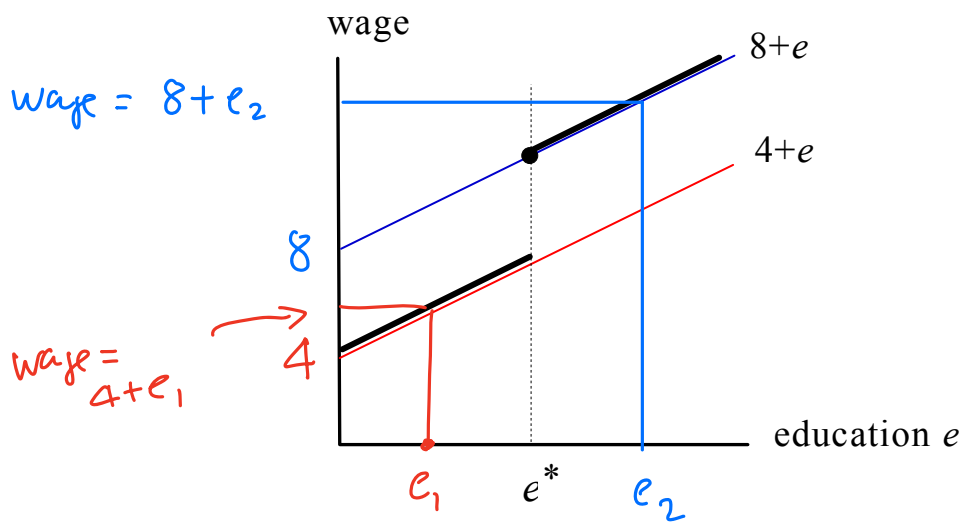


Example of a signaling equilibrium when education does increase productivity

Type L: $\begin{cases} \text{productivity: } 4+e \\ \text{cost: } C_L(e) = 4e \end{cases}$ and **Type H:** $\begin{cases} \text{productivity: } 8+e \\ \text{cost: } C_H(e) = 2e \end{cases}$



For a signaling equilibrium we need:

for Type L: $\begin{cases} \text{if } e < e^* \text{ then } e = 0 \text{ net} = 4 - 0 = 4 \\ \text{if } e \geq e^* \text{ then } e = e^* \text{ net} = 8 + e^* - 4e^* \end{cases}$

for Type H: $\begin{cases} e = 0 & \text{net} = 4 \\ e = e^* & \text{net} = 8 + e^* - 2e^* \end{cases}$

Suppose that 50% of the population is Type L and 50% is Type H .

Consider a signaling equilibrium with $e^* = 3$.

Then Type L have a net wage of

Type H a net wage of

Force everybody to choose $e = 0$ and force employers to pay

everybody $w =$ average productivity:

An example with three types

Type A: productivity 10, cost $C_A(y) = ay$

Type B: productivity 15, cost $C_B(y) = by$

Type C: productivity 20, cost $C_C(y) = cy$

$$0 < c < b < a$$

$$\text{Wage offer: } \begin{cases} 10 & \text{if } y < y_1 \\ 15 & \text{if } y_1 \leq y < y_2 \\ 20 & \text{if } y_2 \leq y \end{cases}$$

For a separating signaling equilibrium we need:

Type A to choose

Type B to choose

Type C to choose

Necessary conditions for Type A:

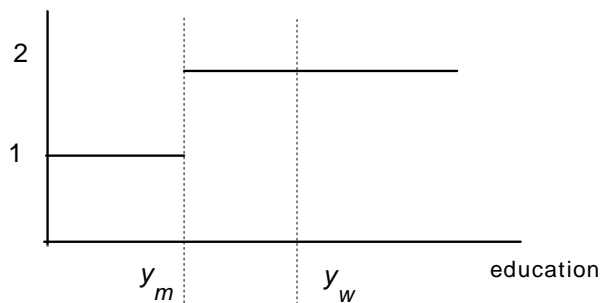
Necessary conditions for Type B:

Necessary conditions for Type C:

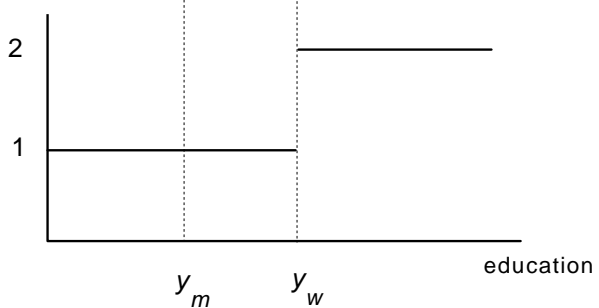
Index vs signal

	Women, L	Women, H	Men, L	Men, H
productivity	1	2	1	2
proportion	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Cost of acquiring y units of education	y	$\frac{y}{2}$	y	$\frac{y}{2}$

wage schedule for men



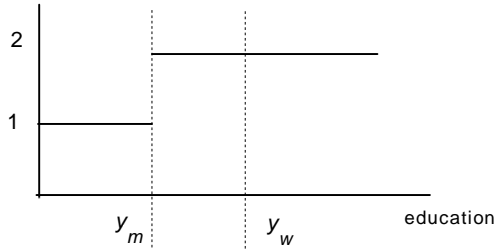
wage schedule for women



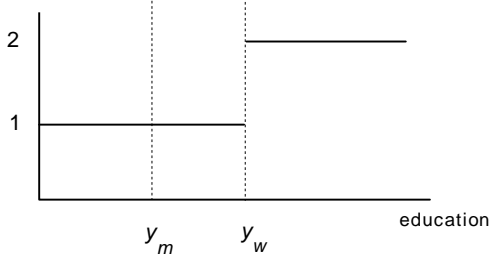
	Women, L	Women, H	Men, L	Men, H
productivity	1	2	1	2
proportion	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Cost of acquiring y units of education	y	$\frac{y}{2}$	y	$\frac{y}{2}$

MEN's CALCULATIONS

wage schedule for men



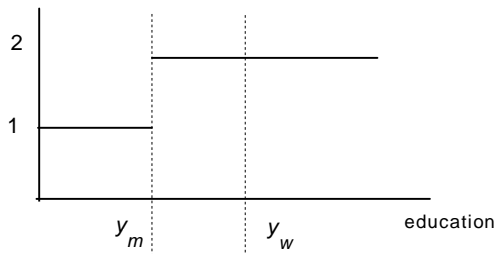
wage schedule for women



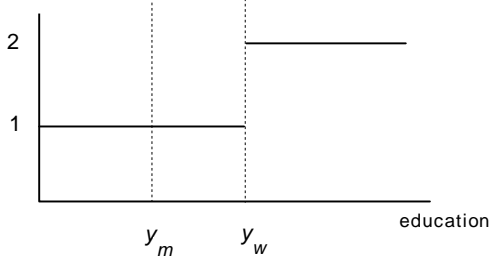
productivity	1	2	1	2
proportion	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Cost of acquiring y units of education	y	$\frac{y}{2}$	y	$\frac{y}{2}$

