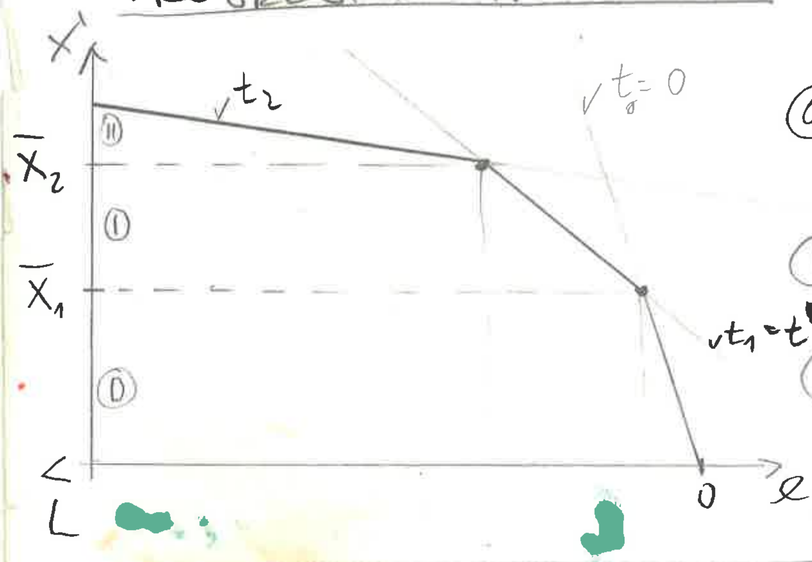
$$X' = (1 - t_A)\,X$$

$$t_A = \frac{tX - t\bar{X}_1}{X} = t_1\left(1 - \frac{\bar{X}_1}{X}\right)$$



w_0 …. no tax $t_0 = 0$

• PROGRESIVE TAXATION



0 $X' = w_0 L$ $\quad w_0 L < \bar{X}_1$

1 $X' = w_0 L - \underbrace{(w_0 L - \bar{X}_1)}_{>0}\, t'$

II $X' = w_0 L - \underbrace{(w_0 L - \bar{X}_1)}_{>0}\, t' - \underbrace{(w_0 L - \bar{X}_2)}_{0>0}\, t''$

$$\boxed{X' = \underbrace{w_0 L(1 - t' - t'')}_{\text{marginal wage}} + \underbrace{(\bar{X}_1 t' + \bar{X}_2 t'')}_{\text{income shifts}}}$$

