A DYNAMIC MODEL OF DIRECTED NETWORK FORMATION

Online Appendix

Selected Topics in Behavioral Economics (57128)

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Appendix A - Dynamic and Static Convergence Comparison

The table compares the number of games until convergence in static and dynamic processes[1].

N	$C \in (0,1)$						$C \in (1,2)$					
	P = 0.2		**P = 0.5**		**P = 0.8**		**P = 0.2**		**P = 0.5**		**P = 0.8**	
	S	D	S	D	S	D	S	D	S	D	S	D
3	15.52	1.79	7.58	2.83	6.44	6.91	9.67	1.96	6.39	2.33	7.41	5.66
	(0.52)	(0.05)	(0.20)	(0.09)	(0.19)	(0.24)	(0.33)	(0.09)	(0.18)	(0.09)	(0.28)	(0.21)
4	22.66	2.73	12.36	3.87	13.49	8.76	14.21	2.04	7.75	3.02	8.30	7.58
	(0.74)	(0.08)	(0.39)	(0.11)	(0.50)	(0.27)	(0.38)	(0.05)	(0.19)	(0.08)	(0.23)	(0.22)
5	29.77	3.65	19.05	5.20	30.26	9.79	18.24	2.26	10.35	3.93	14.76	9.1
	(0.83)	(0.09)	(0.57)	(0.15)	(1.18)	(0.29)	(0.42)	(0.05)	(0.26)	(0.09)	(0.48)	(0.22)
6	36.97	4.54	27.27	6.20	56.22	10.99	22.83	2.76	14.09	4.74	27.51	9.84
	(0.99)	(0.12)	(0.96)	(0.15)	(2.17)	(0.29)	(0.58)	(0.06)	(0.37)	(0.11)	(1.05)	(0.24)
7	46.66	5.26	38.49	7.62	110.27	11.85	25.62	3.24	19.42	5.6	57.16	10.16
	(1.34)	(0.15)	(1.37)	(0.18)	(4.65)	(0.31)	(0.58)	(0.07)	(0.59)	(0.13)	(2.46)	(0.25)
8	55.11	5.91	55.60	8.83	229.59	12.44	31.4	3.44	27.54	6.07	133.36	10.76
	(1.65)	(0.16)	(1.97)	(0.2)	(10.09)	(0.31)	(0.80)	(0.08)	(0.90)	(0.13)	(5.87)	(0.25)

Appendix B - Table of Payoffs

The tables presents the average total payoff of each agent from the processes.

B.1 - Table of Payoffs - Initial Empty Network[2]

Agent	$p,\ \|N\| = 8$				$p,\ \|N\| = 7$			
Number	**0.2**	**0.5**	**0.8**	**0.99**	**0.2**	**0.5**	**0.8**	**0.99**
1	**92.69**	**86.65**	**66.04**	**52.74**	**82.75**	**66.92**	**50.22**	**41.95**
	(1.77)	**(1.12)**	**(0.8)**	**(0.8)**	**(1.48)**	**(0.87)**	**(0.57)**	**(0.58)**
2	95.02*	91.16***	72.4***	58.93***	84.61	70.67***	54.73***	46.89***
	(1.84)	(1.16)	(0.86)	(0.87)	(1.49)	(0.92)	(0.61)	(0.64)
3	94.42	93.19***	73***	58.95***	85.66**	72.41***	55.88***	46.98***
	(1.84)	(1.17)	(0.86)	(0.87)	(1.49)	(0.91)	(0.60)	(0.64)
4	97.57***	94.27***	73.26***	59.0***	86.95***	72.88***	55.89***	46.96***
	(1.85)	(1.19)	(0.87)	(0.87)	(1.55)	(0.93)	(0.61)	(0.63)
5	96.86**	94.13***	73.48***	59.03***	86.75***	73.79***	55.95***	46.99***
	(1.85)	(1.19)	(0.87)	(0.87)	(1.53)	(0.93)	(0.62)	(0.64)
6	97.47***	95.16***	73.36***	58.99***	87.66***	73.9***	56.08***	46.96***
	(1.88)	(1.18)	(0.87)	(0.87)	(1.56)	(0.93)	(0.61)	(0.64)
7	98.95***	94.92***	73.28***	58.96***	88.03***	73.6***	56.02***	46.99***
	(1.9)	(1.21)	(0.86)	(0.87)	(1.54)	(0.93)	(0.61)	(0.64)

[1] S stands for Static process and D stands for Dynamic process

[2] Note that in this table we compared each agents' average total payoff to agent one's. Therefore no asterisks of significance were added to agent one.

