1 Matching Structure and Long-run Environment

This section formalises the strategic environment of the game, explains the construction and purpose of the matching table, and presents the results of the replicator-dynamics simulations used to derive the long-run population frequencies that feed into the expected-payoff calculations. The model consists of one journal and five authors. Each author chooses among four strategies: Always Submit (AS), Only Good (OG), Only Bad (OB), and No Submit (NS). The journal chooses between two strategies: Always Accept (AA) and Only Good (OG). Payoffs follow the functional forms introduced earlier in the paper. An author's payoff is given by

$$u_A = r(p_g q_g + p_b q_b) - c(p_g + p_b),$$

where (p_g, p_b) denote the probabilities of producing good or bad submissions under the chosen author strategy, and (q_g, q_b) denote the probabilities of acceptance for good and bad papers under the journal's strategy. The journal's payoff takes the form

$$u_J = \frac{BA_{\text{good}} - DA_{\text{bad}}}{S+1} - C_{\text{fix}} \left(\frac{S}{(N_A/N_J)+1} \right)^{\eta},$$

where S is the total number of submissions, and $A_{\text{good}}, A_{\text{bad}}$ are the numbers of accepted good and bad papers generated by the authors' population state.

To compute the expected payoff of a focal author adopting a given strategy, it is necessary to enumerate all possible configurations of the remaining four authors and the journal. This enumeration yields a matching table, which lists every possible combination of the strategy counts $(n_{AS}, n_{OG}, n_{OB}, n_{NS})$ among the other four authors together with the journal's strategy. The table therefore contains 35 distinct author-composition vectors and, for each of them, two journal choices, resulting in 70 matching states. The purpose of this table is to make explicit the stochastic environment faced by the focal author. Conditional on the focal author's strategy choice, every row of the table corresponds to one possible realisation of the strategies played by the other authors and the journal. The matching table therefore expresses, in a fully explicit combinatorial manner, the state space over which the focal author's expected payoff is computed.

For each row of the table, the probability of observing the corresponding configuration is given by the multinomial expression

$$\Pr(n_{AS}, n_{OG}, n_{OB}, n_{NS}, J=j) = \frac{4!}{n_{AS}!n_{OG}!n_{OB}!n_{NS}!}\, x_{AS}^{n_{AS}}\, x_{OG}^{n_{OG}}\, x_{OB}^{n_{OB}}\, x_{NS}^{n_{NS}}\, y_j,$$

where $x_\cdot$ denotes the long-run frequency of each author strategy and y_j the probability with which the journal chooses strategy $j \in \{\text{AA}, \text{OG}\}$. As an illustrative example, if the four remaining authors all choose NS and the journal chooses OG, the probability of this matching outcome is

$$\mathrm{Pr} = x_{NS}^4\, y_{\mathrm{OG}}.$$

Once the probability of a row is established, the corresponding payoff of the focal author is obtained by applying the payoff function to the focal strategy and the journal's choice in that row. Summing the payoff of the focal author over all rows, weighted by their respective probabilities, yields the focal author's expected payoff under the chosen strategy.

To determine the long-run values of the population frequencies $x_{AS}, x_{OG}, x_{OB}, x_{NS}$ and y_{AA}, y_{OG} that populate the matching table, the model was simulated using multi-population replicator dynamics over a long horizon. Specifically, for each initial condition, the system was evolved for $T = 10\,000$ iterations with a time step of 0.01. Ten random seeds were simulated. In every run, the population fully converged in the sense that the dominated strategies OB and NS were eliminated, and the journal population converged to the pure strategy $y_{OG} = 1$. Hence the long-run strategic environment can be described by a single free parameter θ, defined as the limiting frequency of AS in the author population, with $x_{AS} = \theta$, $x_{OG} = 1 - \theta$, and $x_{OB} = x_{NS} = 0$. This simplification collapses the matching table to only the five possible counts $(4, 0), (3, 1), (2, 2), (1, 3), (0, 4)$ among the remaining authors, with associated probabilities given by the binomial distribution

$$\mathrm{Pr}(n_{AS} = k, n_{OG} = 4 - k) = \binom{4}{k} \theta^k (1 - \theta)^{4-k}, \quad k = 0, \ldots, 4,$$

and with the journal playing OG with probability one.