WOMEN'S CALCULATIONS

wage schedule for men

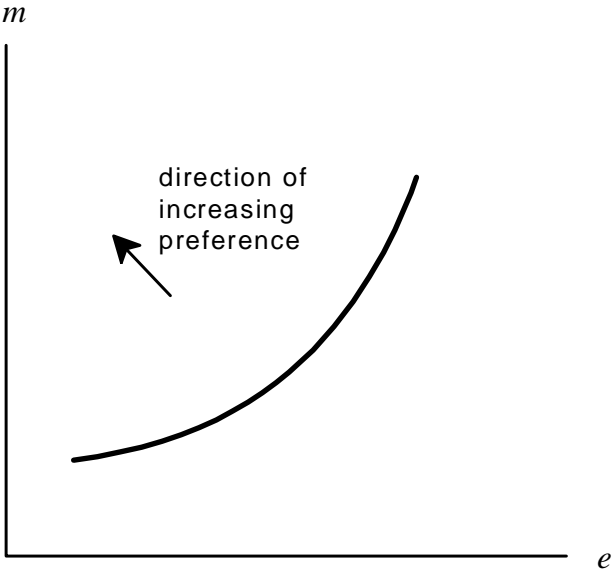


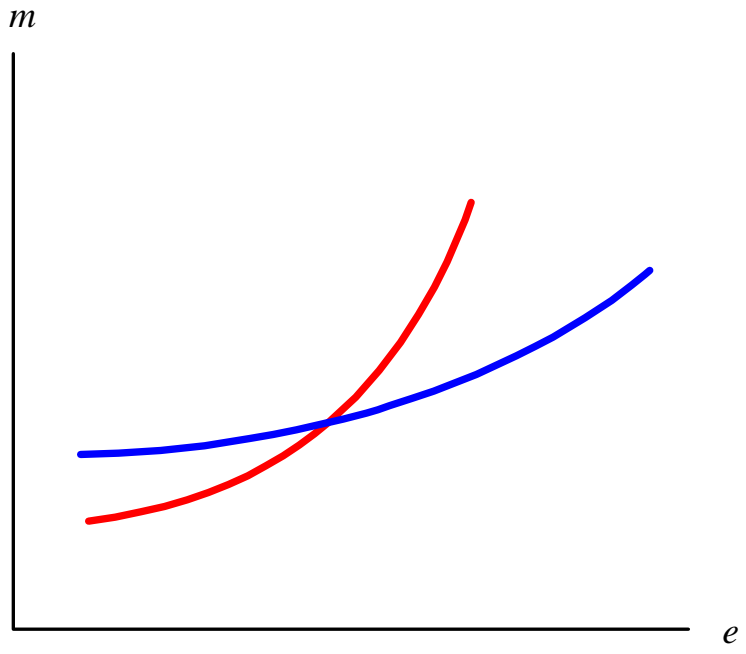
wage schedule for women