8	99.58***	94.78***	73.29***	59.02***				
	(1.88)	(1.17)	(0.87)	(0.87)				
	p, $\|N\| = 6$				p, $\|N\| = 5$			
	0.2	**0.5**	**0.8**	**0.99**	**0.2**	**0.5**	**0.8**	**0.99**
1	**72.14**	**47.95**	**39.46**	**32.82**	**56.69**	**33.94**	**28.45**	**24.28**
	(1.24)	**(0.59)**	**(0.42)**	**(0.41)**	**(1.01)**	**(0.45)**	**(0.27)**	**(0.24)**
2	73.67	50.89***	42.91***	36.73***	58.59***	36.02***	31.03***	27.09***
	(1.26)	(0.64)	(0.45)	(0.45)	(1.03)	(0.47)	(0.3)	(0.28)
3	73.58	52.11***	43.68***	36.76***	58.8***	36.91***	31.67***	27.1***
	(1.24)	(0.65)	(0.45)	(0.45)	(1.05)	(0.49)	(0.3)	(0.27)
4	74.73***	52.50***	43.94***	36.75***	59.49***	37.35***	31.82***	27.12***
	(1.26)	(0.65)	(0.45)	(0.45)	(1.05)	(0.49)	(0.31)	(0.27)
5	75.47***	53.12***	43.88***	36.73***	59.82***	37.33***	31.79***	27.12***
	(1.3)	(0.65)	(0.45)	(0.45)	(1.05)	(0.49)	(0.3)	(0.27)
6	76.73***	52.94***	44.03***	36.76***				
	(1.28)	(0.65)	(0.46)	(0.45)				
	p, $\|N\| = 4$				p, $\|N\| = 3$			
	0.2	**0.5**	**0.8**	**0.99**	**0.2**	**0.5**	**0.8**	**0.99**
1	**44.08**	**20.47**	**19.16**	**17.02**	**33.65**	**13.08**	**11.57**	**10.55**
	(0.72)	**(0.27)**	**(0.17)**	**(0.14)**	**(0.46)**	**(0.15)**	**(0.09)**	**(0.08)**
2	45.01*	21.53***	20.74***	18.79***	33.96	13.62***	12.36***	11.39***
	(0.72)	(0.29)	(0.19)	(0.17)	(0.45)	(0.16)	(0.1)	(0.09)
3	45.3**	22.37***	21.17***	18.79***	34.23	14.02***	12.54***	11.38***
	(0.73)	(0.29)	(0.19)	(0.17)	(0.47)	(0.17)	(0.1)	(0.08)
4	46.33***	22.58***	21.27***	18.81***				
	(0.75)	(0.29)	(0.19)	(0.17)				

B.2 - Table of Payoffs - Initial Random Network[3]

$\|N\|$	c	ag	p = 0.99	p = 0.8	p = 0.5	p = 0.2	$\|N\|$	c	ag	p = 0.99	p = 0.8	p = 0.5	p = 0.2
8	0.5	1	44.84 (0.69)	24.69 (0.35)	25.18 (0.3)	26.53 (0.32)	6	0.5	1	29.09 (0.4)	18.07 (0.24)	18.24 (0.21)	20.14 (0.25)
	0.5	2	44.85 (0.68)	24.8 (0.35)	25.12 (0.3)	26.39 (0.33)		0.5	2	29.11 (0.4)	18.12 (0.24)	18.33 (0.21)	20.1 (0.25)
	0.5	3	44.8 (0.69)	24.84 (0.34)	25.16 (0.3)	26.4 (0.33)		0.5	3	29.09 (0.4)	18.14 (0.24)	18.34 (0.21)	20.41 (0.25)
	0.5	4	44.79 (0.68)	24.9 (0.35)	25.1 (0.3)	26.34 (0.33)		0.5	4	29.01 (0.4)	18.05 (0.24)	18.3 (0.21)	20.15 (0.25)
	0.5	5	44.69 (0.68)	24.84 (0.34)	25.19 (0.3)	26.63 (0.33)		0.5	5	28.84 (0.4)	17.91 (0.24)	18.11 (0.21)	19.95 (0.25)
	0.5	6	44.51 (0.67)	24.68 (0.34)	25.09 (0.3)	26.4 (0.33)		0.5	6	28.55 (0.39)	17.63 (0.24)	17.96 (0.21)	20.02 (0.25)
	0.5	7	44.29 (0.67)	24.45 (0.34)	24.92 (0.3)	26.18 (0.33)		1.5	1	23.7 (0.28)	18.49 (0.21)	18.92 (0.2)	21.57 (0.25)
	0.5	8	43.91 (0.67)	23.81 (0.34)	24.34 (0.3)	25.51 (0.33)		1.5	2	23.8 (0.27)	18.5 (0.21)	19.01 (0.2)	21.5 (0.25)
	1.5	1	37.4 (0.44)	26.05 (0.32)	26.58 (0.29)	28.43 (0.33)		1.5	3	23.79 (0.27)	18.55 (0.21)	19.06 (0.2)	21.77 (0.25)
	1.5	2	37.52 (0.44)	26.11 (0.32)	26.59 (0.29)	28.31 (0.33)		1.5	4	23.73 (0.27)	18.48 (0.21)	19.0 (0.2)	21.56 (0.25)
	1.5	3	37.62 (0.44)	26.17 (0.32)	26.6 (0.29)	28.19 (0.33)		1.5	5	23.58 (0.27)	18.34 (0.21)	18.79 (0.2)	21.49 (0.25)