Although convergence in structure is consistent across simulations, the numerical value of θ is highly sensitive to the initial conditions. The ten simulation runs yield the following long-run distributions:

$$\begin{aligned}
&\text{Seed 0: } (0.4548,\ 0.5452,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 1: } (0.5131,\ 0.4869,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 2: } (0.9671,\ 0.0329,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 3: } (0.5181,\ 0.4819,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 4: } (0.8952,\ 0.1048,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 5: } (0.2679,\ 0.7321,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 6: } (0.8528,\ 0.1472,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 7: } (0.3745,\ 0.6255,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 8: } (0.7768,\ 0.2232,\ 0,\ 0), \quad y = (0, 1),\\
&\text{Seed 9: } (0.1474,\ 0.8526,\ 0,\ 0), \quad y = (0, 1).
\end{aligned}$$

These results demonstrate that, while the replicator dynamics reliably eliminate dominated strategies and stabilise the journal at OG, the mixture between AS and OG does not converge to a unique value and instead depends heavily on the initial state. Some runs (e.g., Seed 0 and Seed 3) produce nearly symmetric mixtures close to $(0.5, 0.5)$, others yield highly asymmetric mixtures such as $(0.1, 0.9)$ or $(0.9, 0.1)$, and some produce intermediate outcomes. It is therefore natural to classify the outcomes into broad qualitative categories according to the relative dominance of AS and OG. Symmetric or near-symmetric cases cluster around $(0.5, 0.5)$, strongly AS-dominant outcomes correspond to cases where $\theta > 0.8$, and strongly OG-dominant outcomes correspond to cases where $\theta < 0.2$. This classification highlights that the replicator dynamics generate a continuum of neutrally stable states along the AS–OG axis, and that the long-run environment is best represented parametrically by θ, allowing the matching table and expected-payoff calculations to remain general rather than tied to any particular initial condition.

2 Numerical Illustration of the θ-Matching Table

Given the long-run environment characterised by $x_{AS} = \theta$, $x_{OG} = 1 - \theta$, $x_{OB} = x_{NS} = 0$, and $y_{OG} = 1$, the simplified matching table for a focal author involves only the five possible compositions of the remaining four authors, namely $(n_{AS}, n_{OG}) \in \{(4, 0), (3, 1), (2, 2), (1, 3), (0, 4)\}$, with the journal always playing OG. The probability of observing a given configuration $(n_{AS} = k, n_{OG} = 4 - k)$ is binomial,

$$\Pr(n_{AS} = k, n_{OG} = 4 - k) = \binom{4}{k} \theta^k (1 - \theta)^{4-k}, \qquad k = 0, \dots, 4.$$

To illustrate how this matching table behaves as the composition of the author population changes, we evaluate these probabilities for five representative values of $\theta \in \{0.1, 0.3, 0.5, 0.7, 0.9\}$. The resulting probabilities are summarised in Table 1.

Table 1: Long-run matching probabilities for different values of θ (with $x_{AS} = \theta$, $x_{OG} = 1 - \theta$, $x_{OB} = x_{NS} = 0$, and the journal playing OG). The last column reports the payoff of a focal AS (or OG) author in each row.

n_{AS}	n_{OG}	$\Pr(\cdot \mid \theta = 0.1)$	$\Pr(\cdot \mid \theta = 0.3)$	$\Pr(\cdot \mid \theta = 0.5)$	$\Pr(\cdot \mid \theta = 0.7)$	$\Pr(\cdot \mid \theta = 0.9)$
4	0	0.0001	0.0081	0.0625	0.2401	0.6561
3	1	0.0036	0.0756	0.2500	0.4116	0.2916
2	2	0.0486	0.2646	0.3750	0.2646	0.0486
1	3	0.2916	0.4116	0.2500	0.0756	0.0036
0	4	0.6561	0.2401	0.0625	0.0081	0.0001

