

EXPERIMENTING WITH THE TRANSITION RULE IN DYNAMIC GAMES

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APPENDIX A. SUPPLEMENTARY FIGURES AND TABLES

TABLE A3. Aggregate Cooperation (Last 5 Cycles)

Transition	Unweighted			State-matched	
	Param.		Δ_{Ψ}	Param.	
	<i>Easy</i>	<i>Diff.</i>		<i>Easy</i>	<i>Diff.</i>
<i>Static</i>	0.604 (0.049)	0.351 (0.044)	-0.252 (0.065)	0.595 (0.050)	0.319 (0.042)
<i>Exogenous</i>	0.561 (0.049)	0.383 (0.047)	-0.177 (0.067)	0.548 (0.050)	0.357 (0.047)
<i>Endogenous</i>	0.633 (0.046)	0.613 (0.035)	-0.020 (0.058)	0.633 (0.046)	0.613 (0.035)

Note: Coefficients in the first two data columns (and standard errors accounting for 252 subject clusters) are recovered from a linear probability model with six treatment-dummy regressors. Coefficients in the state-weighted column are derived from a similar model with the following set of mutually exclusive dummy variables: (i) a treatment dummies for the two *Endogenous* treatments, with coefficients representing $\hat{P}r\{C|\Psi_X\}$; and (ii) treatment-state-period dummies for the exogenous treatments, with coefficients representing $\hat{P}r\{C|t, \theta, \Psi_X\}$. Reported coefficients for the *Exogenous* and *Static* treatments reflect the weighted sum $Q(\Psi_X)$ across the relevant treatment-state-period coefficient to correct for differing state selection.

TABLE A1. Unique MPE in Endogenous Game

Player i/j	M_{DD}	M_{CD}	M_{DC}	M_{CC}
M_{DD}	SPE	Player j deviates to D in low	Player j deviates to D in high	Player j deviates to D in low
M_{CD}	–	Either player deviates to D in low	Player i deviates to D in low	Player j deviates to D in low
M_{DC}	–	–	Either player deviates to D in high	Either player deviates to D in high
M_{CC}	–	–	–	Either player deviates to D in high

TABLE A2. Initial Cooperation Rates

State	<i>Easy</i>			<i>Difficult</i>		
	<i>Static</i>	<i>Exog.</i>	<i>Endog.</i>	<i>Static</i>	<i>Exog.</i>	<i>Endog.</i>
Initial Cooperation (All Supergames)						
<i>Low</i>	.726 (.049)	.719 (.057)	.822 (.053)	.602 (.061)	.591 (.061)	.841 (.042)
<i>High</i>	.676 (.060)	.552 (.053)	.834 (0.54)	.356 (.055)	.316 (.053)	.678 (.062)
Initial Cooperation (Last Five Supergames)						
<i>Low</i>	.736 (.062)	.733 (.063)	.824 (.057)	.558 (.076)	.610 (.069)	.886 (.047)
<i>High</i>	.692 (.067)	.510 (.070)	.800 (0.066)	.300 (.064)	.302 (.063)	.653 (.065)

Note: The initial cooperation rate captures the frequency of C choices in each state using the first choice a subjects make in that state within the supergame. In the case of the low state, only period-one choices are included.

TABLE A4. P-values of hypothesis tests between Initial Cooperation Rates (Last Five Supergames)