intercept

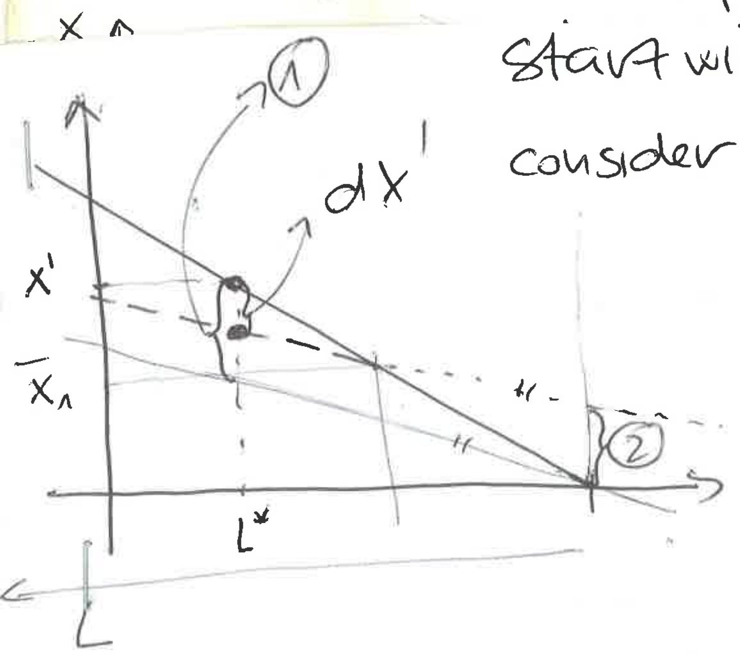
$t'' = t_2 - t_1$

$t' = t_1 - \overset{t_0}{0} = t_1$

Increments

start with $t' = 0$

consider $dt' > 0$



EXAMPLE: Introduce $t' > 0$

$X'_x = W_0 L \quad (X'_x > \bar{X}_1)$

$X'_{xy} = W_0 L - t'(W_0 L - \bar{X}_1)$

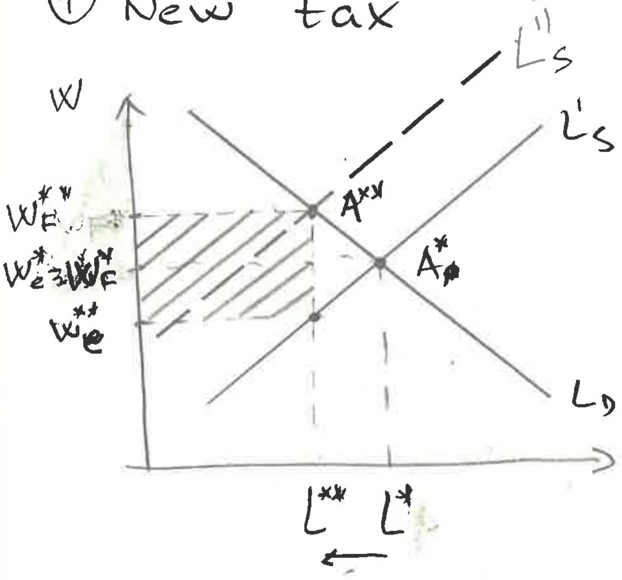
$= \underbrace{L\, W_0(1 - t')}_{\text{new slope}} + \underbrace{\bar{X}_1 t'}_{\text{new intercept}}$

slope shift $\qquad$ income shift

$$X' = w_0 L^*(1 - t') + (\bar{X}_1 t')$$

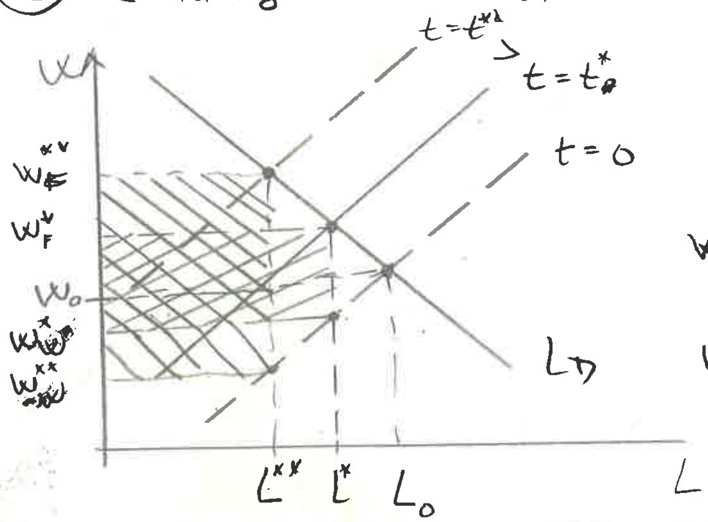
- CASE OF TAXATION OF LABOR

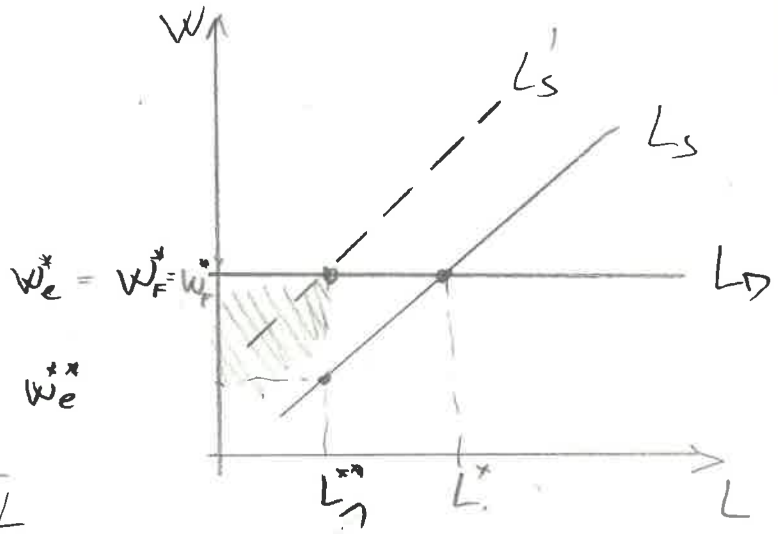
① New tax



$T = L^{**} w_F^{**} \, t)$

② change in tax





Consider $\Delta t \nearrow \rightarrow \Delta T$

$\rightarrow$ "optimal" t ? max T ?