2.1 Expected System Payoff under theta=0.1

In order to characterise the stochastic performance of the system when a subset of authors submit indiscriminately, the expected total payoff was computed for the case in which each of the four non-focal authors chooses strategy AS with probability $\theta = 0.1$. The focal author is fixed as an OG strategist, while the remaining authors follow the binomial distribution associated with θ. For each realisation of $n_{AS} \in \{0, 1, 2, 3, 4\}$, the complete system payoff is the sum of all author payoffs and the journal payoff. The probability of observing each configuration is

$$\Pr(n_{AS} = k \mid \theta) = \binom{4}{k} \theta^k (1-\theta)^{4-k}.$$

Given the payoff functions

$$u_A = r(p_g q_g + p_b q_b) - c(p_g + p_b) \qquad \text{and} \qquad u_J = \frac{BA_{\text{good}} - DA_{\text{bad}}}{S+1} - C_{\text{fix}} \left(\frac{S}{(N_A/N_J) + 1} \right)^{\eta},$$

each configuration (n_{AS}, n_{OG}) was evaluated under the parameter set

$$\alpha = 0.6,\ \varepsilon = 0.1,\ \lambda = 0.1, \qquad r = 1,\ c = 0.1, \qquad B = 1,\ D = 3, \qquad C_{\text{fix}} = 0.1,\ \eta = 0.5.$$

Under the journal strategy OG, good papers are accepted with probability $q_g = 1 - \varepsilon = 0.9$ and bad papers with probability $q_b = \lambda = 0.1$. An AS author submits both good and bad papers, so that $(p_g, p_b) = (\alpha, 1-\alpha) = (0.6, 0.4)$, and the expected payoff of an AS author is

$$u_A(\text{AS}) = r\big[\alpha(1-\varepsilon) + (1-\alpha)\lambda\big] - c = 1\,[0.6 \times 0.9 + 0.4 \times 0.1] - 0.1 = 0.58 - 0.1 = 0.48.$$

By contrast, an OG author only submits good papers, so that $(p_g, p_b) = (\alpha, 0)$ and

$$u_A(\text{OG}) = r\big[\alpha(1-\varepsilon)\big] - c\,\alpha = 1\,[0.6 \times 0.9] - 0.1 \times 0.6 = 0.54 - 0.06 = 0.48.$$

Thus, for the chosen parameter values, both AS and OG yield the same expected author payoff of 0.48, so that the total author payoff is always $5 \times 0.48 = 2.4$, independently of n_{AS}. The only variation across configurations comes from the journal payoff, which depends on the total submission volume and the proportion of bad papers.

For a given configuration with $n_{AS} = k$, the expected numbers of good and bad submissions are

$$P_{\text{good}} = 5\alpha = 3.0, \qquad P_{\text{bad}} = (1-\alpha)\,k = 0.4k,$$

so that the total submission volume is

$$S = P_{\text{good}} + P_{\text{bad}} = 3.0 + 0.4k.$$

Under review errors, the expected numbers of accepted good and bad papers are

$$A_{\text{good}} = P_{\text{good}} q_g = 3.0 \times 0.9 = 2.7, \qquad A_{\text{bad}} = P_{\text{bad}} q_b = 0.4k \times 0.1 = 0.04k.$$

Substituting these into the journal payoff function yields

$$u_J(k) = \frac{BA_{\text{good}} - DA_{\text{bad}}}{S+1} - C_{\text{fix}} \left(\frac{S}{(N_A/N_J)+1}\right)^{\eta} = \frac{2.7 - 3 \cdot 0.04k}{(3.0+0.4k)+1} - 0.1 \left(\frac{3.0+0.4k}{6}\right)^{0.5}.$$