[3]Note that all results in this table are significant so no asterisks where added.

	1.5	4	37.66 (0.44)	26.17 (0.32)	26.56 (0.3)	28.27 (0.33)
	1.5	5	37.59 (0.44)	26.14 (0.32)	26.68 (0.29)	28.54 (0.33)
	1.5	6	37.42 (0.44)	26.03 (0.32)	26.52 (0.29)	28.26 (0.33)
	1.5	7	37.15 (0.43)	25.83 (0.32)	26.36 (0.3)	28.11 (0.34)
	1.5	8	36.53 (0.43)	25.17 (0.32)	25.79 (0.3)	27.39 (0.34)

$\|N\|$	c	ag	p = 0.99	p = 0.8	p = 0.5	p = 0.2
7	0.5	1	37.28 (0.59)	22.03 (0.58)	21.92 (0.37)	23.39 (0.34)
	0.5	2	37.34 (0.59)	22.1 (0.58)	22.05 (0.37)	23.43 (0.34)
	0.5	3	37.3 (0.59)	22.12 (0.58)	22.04 (0.37)	23.48 (0.34)
	0.5	4	37.2 (0.59)	22.11 (0.58)	21.9 (0.37)	23.35 (0.34)
	0.5	5	37.13 (0.58)	22.01 (0.58)	21.81 (0.37)	23.2 (0.34)
	0.5	6	36.94 (0.58)	21.76 (0.58)	21.74 (0.37)	23.26 (0.34)
	0.5	7	36.63 (0.57)	21.36 (0.58)	21.39 (0.37)	22.87 (0.34)
	1.5	1	30.46 (0.38)	22.83 (0.51)	23.02 (0.35)	24.97 (0.34)
	1.5	2	30.57 (0.38)	22.9 (0.51)	23.09 (0.35)	25.13 (0.33)
	1.5	3	30.56 (0.38)	22.9 (0.51)	23.09 (0.35)	25.21 (0.34)
	1.5	4	30.56 (0.38)	22.91 (0.51)	23.0 (0.35)	25.06 (0.34)
	1.5	5	30.44 (0.38)	22.8 (0.51)	22.89 (0.35)	24.91 (0.34)
	1.5	6	30.28 (0.37)	22.57 (0.51)	22.85 (0.35)	24.9 (0.33)
	1.5	7	29.85 (0.37)	22.2 (0.51)	22.51 (0.35)	24.65 (0.34)

	1.5	6	23.28 (0.27)	18.07 (0.21)	18.67 (0.2)	21.4 (0.25)

$\|N\|$	c	ag	p = 0.99	p = 0.8	p = 0.5	p = 0.2
5	0.5	1	21.17 (0.29)	20.04 (1.65)	17.72 (0.93)	19.02 (0.67)
	0.5	2	21.16 (0.29)	20.08 (1.65)	17.77 (0.93)	19.11 (0.67)
	0.5	3	21.13 (0.29)	20.07 (1.65)	17.74 (0.93)	19.12 (0.67)
	0.5	4	21.1 (0.29)	20.01 (1.65)	17.69 (0.93)	19.12 (0.67)
	0.5	5	20.93 (0.28)	19.85 (1.65)	17.55 (0.93)	19.04 (0.67)
	1.5	1	17.17 (0.2)	19.2 (1.38)	17.79 (0.83)	19.98 (0.62)
	1.5	2	17.19 (0.2)	19.25 (1.38)	17.82 (0.83)	20.12 (0.62)
	1.5	3	17.17 (0.2)	19.24 (1.38)	17.82 (0.83)	20.1 (0.62)
	1.5	4	17.13 (0.2)	19.19 (1.37)	17.73 (0.83)	20.19 (0.62)
	1.5	5	16.99 (0.19)	19.02 (1.37)	17.61 (0.83)	20.07 (0.62)