$T = t w_F L \qquad w_e = (1-t) w_F \longrightarrow \ln w_e = \ln(1-t) + \ln w_F$

$\frac{\partial \ln w_e}{\partial t} = -\frac{1}{1-t}$

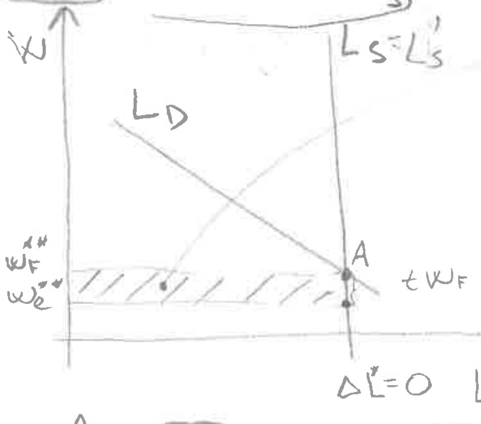
$$\frac{\partial T}{\partial t} = ? : \frac{\partial \ln T}{\partial t} = \frac{\partial \ln t}{\partial t} + \frac{\partial \ln w_F}{\partial t} + \underbrace{\frac{\partial \ln L}{\partial \ln w_e}}_{\text{subst. eff}} \frac{\partial \ln w_e}{\partial t}$$

$$= \underbrace{\frac{1}{t} + 0 + z_s \cdot \left(-\frac{1}{1-t}\right)}_{\gtrless 0}$$

for t_{OPT}: $\frac{\partial \ln T}{\partial t} = 0 \rightarrow \frac{1}{t} - z_s \frac{1}{1-t} = 0$

$1 - t = t z_s \rightarrow \boxed{t_{OPT} = \frac{1}{1+z_s}} = \frac{1}{1+.3} = 0.7$

CASE Inelastic L_S



$\Rightarrow T = t w_F L^* = (w_F^{**} - w_e^{**}) L^*$

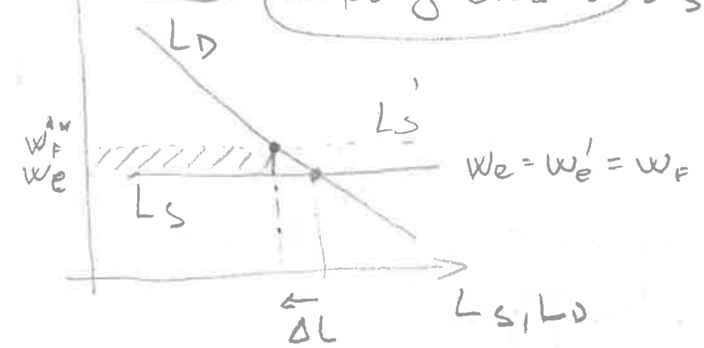
w_e^{**} → wage received ( )

w_F^{**} → wage payed (gross)

$w_e^{**} = w_F^{**}(1-t)$

• Tax burden on employees

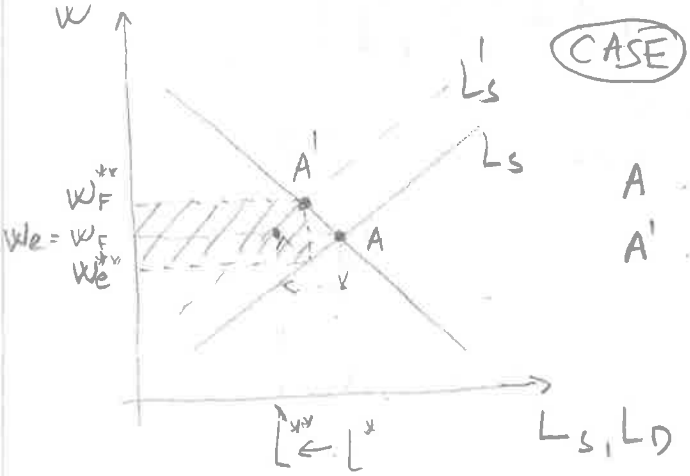
CASE Perfectly elastic L_S



• Tax burden on firms

• Some (ΔL) people will stop working

CASE General one



A ... initial equilibrium

A' ... new equilibrium

CASE Very elastic L_S