The corresponding total system payoff for a configuration with $n_{AS} = k$ is

$$u_{\text{total}}(k) = 2.4 + u_J(k).$$

As an illustration, when $n_{AS} = 0$ one obtains $P_{\text{bad}} = 0$, $S = 3$, $A_{\text{good}} = 2.7$, $A_{\text{bad}} = 0$, and hence

$$u_J(0) = \frac{2.7}{3+1} - 0.1 \left(\frac{3}{6}\right)^{0.5} = 0.675 - 0.1\sqrt{0.5} \approx 0.675 - 0.0707 \approx 0.6043,$$

so that

$$u_{\text{total}}(0) = 2.4 + 0.6043 \approx 3.0043.$$

The probability of observing $n_{AS} = 0$ under $\theta = 0.1$ is

$$\Pr(n_{AS} = 0 \mid \theta = 0.1) = (1 - 0.1)^4 = 0.9^4 = 0.6561,$$

and the corresponding weighted contribution to the expectation is therefore

$$u_{\text{total}}(0)\,\Pr(n_{AS} = 0 \mid \theta) \approx 3.0043 \times 0.6561 \approx 1.9728.$$

Repeating the same steps for $k = 1, 2, 3, 4$ yields the remaining system payoffs and weighted values reported in Table 2.

The resulting system payoffs, their probabilities, and their probability-weighted contributions are summarised in Table 2.

Table 2: System payoff components for each realisation of n_{AS} under $\theta = 0.1$.

n_{AS}	System payoff u_{total}	Probability $\Pr(\cdot \mid \theta)$	Weighted value
0	3.004289	0.6561	1.9728
1	2.9110825	0.2916	0.8485
2	2.8329	0.0486	0.1376
3	2.766334	0.0036	0.009959
4	2.70887	0.0001	0.0002709

The expected system payoff under $\theta = 0.1$ is given by the sum of the weighted contributions:

$$\mathbb{E}[u_{\text{system}} \mid \theta = 0.1] = 1.9728 + 0.8485 + 0.1376 + 0.009959 + 0.0002709 \approx 2.9691.$$

This expectation represents the aggregate payoff of the author–journal ecosystem when a small proportion of authors submit all papers regardless of quality, while the focal author and the journal adopt the OG strategy. The resulting value quantifies how rare indiscriminate submission behaviour, in conjunction with peer-review error rates, affects the equilibrium performance of the publication system.

2.2 Expected System Payoff under theta=0.3

Using the same configuration-dependent system payoffs $u_{\text{total}}(n_{AS})$ as in the previous subsection, the expected total payoff for the case in which each of the four non-focal authors chooses strategy AS with probability $\theta = 0.3$ can be obtained by re-weighting these payoffs with the corresponding binomial probabilities. For $n_{AS} \in \{0, 1, 2, 3, 4\}$ the probability of observing a configuration with n_{AS} AS-strategists and $4 - n_{AS}$ OG-strategists is

$$\Pr(n_{AS} = k \mid \theta = 0.3) = \binom{4}{k} \theta^k (1-\theta)^{4-k},$$

which yields the numerical values listed in Table 3. Multiplying each system payoff $u_{\text{total}}(n_{AS})$ by its probability gives the corresponding weighted contribution to the expectation.

Table 3: System payoff components for each realisation of n_{AS} under $\theta = 0.3$.

n_{AS}	System payoff u_{total}	$\Pr(\cdot \mid \theta = 0.3)$	Weighted value
0	3.004289	0.2401	0.7213
1	2.9110825	0.4116	1.1982
2	2.8329	0.2646	0.7496
3	2.766334	0.0756	0.2091
4	2.70887	0.0081	0.0219

The expected system payoff for $\theta = 0.3$ is then obtained by summing the weighted values in Table 3:

$$\mathbb{E}[u_{\text{system}} \mid \theta = 0.3] = 0.7213 + 1.1982 + 0.7496 + 0.2091 + 0.0219 \approx 2.9002.$$

This quantity represents the aggregate payoff of the author–journal system when a moderate fraction of non-focal authors adopts the AS strategy while the focal author remains OG and the journal continues to implement an OG acceptance policy.

