

STRONG FORM INVARIANCE WITH POOLED REVENUE SHARING

TEAM 1	TEAM 2
$R_1' = \alpha R_1 + (1-\alpha)(R_1 + R_2)/2$	$R_2' = \alpha R_2 + (1-\alpha)(R_1 + R_2)/2$
$MR_1' = \alpha (MR_1/Mv_1) + (1-\alpha)(MR_1/Mv_1 + MR_2/Mv_2 \cdot Mv_2/Mv_1)/2$	$MR_2' = \alpha (MR_2/Mv_2) + (1-\alpha)(MR_2/Mv_2 + MR_1/Mv_1 \cdot Mv_1/Mv_2)/2$
<i>zero-sum league implies $Mv_2/Mv_1 = -1$ so:</i>	<i>zero-sum league implies $Mv_1/Mv_2 = -1$ so:</i>
$MR_1' = \alpha MR_1 + (1-\alpha)(MR_1 - MR_2)/2$	$MR_2' = \alpha MR_2 + (1-\alpha)(MR_2 - MR_1)/2$

LEAGUE EQUILIBRIUM

$$MR_1' = MR_2' = c'$$

$$\alpha MR_1 + (1-\alpha)(MR_1 - MR_2)/2 = \alpha MR_2 + (1-\alpha)(MR_2 - MR_1)/2 = c'$$

$$\alpha MR_1 + (1-\alpha)MR_1 = \alpha MR_2 + (1-\alpha)MR_2$$

$$MR_1 = MR_2$$

So invariance holds true, and

$$\alpha MR_1 + (1-\alpha)(MR_1 - MR_2)/2 = c'$$

$$\alpha MR_1 = c'$$

Implies exploitation $c' = \alpha c$