Psychological costs of education

$$U(m, e)$$

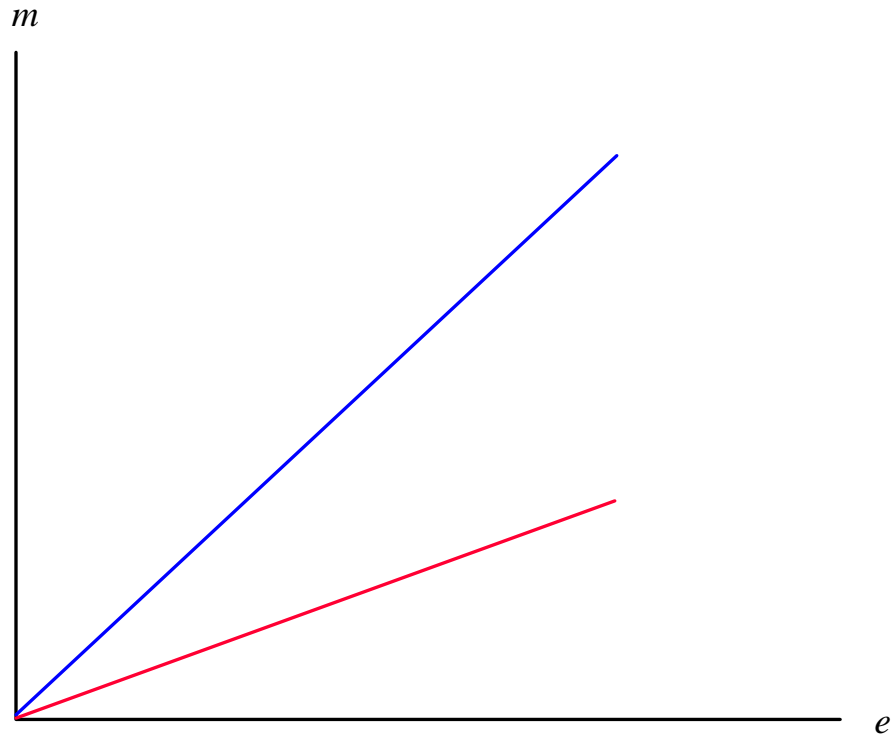




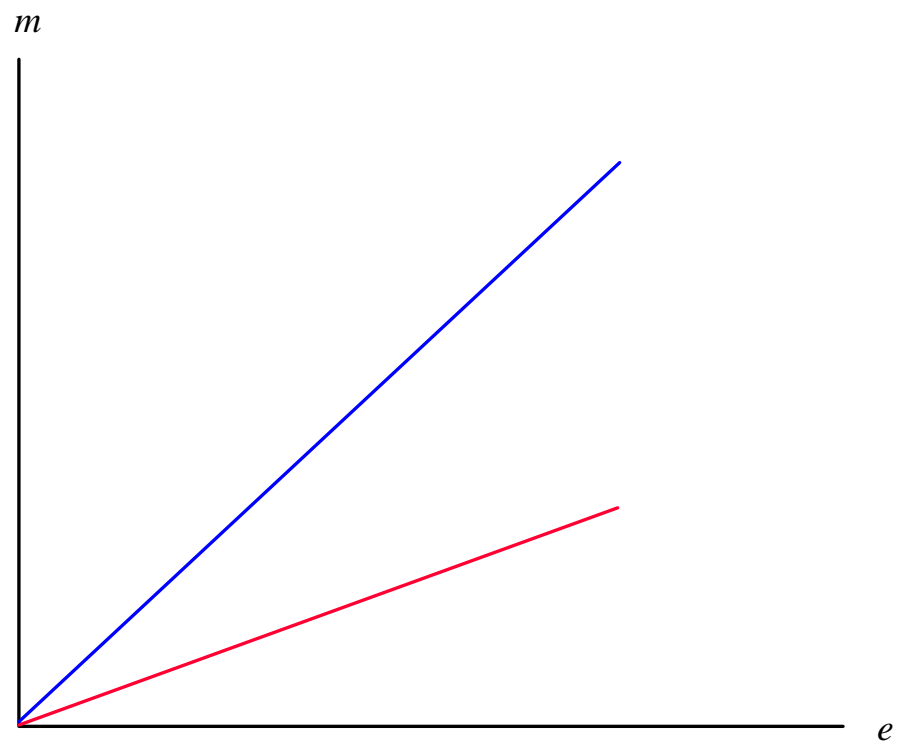
Productivity of Type H: He

