

22.4 Indefinitely Repeated Games 2

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9:18 PM

	Coop	Defect
Coop	U^C, U^C	U^S, U^D
Defect	U^D, U^S	U^P, U^P

$$\begin{aligned} U^D &> U^C \\ U^C &> U^P \\ U^P &> U^S \end{aligned}$$

$$\delta = 1 - F / 1 + r$$

Grim trigger: I'll be nice until you're mean, then I'm mean forever

Is grim a BR to grim?

Payoff of grim = $U^C / (1 - \delta)$

Defect? $\rightarrow U^D + U^P\delta + U^P\delta^2 + \dots = U^P(\delta / (1 - \delta)) + U^D$

Grim is BR to Grim

$$(1 - \delta) U^C / (1 - \delta) \stackrel{IFF}{>} U^P \delta / (1 - \delta) + U^D (1 - \delta) \rightarrow \delta > (U^D - U^C) / (U^D - U^P)$$

$\delta \uparrow$ more coop

$U^D \uparrow$ less coop

$U^P \uparrow$ less coop

$U^C \uparrow$ more coop