

## LECTURE 3 NOTES: ADVERSE SELECTION

TIMELINE	AKERLOF	3:00 - 3:15
	R+S	3:15 - 3:45
	DINN, FINKELSTEIN, LAMM	3:45 - 4:30
	LAMTON ET AL.	4:30 - 5:00

### ① AKERLOF

$$v \in [1000, 9000]$$

$$E[v] = \$5000$$

↳ only cars in  $[1000, 5000]$  sell

$$\text{new } E[v] = 3000$$

$$\dots \Rightarrow V = \$1000$$

### ② ROTHSCILD + STIGLITZ

NOTE: What are we assuming here?  $d$  is fixed across types

$$EV = pV(W-d) + (1-p)V(W)$$

$$\text{now, let } p \in \{\pi_H, \pi_S\} \text{ w/ } \underline{\pi_H < \pi_S < 1}$$

- still have risk averse consumers (why?)
- now insurers (still risk neutral) maximize PROFITS -  
↳ needed to ensure selection across plans.

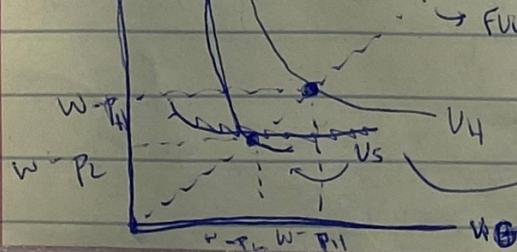
In EQBM:  $E[\pi_{INSURER}] = 0$  (why not negative? positive?)

**FIRST BEST**: If  $\pi$  is observable, each type can have

their own premium:

$$p_H = \pi_H d, p_S = \pi_S d$$

→ FULL INSURANCE

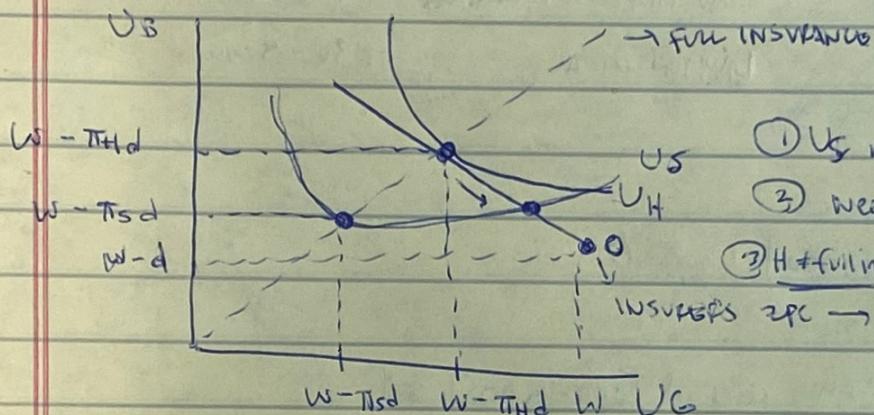


NOTE: Why not the same slope?

↳  $U_S$  steeper in bad states (why?)

If info is now observable, what is the next best?

→ FIRST BEST doesn't work - why not?



- ①  $U_S$  means  $S$  wants to deviate
- ② need to make  $S$  incentive compatible
- ③  $H \neq$  full ins. SIDENOTE:

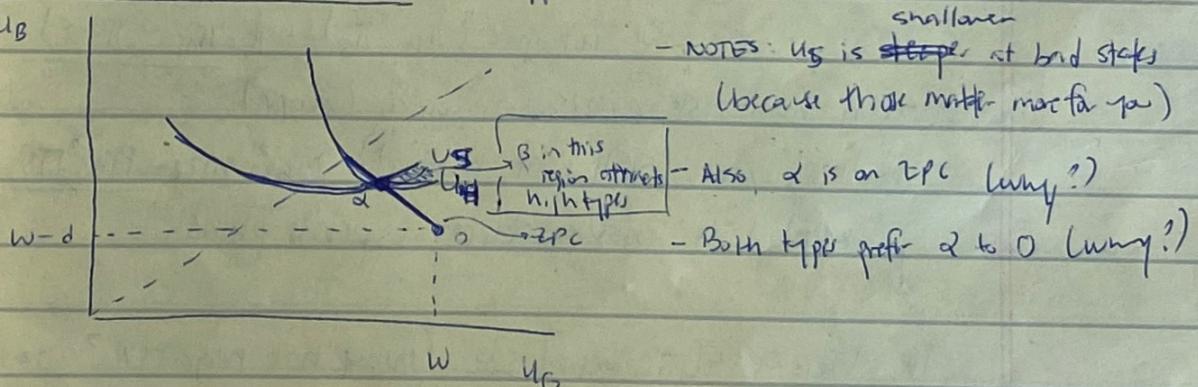
→ starts on origin? Not being met?