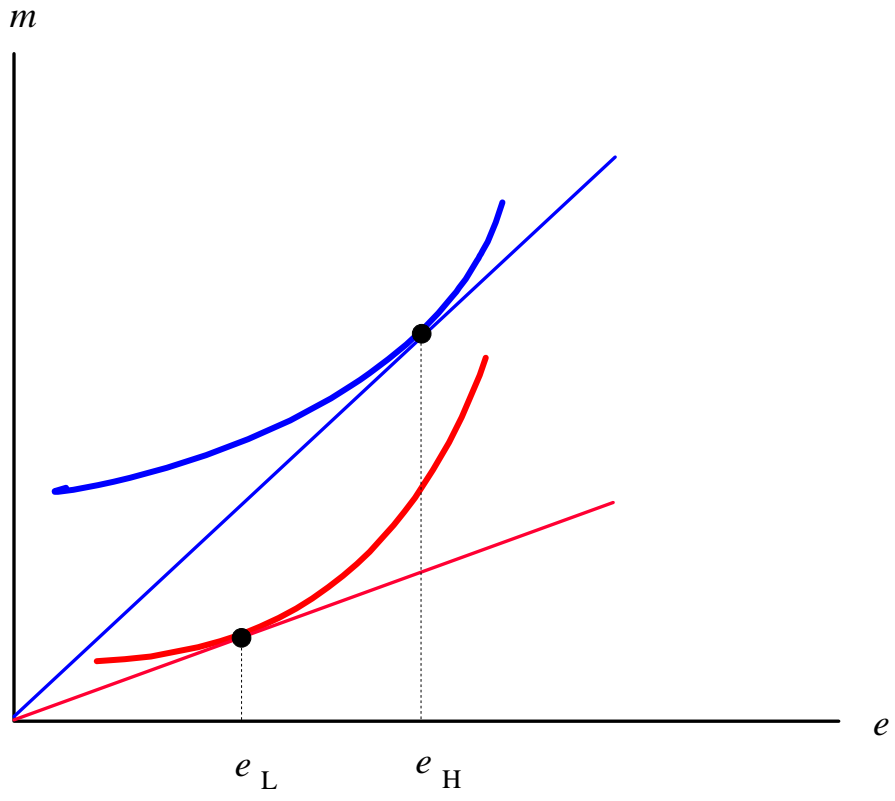
Productivity of Type L: Le

$$0 < L < H$$

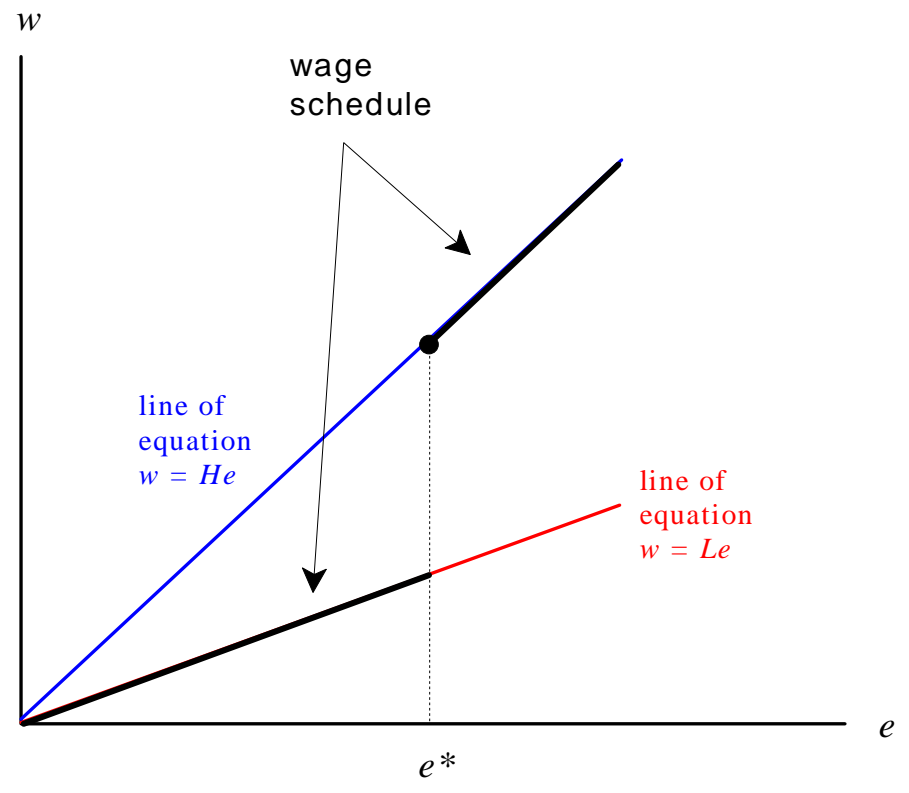


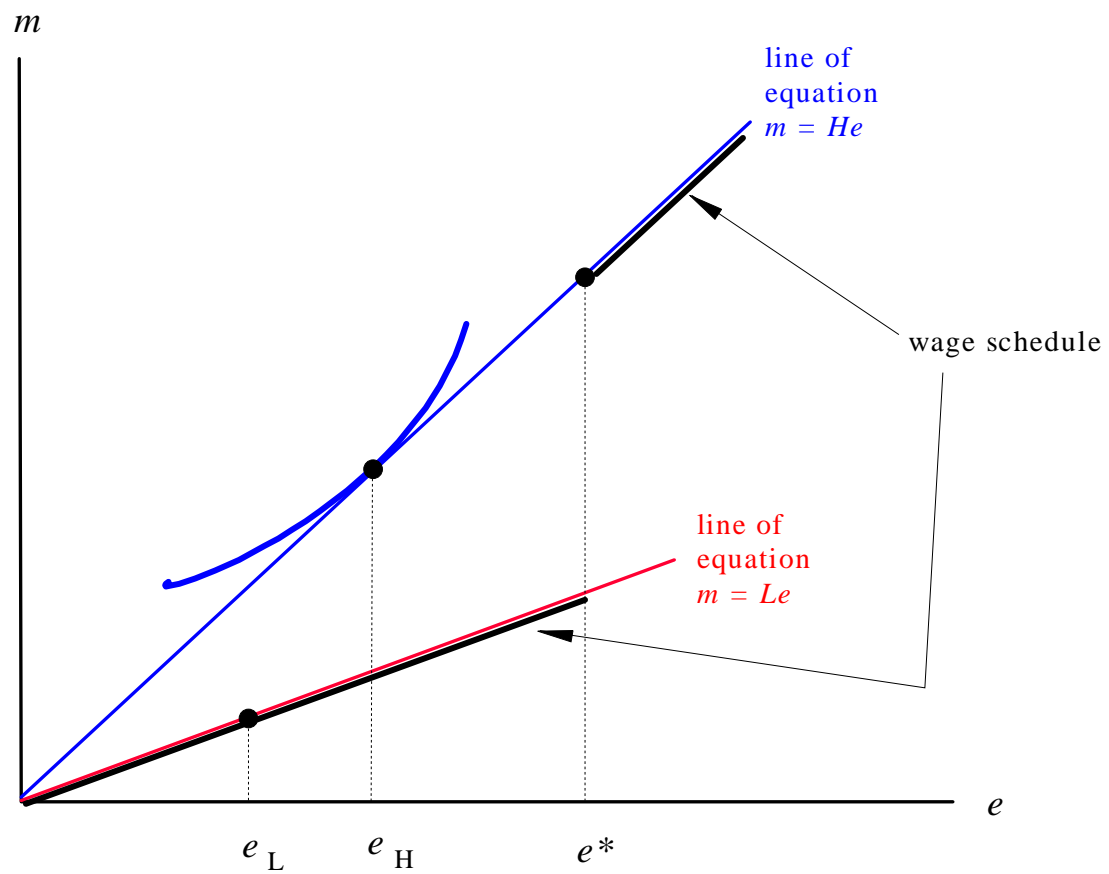