	S_L^{Esy}	S_L^{Dif}	S_H^{Esy}	S_H^{Dif}	Ex_L^{Esy}	Ex_L^{Dif}	Ex_H^{Esy}	Ex_H^{Dif}	En_L^{Esy}	En_L^{Dif}	En_H^{Esy}	En_H^{Dif}
S_L^{Esy}	-	.072	.528	.000	.977	.176	.017	.000	.301	.056	.480	.358
S_L^{Dif}	-	-	.187	.001	.078	.619	.642	.010	.006	.000	.017	.345
S_H^{Esy}	-	-	-	.000	.656	.391	.061	.000	.137	.019	.253	.673
S_H^{Dif}	-	-	-	-	.000	.001	.028	.983	.000	.000	.000	.000
Ex_L^{Esy}	-	-	-	-	-	.187	.000	.000	.289	.053	.465	.375
Ex_L^{Dif}	-	-	-	-	-	-	.313	.000	.018	.001	.047	.648
Ex_H^{Esy}	-	-	-	-	-	-	-	.028	.001	.000	.003	.136
Ex_H^{Dif}	-	-	-	-	-	-	-	-	.000	.000	.000	.000
En_L^{Esy}	-	-	-	-	-	-	-	-	-	.405	.784	.050
En_L^{Dif}	-	-	-	-	-	-	-	-	-	-	.290	.004
En_H^{Esy}	-	-	-	-	-	-	-	-	-	-	-	.113
En_H^{Dif}	-	-	-	-	-	-	-	-	-	-	-	-

Notes: To compute these p-values we first run a regression in which the unit of observation is the choice a subject makes in a period of a supergame. The sample is constrained to the last five supergames and to periods in which the subject makes the first choice in each state. The dependent variable takes value 1 if the subject decided to cooperate and 0 otherwise. The right-hand side includes a fully saturated set of dummies that account for differences in cooperation rates across three dimensions: the treatment (*Easy-Endog*, *Easy-Exog*, *Easy-Static*, *Easy-Endog*, *Easy-Exog*, *Easy-Static*), the state (Low, High). Standard errors are clustered by subject. The table reports the p-values of bilateral comparisons between coefficients for the treatment cross state dummies. The table reports the p-value of a t-test in which the null hypothesis is Row Estimate=Column Estimate. There is one row per (initial-cooperation rate) coefficient estimate and one column per (initial-cooperation rate) coefficient, where notation is as follows. *S*, *Ex*, and *En* capture whether the coefficient corresponds to a static, exogenous or endogenous treatment, respectively. The superscript (*Esy*,*Dif*) identifies if the coefficient corresponds to a *easy* or *difficult* parameterization, respectively. The subscript (L, H) identifies if the coefficient corresponds to behavior in the low or high state, respectively. For example, En_L^{Dif} corresponds to the coefficient estimated for *Diff-Endog* × Low State.

TABLE A5. Common Sequences of Actions as Percent of Histories (Last 5 supergames)

Treatment	5 or more observed Supergames			
<i>Easy-Endog</i>	CC,CC,CC,CC,CC	DC,DD,DD,DD,DD	CC,DC,DC,DD,DC	DC,DC,DD,DD,DD
	37.1	10.5	6.7	4.8
<i>Diff-Endog</i>	CC,CC,CC,CC,CC	CC,DC,DD,DC,DD	CC,CC,CC,CC,DC	CC,DC,DD,DD,DD
	20.0	6.7	5.7	4.8
<i>Easy-Exog</i>	CC,CC,CC,CC,CC	DC,DD,DD,DD,DD	DD,DD,DD,DD,DD	
	36.2	20.0	5.7	
<i>Diff-Exog</i>	DC,DD,DD,DD,DD	DD,DD,DD,DD,DD	CC,CC,CC,CC,CC	DC,DC,DD,DD,DD
	22.9	18.1	18.1	4.8
<i>Easy-Static (Low)</i>	CC,CC,CC,CC,CC	DC,DD,DD,DD,DD	DC,DC,DD,DD,DD	
	50.9	18.9	9.4	
<i>Diff-Static (Low)</i>	CC,CC,CC,CC,CC	DC,DD,DD,DD,DD	DD,DD,DD,DD,DD	DC,DC,DD,DD,DD
	25.0	20.0	13.3	11.7
<i>Easy-Static (High)</i>	CC,CC,CC,CC,CC	DC,DD,DD,DD,DD	DD,DD,DD,DD,DD	
	42.3	25.0	9.6	
<i>Diff-Static (High)</i>	DD,DD,DD,DD,DD	DC,DD,DD,DD,DD		
	46.7	22.2		

Note: In endogenous and static-transition treatments high-state action pairs are displayed in bold face.