2ND BEST

2. → What does a "separating eqbm" look like? When does it exist?

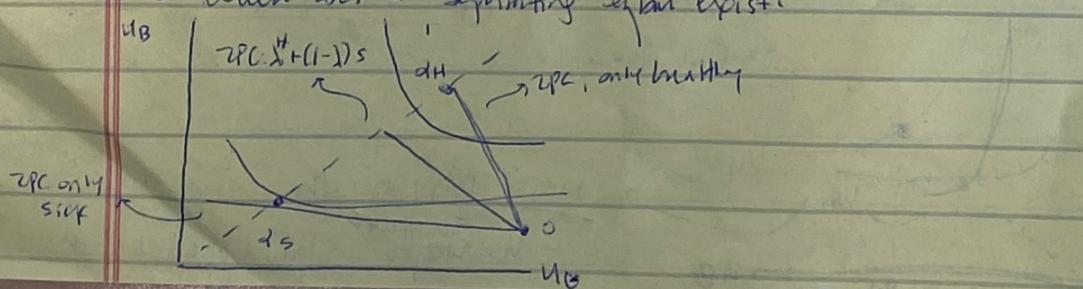
1. → What about a pooling eqbm? Could that exist?

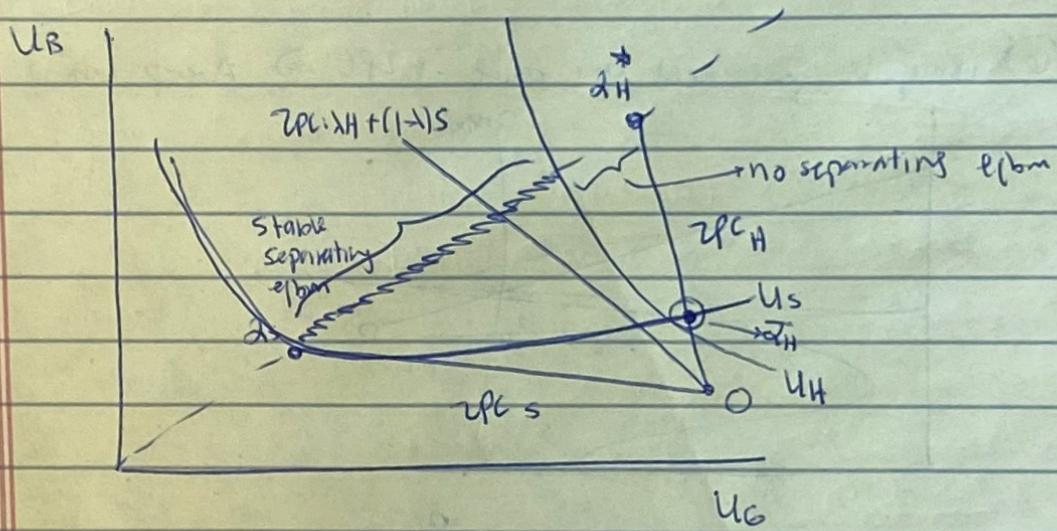
1. NO POOLING EQUILIBRIUM EXISTS. Suppose one did at  $\alpha$ .



Since  $\pi(\beta) > 0$  if only  $H$  goes, insurer deviates to  $\beta \Rightarrow \alpha$  not an eqbm!

2. So when does a separating eqbm exist?



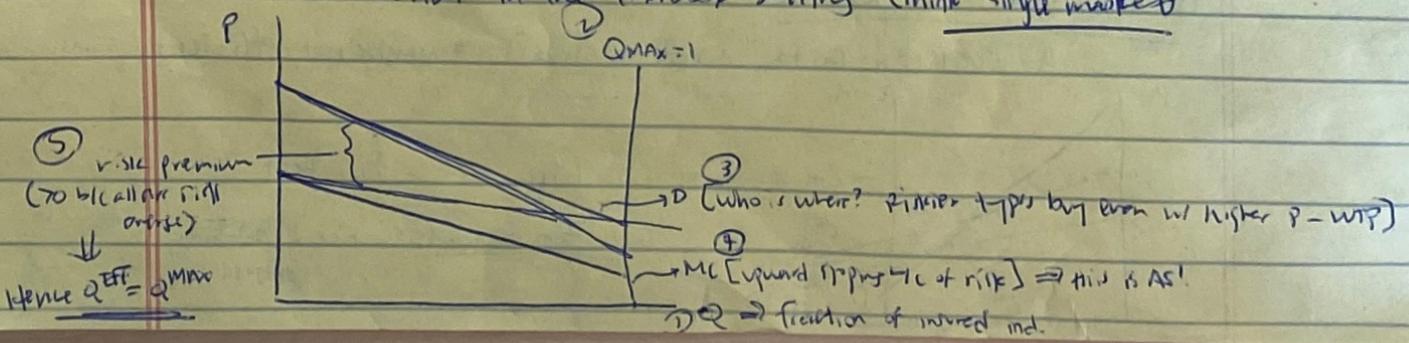


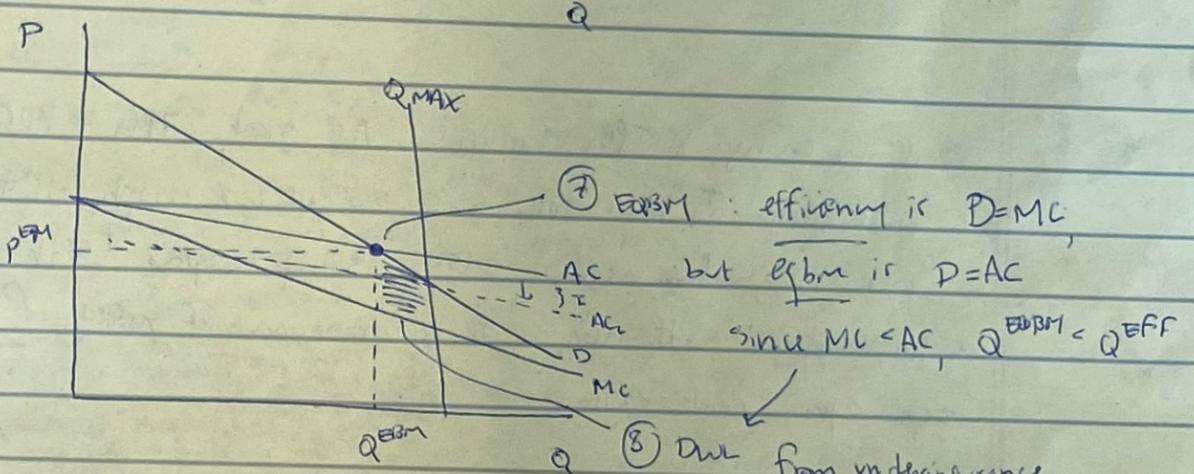
- if you change  $\lambda$ ,  $ZPC_H$  changes. As  $\lambda \downarrow$ ,  $ZPC_H \rightarrow ZPC_S$ .
- this means  $\bar{d}_H$  mass shift.  $\rightarrow 0$ ,  $\Rightarrow$  if it's close enough, H types don't get enough from insurance (see Ashley Hodges' lecture notes)
- \* Implications: If you go to a continuum of risk  $f(\pi)$ , sep. eqm. can't exist

### ③ EINAV + FINKELSTEIN

- P+S had competition in insurance markets
- Let's loop back to Akerlof and have competition in prices (for similar contracts)
- Also builds in HETEROGENEITY in preferences (P+S only had  $\pi_1, \pi_H$ )  
 $\hookrightarrow$  affects WTP.

1. Adverse Selection in the Textbook Setting (think single market)



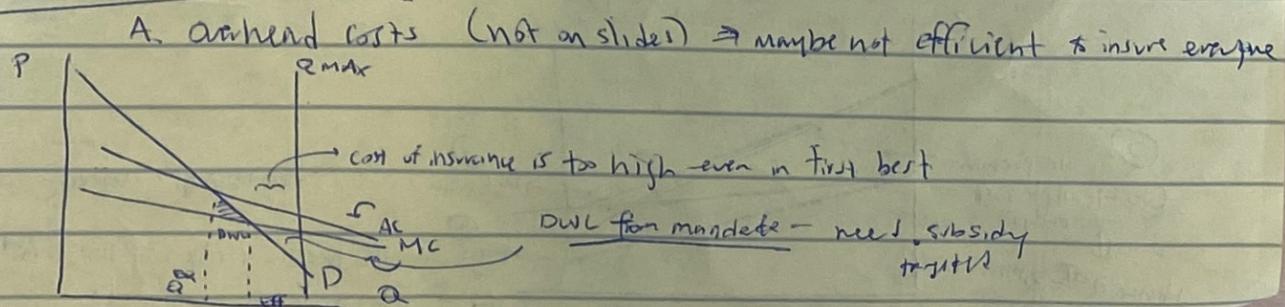


- ⑨ How to get full insurance? Subsidy until

### EXTREME CASES

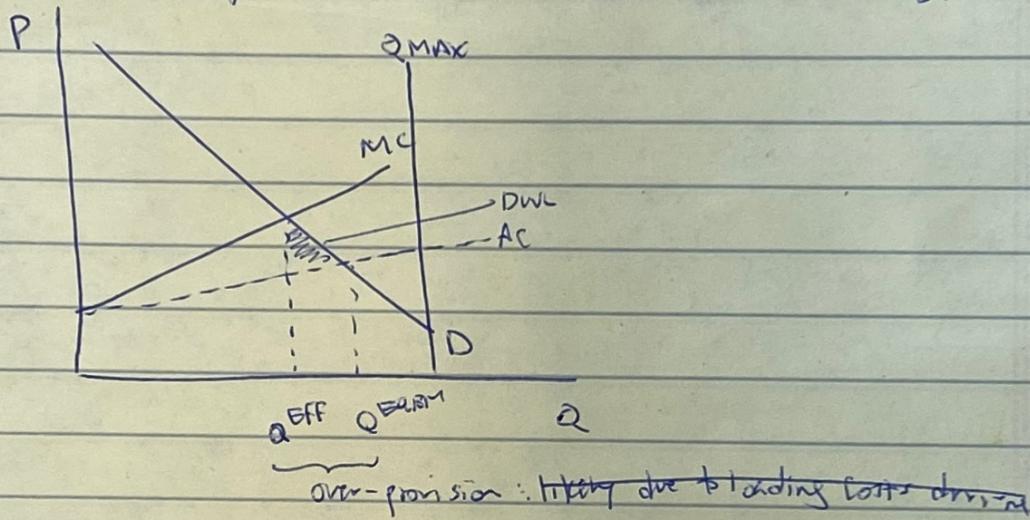
- everyone gets insurance if AC low enough (see subsidy)
- no one gets insurance if AC high enough (above demands)  
(gradual shrinking over time)

### HELPFUL PARTS of MODEL



### B. Preference heterogeneity (advantageous selection)

- agents may differ in risk aversion
- maybe most helpful case: high risk (TIs) are also most risk tolerant (what if this were flipped)
- Given enough variation in risk aversion: Advantageous selection:



NOT JUST THEORETICAL:

- long-term care insurance
- Medigap coverage ( $\uparrow$  cognitive ability  $\Rightarrow$   $\uparrow$  coverage,  $\uparrow$  health)

EMPIRICAL TESTS (skip if needed)

- is MC  $\uparrow$  or  $\downarrow$  sloping?
- can test this: Compare EC of insured vs EC (uninsured)  
(or those w/  $\uparrow/\downarrow$  coverage)  $\rightarrow$  who selects who?

### ④ GERUSO, LAYTON, MCCORMACK, SHEARD

Motivation: - Einav + Finkelstein lost at price competition

and subsidies on EXTENSIVE MARGIN

- other policies (risk adjustment) help selection on INT MARGIN (e.g.)
- how to think about these findings?