$\|N\|$	c	ag	p = 0.99	p = 0.8	p = 0.5	p = 0.2
4	0.5	1	14.9 (0.19)	11.21 (0.14)	11.18 (0.12)	13.88 (0.2)
	0.5	2	14.97 (0.19)	11.19 (0.14)	11.17 (0.12)	13.88 (0.2)
	0.5	3	14.92 (0.19)	11.17 (0.14)	11.17 (0.12)	13.83 (0.2)
	0.5	4	14.91 (0.19)	11.13 (0.14)	11.16 (0.12)	13.88 (0.2)
	1.5	1	11.77 (0.14)	10.83 (0.11)	11.17 (0.11)	14.78 (0.19)
	1.5	2	11.84 (0.14)	10.83 (0.11)	11.16 (0.11)	14.86 (0.19)
	1.5	3	11.82 (0.14)	10.82 (0.11)	11.13 (0.11)	14.7 (0.19)
	1.5	4	11.81 (0.14)	10.81 (0.11)	11.16 (0.11)	14.86 (0.19)

$\|N\|$	c	ag	p = 0.99	p = 0.8	p = 0.5	p = 0.2
3	0.5	1	9.1 (0.09)	191.63 (11.38)	118.43 (7.06)	89.91 (5.1)
	0.5	2	9.13 (0.09)	191.63 (11.38)	118.45 (7.06)	89.99 (5.1)
	0.5	3	9.19 (0.09)	191.7 (11.38)	118.51 (7.06)	90.07 (5.1)
	1.5	1	14.91 (0.75)	145.03 (8.72)	99.67 (5.93)	80.44 (4.48)
	1.5	2	14.9 (0.75)	145.02 (8.72)	99.68 (5.93)	80.53 (4.48)
	1.5	3	14.92 (0.75)	145.07 (8.72)	99.74 (5.93)	80.57 (4.48)

Appendix C - Bala and Goyal's and Replication Results Differentiation Test

In this section we show the results of a t test between Bala ang Goyal's simulation and the replication we made.

	$c \in (0,1)$																	
$\|N\|$	**BG**		**R**		**t-test & P Value**		**BG**		**R**		**t-test & P Value**		**BG**		**R**		**t-test & P Value**	
	0.2	**se**	**0.2**	**se**	**t**	**P V**	**0.5**	**se**	**0.5**	**se**	**t**	**P V**	**0.8**	**se**	**0.8**	**se**	**t**	**P V**
3	15.29	0.53	15.52	0.52	-0.44	0.36	7.05	0.19	7.58	0.2	-2.72	0.01	6.19	0.19	6.44	0.19	-1.32	0.17
4	23.23	0.68	22.66	0.74	0.8	0.29	12.71	0.37	12.36	0.39	0.92	0.26	13.14	0.42	13.49	0.5	-0.76	0.3
5	28.92	0.89	29.77	0.83	-0.99	0.24	17.82	0.54	19.05	0.57	-2.22	0.03	28.99	1.07	30.36	1.18	-1.22	0.19
6	38.08	1.02	36.97	0.99	1.1	0.22	26.73	0.91	27.27	0.96	-0.58	0.34	55.98	2.3	56.22	2.17	-0.11	0.4
7	45.9	1.3	46.66	1.34	-0.58	0.34	35.45	1.19	38.49	1.37	-2.38	0.02	119.57	5.13	110.27	4.65	1.9	0.07
8	57.37	1.77	55.11	1.65	1.32	0.17	54.02	2.01	55.6	1.97	-0.79	0.29	245.7	10.01	229.59	10.09	1.6	0.11
	$c \in (1,2)$																	
3	8.58	0.35	9.67	0.33	-3.21	0.00	4.5	0.17	6.39	0.18	-10.8	0.00	5.51	0.24	7.41	0.28	-7.33	0.00
4	11.52	0.38	14.21	0.38	-7.08	0.00	5.98	0.18	7.75	0.19	-9.57	0.00	6.77	0.22	8.3	0.23	-6.8	0.00
5	15.19	0.4	18.24	0.42	-7.44	0.00	9.16	0.27	10.35	0.26	-4.49	0.00	14.04	0.59	14.76	0.48	-1.35	0.16
6	19.93	0.57	22.83	0.58	-5.04	0.00	12.68	0.41	14.09	0.37	-3.62	0.00	28.81	1.16	27.51	1.05	1.18	0.2
7	25.46	0.71	25.62	0.58	-0.25	0.39	18.51	0.57	19.42	0.59	-1.57	0.12	57.23	2.29	57.16	2.46	0.03	0.4
8	27.74	0.7	31.4	0.8	-4.89	0.00	26.24	0.89	27.54	0.9	-1.45	0.14	121.99	5.62	133.36	5.87	-1.98	0.06

Appendix D - Empty Network Payoffs

D.1 - This section contains t test to compare average comulative payoff of the first agent with the comulative payoff of all other agents when the game starts from the empty network.

$\|N\| = 8$						$\|N\| = 7$					
R - Inertia	Agent Number	Average Payoff	SE	t-test	P Value	R - Inertia	Agent Number	Average Payoff	SE	t-test	P Value
0.01	1	52.36	0.78			0.01	1	41.46	0.55		
0.01	2	58.49	0.84	7.57	0.00	0.01	2	46.35	0.60	8.51	0.00
0.01	3	58.56	0.84	7.66	0.00	0.01	3	46.42	0.60	8.63	0.00
0.01	4	58.59	0.84	7.70	0.00	0.01	4	46.40	0.60	8.60	0.00
0.01	5	58.48	0.84	7.56	0.00	0.01	5	46.44	0.60	8.67	0.00
0.01	6	58.57	0.84	7.67	0.00	0.01	6	46.41	0.60	8.62	0.00
0.01	7	58.59	0.84	7.70	0.00	0.01	7	46.42	0.60	8.63	0.00
0.01	8	58.58	0.84	7.68	0.00	0.20	1	50.22	0.57		
0.20	1	66.04	0.80			0.20	2	54.73	0.61	7.65	0.00
0.20	2	72.40	0.86	7.67	0.00	0.20	3	55.88	0.60	9.68	0.00
0.20	3	73.00	0.86	8.39	0.00	0.20	4	55.89	0.61	9.62	0.00
0.20	4	73.26	0.87	8.65	0.00	0.20	5	55.95	0.62	9.64	0.00
0.20	5	73.48	0.87	8.92	0.00	0.20	6	56.08	0.61	9.94	0.00
0.20	6	73.36	0.87	8.77	0.00	0.20	7	56.02	0.61	9.84	0.00
0.20	7	73.28	0.86	8.73	0.00	0.50	1	66.92	0.87		
0.20	8	73.29	0.87	8.69	0.00	0.50	2	70.67	0.92	4.19	0.00
0.50	1	86.65	1.12			0.50	3	72.41	0.91	6.17	0.00
0.50	2	91.16	1.16	3.96	0.00	0.50	4	72.88	0.93	6.63	0.00
0.50	3	93.19	1.17	5.71	0.00	0.50	5	73.79	0.93	7.64	0.00
0.50	4	94.27	1.19	6.60	0.00	0.50	6	73.90	0.93	7.76	0.00
0.50	5	94.13	1.19	6.48	0.00	0.50	7	73.60	0.93	7.43	0.00
0.50	6	95.16	1.18	7.40	0.00	0.80	1	82.75	1.48		
0.50	7	94.92	1.21	7.10	0.00	0.80	2	84.61	1.49	1.25	0.11
0.50	8	94.78	1.17	7.10	0.00	0.80	3	85.66	1.49	1.96	0.03
0.80	1	92.69	1.77			0.80	4	86.95	1.55	2.77	0.00
0.80	2	95.02	1.84	1.29	0.10	0.80	5	86.75	1.53	2.66	0.00
0.80	3	94.42	1.84	0.96	0.17	0.80	6	87.66	1.56	3.23	0.00
0.80	4	97.57	1.85	2.70	0.00	0.80	7	88.03	1.54	3.50	0.00
0.80	5	96.86	1.85	2.30	0.01						
0.80	6	97.47	1.88	2.62	0.00						
0.80	7	98.95	1.90	3.41	0.00						
0.80	8	99.58	1.88	3.78	0.00						

$|N| = 6$

0.01	1	32.21	0.37		
0.01	2	36.03	0.41	9.81	0.00
0.01	3	36.14	0.41	10.09	0.00
0.01	4	36.10	0.41	9.99	0.00
0.01	5	36.10	0.41	9.99	0.00
0.01	6	36.08	0.41	9.94	0.00
0.20	1	39.46	0.42		
0.20	2	42.91	0.45	7.94	0.00
0.20	3	43.68	0.45	9.71	0.00
0.20	4	43.94	0.45	10.30	0.00
0.20	5	43.88	0.45	10.17	0.00
0.20	6	44.03	0.46	10.40	0.00
0.50	1	47.95	0.59		
0.50	2	50.89	0.64	4.78	0.00
0.50	3	52.11	0.65	6.72	0.00
0.50	4	52.50	0.65	7.35	0.00
0.50	5	53.12	0.65	8.35	0.00
0.50	6	52.94	0.65	8.06	0.00
0.80	1	72.14	1.24		
0.80	2	73.67	1.26	1.22	0.11
0.80	3	73.58	1.24	1.16	0.12
0.80	4	74.73	1.26	2.07	0.02
0.80	5	75.47	1.30	2.62	0.00
0.80	6	76.73	1.28	3.64	0.00

$|N| = 5$

0.01	1	23.99	0.23		
0.01	2	26.75	0.26	11.29	0.00
0.01	3	26.79	0.26	11.45	0.00
0.01	4	26.76	0.26	11.33	0.00
0.01	5	26.73	0.26	11.20	0.00
0.20	1	28.45	0.27		
0.20	2	31.03	0.30	9.07	0.00
0.20	3	31.67	0.30	11.31	0.00
0.20	4	31.82	0.31	11.65	0.00
0.20	5	31.79	0.30	11.74	0.00
0.50	1	33.94	0.45		0.50
0.50	2	36.02	0.47	4.52	0.00
0.50	3	36.91	0.49	6.32	0.00
0.50	4	37.35	0.49	7.26	0.00
0.50	5	37.33	0.49	7.22	0.00
0.80	1	56.69	1.01		
0.80	2	58.59	1.03	1.86	0.03
0.80	3	58.80	1.05	2.05	0.02
0.80	4	59.49	1.05	2.72	0.00
0.80	5	59.82	1.05	3.04	0.00

$|N| = 4$

0.01	1	16.78	0.14		
0.01	2	18.50	0.17	11.15	0.00
0.01	3	18.50	0.17	11.15	0.00
0.01	4	18.52	0.17	11.28	0.00
0.20	1	19.16	0.17		
0.20	2	20.74	0.19	8.79	0.00
0.20	3	21.17	0.19	11.18	0.00
0.20	4	21.27	0.19	11.74	0.00
0.50	1	20.47	0.27		
0.50	2	21.53	0.29	3.79	0.00
0.50	3	22.37	0.29	6.79	0.00

$|N| = 3$

0.01	1	10.50	0.07		
0.01	2	11.29	0.08	10.56	0.00
0.01	3	11.31	0.08	10.82	0.00
0.20	1	11.57	0.09		
0.20	2	12.36	0.10	11.74	0.00
0.20	3	12.54	0.10	13.75	0.00
0.50	1	13.08	0.15		
0.50	2	13.62	0.16	8.54	0.00
0.50	3	14.02	0.17	11.35	0.00
0.80	1	33.65	0.46		
0.80	2	33.96	0.45	72.09	0.00

0.50	4	22.58	0.29	7.54	0.00	0.80	3	34.23	0.47	71.50	0.00
0.80	1	44.08	0.72								
0.80	2	45.01	0.72	1.29	0.10						
0.80	3	45.30	0.73	1.68	0.05						
0.80	4	46.33	0.75	3.06	0.00						

D.2 - This section contains F test to compare average comulative paoff of agents when the game starts from a randomised initial network.

$\|N\| = 8$													
c	ag	R = 0.01	se	F value	R = 0.2	se	F value	R = 0.5	se	F value	R = 0.8	se	F value
0.5	1	46.49	0.77	2.852	24.69	0.35	4.097	25.18	0.3	4.332	26.53	0.32	4.621
	2	46.51	0.77	2.852	24.8	0.35	4.097	25.12	0.3	4.332	26.39	0.33	4.481
	3	46.48	0.77	2.852	24.84	0.34	4.218	25.16	0.3	4.332	26.40	0.33	4.481
	4	46.46	0.77	2.852	24.9	0.35	4.097	25.10	0.3	4.332	26.34	0.33	4.481
	5	46.38	0.77	2.852	24.84	0.34	4.218	25.19	0.3	4.332	26.63	0.33	4.481
	6	46.15	0.76	2.889	24.68	0.34	4.218	25.09	0.3	4.332	26.40	0.33	4.481
	7	46.01	0.76	2.889	24.45	0.34	4.218	24.92	0.3	4.332	26.18	0.33	4.481
	8	45.52	0.74	2.967	23.81	0.34	4.218	24.34	0.3	4.332	25.51	0.33	4.481
mean of payoff		46.25			24.63			25.01			26.30		
1.5	1	38.19	0.49	407.297	26.05	0.32	424.553	26.58	0.29	477.518	28.43	0.33	447.034
	2	38.36	0.49	407.297	26.11	0.32	424.553	26.59	0.29	477.518	28.31	0.33	447.034
	3	38.42	0.49	407.297	26.17	0.32	424.553	26.60	0.29	477.518	28.19	0.33	447.034
	4	38.44	0.49	407.297	26.17	0.32	424.553	26.56	0.3	461.601	28.27	0.33	447.034
	5	38.36	0.49	407.297	26.14	0.32	424.553	26.68	0.29	477.518	28.54	0.33	447.034
	6	38.18	0.48	415.783	26.03	0.32	424.553	26.52	0.29	477.518	28.26	0.33	447.034
	7	37.91	0.49	407.297	25.83	0.32	424.553	26.36	0.3	461.601	28.11	0.34	433.886
	8	37.21	0.48	415.783	25.17	0.32	424.553	25.79	0.3	461.601	27.39	0.34	433.886
mean of payoff		38.13			25.96			26.46			28.19		

$\|N\| = 7$													
0.5	1	37.7	0.62	316.342	22.03	0.58	197.857	21.92	0.37	308.861	23.39	0.34	358.390
	2	37.7	0.62	316.342	22.1	0.58	197.857	22.05	0.37	308.861	23.43	0.34	358.390
	3	37.62	0.62	316.342	22.12	0.58	197.857	22.04	0.37	308.861	23.48	0.34	358.390
	4	37.61	0.62	316.342	22.11	0.58	197.857	21.90	0.37	308.861	23.35	0.34	358.390
	5	37.53	0.62	316.342	22.01	0.58	197.857	21.81	0.37	308.861	23.20	0.34	358.390
	6	37.23	0.61	321.527	21.76	0.58	197.857	21.74	0.37	308.861	23.26	0.34	358.390
	7	36.94	0.60	326.886	21.36	0.58	197.857	21.39	0.37	308.861	22.87	0.34	358.390

mean of payoff		37.48			21.93			21.84			23.28		
1.5	1	31.01	0.40	404.929	22.83	0.51	233.253	23.02	0.35	342.745	24.97	0.34	384.447
	2	31.17	0.39	415.312	22.90	0.51	233.253	23.09	0.35	342.745	25.13	0.33	396.097
	3	31.17	0.39	415.312	22.90	0.51	233.253	23.09	0.35	342.745	25.21	0.34	384.447
	4	31.16	0.39	415.312	22.91	0.51	233.253	23.00	0.35	342.745	25.06	0.34	384.447
	5	31.03	0.39	415.312	22.80	0.51	233.253	22.89	0.35	342.745	24.91	0.34	384.447
	6	30.79	0.39	415.312	22.57	0.51	233.253	22.85	0.35	342.745	24.90	0.33	396.097
	7	30.31	0.39	415.312	22.20	0.51	233.253	22.51	0.35	342.745	24.65	0.34	384.447
mean of payoff		30.95			22.73			22.92			24.98		

$|N| = 6$

0.5	1	27.93	0.39	447.988	18.07	0.24	471.146	18.24	0.21	545.239	20.14	0.25	506.156
	2	27.96	0.39	447.988	18.12	0.24	471.146	18.33	0.21	545.239	20.10	0.25	506.156
	3	27.90	0.39	447.988	18.14	0.24	471.146	18.34	0.21	545.239	20.41	0.25	506.156
	4	27.84	0.38	459.777	18.05	0.24	471.146	18.30	0.21	545.239	20.15	0.25	506.156
	5	27.73	0.38	459.777	17.91	0.24	471.146	18.11	0.21	545.239	19.95	0.25	506.156
	6	27.39	0.37	472.204	17.63	0.24	471.146	17.96	0.21	545.239	20.02	0.25	506.156
mean of payoff		27.79			17.99			18.21			20.13		
1.5	1	23.07	0.26	556.607	18.49	0.21	550.976	18.92	0.2	594.346	21.57	0.25	541.864
	2	23.14	0.26	556.607	18.50	0.21	550.976	19.01	0.2	594.346	21.50	0.25	541.864
	3	23.15	0.26	556.607	18.55	0.21	550.976	19.06	0.2	594.346	21.77	0.25	541.864
	4	23.13	0.25	578.871	18.48	0.21	550.976	19.00	0.2	594.346	21.56	0.25	541.864
	5	22.97	0.25	578.871	18.34	0.21	550.976	18.79	0.2	594.346	21.49	0.25	541.864
	6	22.66	0.25	578.871	18.07	0.21	550.976	18.67	0.2	594.346	21.40	0.25	541.864
mean of payoff		23.02			18.41			18.91			21.55		

$|N| = 5$

0.5	1	20.81	0.27	603.539	20.04	1.65	95.395	17.72	0.93	149.660	19.02	0.67	224.033
	2	20.80	0.27	603.539	20.08	1.65	95.395	17.77	0.93	149.660	19.11	0.67	224.033
	3	20.76	0.27	603.539	20.07	1.65	95.395	17.74	0.93	149.660	19.12	0.67	224.033
	4	20.67	0.27	603.539	20.01	1.65	95.395	17.69	0.93	149.660	19.12	0.67	224.033
	5	20.54	0.26	626.752	19.85	1.65	95.395	17.55	0.93	149.660	19.04	0.67	224.033
mean of payoff		20.72			20.01			17.69			19.08		
1.5	1	16.99	0.19	702.987	19.20	1.38	109.328	17.79	0.83	168.260	19.98	0.62	254.915
	2	17.07	0.19	702.987	19.25	1.38	109.328	17.82	0.83	168.260	20.12	0.62	254.915
	3	17.06	0.19	702.987	19.24	1.38	109.328	17.82	0.83	168.260	20.10	0.62	254.915
	4	16.95	0.19	702.987	19.19	1.37	110.126	17.73	0.83	168.260	20.19	0.62	254.915
	5	16.83	0.18	742.042	19.02	1.37	110.126	17.61	0.83	168.260	20.07	0.62	254.915
mean of payoff		16.98			19.18			17.75			20.09		

$|N| = 4$

0.5	1	14.84	0.16	973.596	11.21	0.14	838.026	11.18	0.12	977.260	13.88	0.2	727.958
	2	14.89	0.16	973.596	11.19	0.14	838.026	11.17	0.12	977.260	13.88	0.2	727.958
	3	14.86	0.16	973.596	11.17	0.14	838.026	11.17	0.12	977.260	13.83	0.2	727.958
	4	14.76	0.16	973.596	11.13	0.14	838.026	11.16	0.12	977.260	13.88	0.2	727.958
mean of payoff		14.84			11.18			11.17			13.87		
1.5	1	11.81	0.13	954.176	10.83	0.11	1032.935	11.17	0.11	1064.670	14.78	0.19	817.798
	2	11.83	0.13	954.176	10.83	0.11	1032.935	11.16	0.11	1064.670	14.86	0.19	817.798
	3	11.82	0.13	954.176	10.82	0.11	1032.935	11.13	0.11	1064.670	14.70	0.19	817.798
	4	11.80	0.13	954.176	10.81	0.11	1032.935	11.16	0.11	1064.670	14.86	0.19	817.798
mean of payoff		11.82			10.82			11.16			14.80		

$|N| = 3$

0.5	1	9.23	0.09	1628.942	191.63	11.38	265.485	118.43	7.06	264.511	89.91	5.1	278.157
	2	9.31	0.09	1628.942	191.63	11.38	265.485	118.45	7.06	264.511	89.99	5.1	278.157
	3	9.36	0.09	1628.942	191.70	11.38	265.485	118.51	7.06	264.511	90.07	5.1	278.157
mean of payoff		9.30			191.65			118.46			89.99		
1.5	1	15.82	0.82	304.449	145.03	8.72	262.202	99.67	5.93	265.028	80.44	4.48	283.305
	2	15.83	0.82	304.449	145.02	8.72	262.202	99.68	5.93	265.028	80.53	4.48	283.305
	3	15.86	0.81	308.208	145.07	8.72	262.202	99.74	5.93	265.028	80.57	4.48	283.305
mean of payoff		15.84			145.04			99.70			80.51		