The Folk Theorem

Review of Long Run vs. Short run

max $u^1(a)$

mixed precommitment/Stackelberg

$\bar{v}^1$ best dynamic equilibrium

best dynamic equilibrium w/ moral hazard

pure precommitment/Stackelberg

Set of dynamic equilibria

static Nash

worst dynamic equilibrium w/ moral hazard

$\underline{v}^1$ worst dynamic equilibrium

minmax

min $u^1(a)$
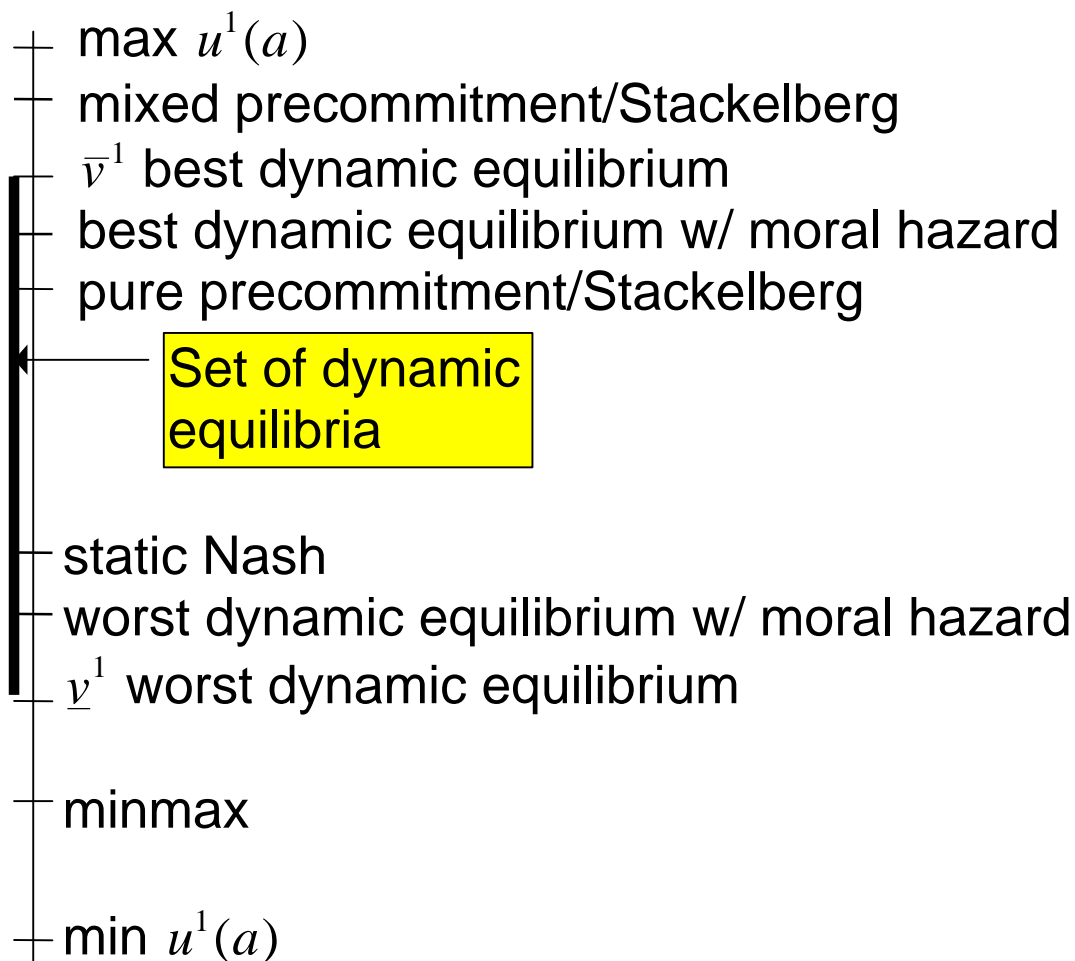
- structure of an equilibrium
- role of reputation (can do strictly better when there is moral hazard)

Simple Folk Theorems

- socially feasible
- individually rational

Statement of Folk Theorem

Prisoner's Dilemma Game

	R	L
U	2,2	0,3
D	3,0	1,1

- Nash with time averaging
- perfect Nash threats with discounting

public randomization vs. discount factors near one

$$v_t = (1-\delta)u_t + \delta v_{t+1}$$
$$v_{t+1} = \delta^{-1}v_t - (1-\delta)\delta^{-1}u_t$$

note that coefficient add up to one

Fudenberg Maskin Theorem

issue: perfection and minmaxing

minmax followed by reversion to another equilibrium
note simultaneous determination of equilibria

Moral Hazard Folk Theorem

- incentive constraints
- convexity of space
- half-spaces and necessity
- smooth approximations
- half-spaces and sufficiency

Information Conditions: At a Point

- enforcible
- pairwise identifiability
- b.r. for player *i*
- coordinate vs. regular hyperplanes

- enforcible + b.r. => coordinate
- enforcible + pairwise identifiability => regular

- full rank => enforcible
- pairwise full rank => pairwise identifiability

Information Conditions: Global

- pure pareto efficient is pairwise identifiable => Nash threat
- all pairs exists pairwise full rank => full folk