When types can be identified

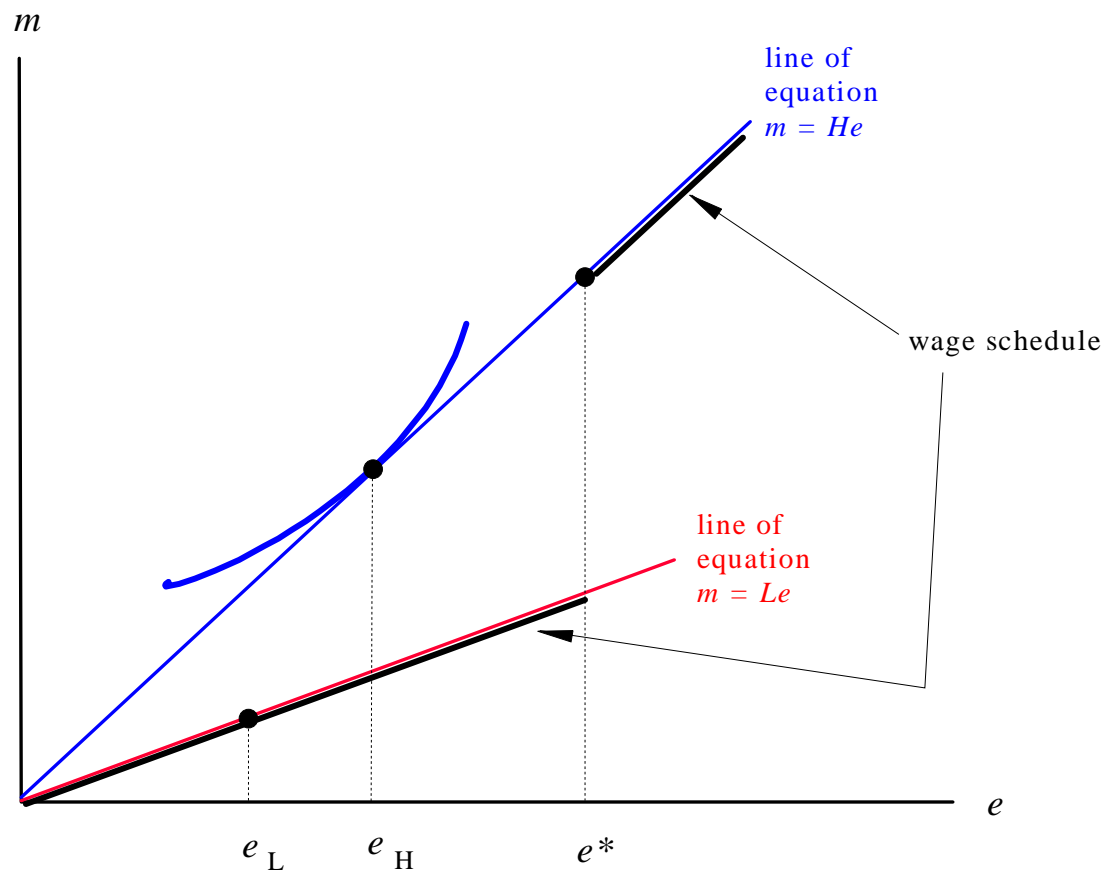




Asymmetric information







When $e_L < e^* < e_H$ and e^* close to e_H possible to have efficiency:

