Supplemental Table 1: Transition probability matrix **P** of the economic design example

	0	1_1	1_2	1_3	2_1	2_2	2_3	3_1	3_2	3_3	4_1	4_2	4_3	5_1	5_2	5_3	6_1	6_2	6_3	7_1	7_2	7_3	8	0'	$1'_1$	$1'_2$	$1'_3$	$2'_1$	$2'_2$	$2'_3$	$3'_1$	$3'_2$	$3'_3$	$4'_1$	$4'_2$	$4'_3$	$5'_1$	$5'_2$	$5'_3$	$6'_1$	$6'_2$	$6'_3$	$7'_1$	$7'_2$	$7'_3$	8'
0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0	0	0	0	0	0	0
1_1	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0	0	0	0
1_2	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7E-04	.005	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1_3	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0	0	0	0
2_1	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0
2_2	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7E-04	.005	.043	0	0	0	0	0	0	0	0	0	0	0	0	0
2_3	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0
3_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0
3_2	0	0	0	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7E-04	.005	.043	0	0	0	0	0	0	0	0	0	0
3_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0
4_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0
4_2	0	0	0	0	0	0	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7E-04	.005	.043	0	0	0	0	0	0	0
4_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0
5_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.861	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.139
5_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7E-04	.005	.043	0	0	0	0
5_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.861	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.139
6_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
6_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7E-04	.005	.043	0
6_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
7_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
7_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
7_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0	0	0	0	0	0	0	0	0	0	0	0	0
$1'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0	0	0	0	0	0	0	0	0	0
$1'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$1'_3$	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.003	.008	.003	0	0	0	0	0	0	0	0	0	0
$2'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0	0	0	0	0	0	0
$2'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0	0	0	0	0	0	0
$2'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.003	.008	.003	0	0	0	0	0	0	0
$3'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0	0	0	0
$3'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0	0	0	0
$3'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.003	.008	.003	0	0	0	0
$4'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0
$4'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0
$4'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.003	.008	.003	0
$5'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$5'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0
$5'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.861	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.139
$6'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$6'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0
$6'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
$7'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$7'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$7'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
8'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Supplemental Table 2: Transition probability matrix **P** of the economic design example when using Proposition 3

	0	1_1	1_2	1_3	2_1	2_2	2_3	3_1	3_2	3_3	4_1	4_2	4_3	5_1	5_2	5_3	6_1	6_2	6_3	7_1	7_2	7_3	8	0'	$1'_1$	$1'_2$	$1'_3$	$2'_1$	$2'_2$	$2'_3$	$3'_1$	$3'_2$	$3'_3$	$4'_1$	$4'_2$	$4'_3$	$5'_1$	$5'_2$	$5'_3$	$6'_1$	$6'_2$	$6'_3$	$7'_1$	$7'_2$	$7'_3$	8'
0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0	0	0	0	0	0	0
1_1	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0	0	0	0
1_2	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.0007	.0005	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1_3	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0	0	0	0
2_1	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0
2_2	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.0007	.0005	.043	0	0	0	0	0	0	0	0	0	0	0	0	0
2_3	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0
3_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.221
3_2	0	0	0	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.0007	.0005	.043	0	0	0	0	0	0	0	0	0	0
3_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.221
4_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.181
4_2	0	0	0	0	0	0	0	0	0	0	0	0	0	.649	.259	.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.0007	.0005	.043	0	0	0	0	0	0	0
4_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.181
5_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.861	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.139
5_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.861	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.139
5_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.861	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.139
6_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.095
6_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.095
6_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.095
7_1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
7_2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
7_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0	0	0	0	0	0	0	0	0	0	0	0	0
$1'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0	0	0	0	0	0	0	0	0	0
$1'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$1'_3$	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0	0	0	0
$2'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.231	.547	.222	0	0	0	0	0	0	0
$2'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0	0	0	0	0	0	0
$2'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	.746	.113	.002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.032	.076	.031	0	0	0	0	0	0	0
$3'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$3'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0	0	0	0
$3'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.221
$4'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$4'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.015	.107	.877	0	0	0	0	0	0	0
$4'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.181
$5'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$5'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$5'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.861	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.139
$6'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$6'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$6'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.095
$7'_1$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$7'_2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
$7'_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.049
8'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1