2.3 Expected System Payoff under theta=0.5

We again treat the configuration-specific system payoffs $u_{\text{total}}(n_{AS})$ as fixed and re-weight them according to the binomial distribution that governs how many of the four non-focal authors choose strategy AS. When each such author independently plays AS with probability $\theta = 0.5$, the probability of observing a configuration with n_{AS} AS-strategists and $4 - n_{AS}$ OG-strategists is

$$\Pr(n_{AS} = k \mid \theta = 0.5) = \binom{4}{k} (0.5)^4 = \binom{4}{k} 0.0625, \qquad k \in \{0, 1, 2, 3, 4\}.$$

Using the same system payoffs as before,

$$u_{\text{total}}(0) = 3.004289, \quad u_{\text{total}}(1) = 2.9110825, \quad u_{\text{total}}(2) = 2.8329, \quad u_{\text{total}}(3) = 2.766334, \quad u_{\text{total}}(4) = 2.70$$

Table 4: System payoff components for each realisation of n_{AS} under $\theta = 0.5$.

n_{AS}	System payoff u_{total}	$\Pr(\cdot \mid \theta = 0.5)$	Weighted value
0	3.004289	0.0625	0.1878
1	2.9110825	0.2500	0.7278
2	2.8329	0.3750	1.0623
3	2.766334	0.2500	0.6916
4	2.70887	0.0625	0.1693

we obtain the weighted contributions shown in Table 4.

Summing the weighted values yields the expected system payoff under $\theta = 0.5$:

$$\mathbb{E}[u_{\text{system}} \mid \theta = 0.5] = 0.1878 + 0.7278 + 1.0623 + 0.6916 + 0.1693 \approx 2.8388.$$

This expectation captures the aggregate performance of the author–journal system when half of the non-focal authors submit all work indiscriminately while the remainder, together with the focal author, follow the OG strategy and the journal maintains an OG acceptance policy.

2.4 Expected System Payoff under theta=0.7

Finally, consider the case in which each of the four non-focal authors chooses strategy AS with probability $\theta = 0.7$. As before, the focal author is fixed as an OG strategist and the configuration-specific system payoffs $u_{\text{total}}(n_{AS})$ are those obtained in the deterministic analysis:

$$u_{\text{total}}(0) = 3.004289, \quad u_{\text{total}}(1) = 2.9110825, \quad u_{\text{total}}(2) = 2.8329, \quad u_{\text{total}}(3) = 2.766334, \quad u_{\text{total}}(4) = 2.70$$

When $\theta = 0.7$, the number of AS authors among the four non-focal authors again follows a binomial distribution,

$$\Pr(n_{AS} = k \mid \theta = 0.7) = \binom{4}{k} \theta^k (1-\theta)^{4-k}, \qquad k \in \{0, 1, 2, 3, 4\},$$

which yields the probabilities reported in Table 5. Multiplying each $u_{\text{total}}(n_{AS})$ by its corresponding probability gives the weighted contribution of that configuration to the overall expectation.

Summing these weighted values yields the expected system payoff under $\theta = 0.7$:

$$\mathbb{E}[u_{\text{system}} \mid \theta = 0.7] = 0.0243 + 0.2201 + 0.7496 + 1.1386 + 0.6504 \approx 2.7830.$$

Compared with lower values of θ, this expectation reflects the decline in aggregate performance that arises when a larger fraction of authors adopts the indiscriminate AS strategy while the journal and the focal author remain selective.

Table 5: System payoff components for each realisation of n_{AS} under $\theta = 0.7$.

n_{AS}	System payoff u_{total}	$\Pr(\cdot \mid \theta = 0.7)$	Weighted value
0	3.004289	0.0081	0.0243
1	2.9110825	0.0756	0.2201
2	2.8329	0.2646	0.7496
3	2.766334	0.4116	1.1386
4	2.70887	0.2401	0.6504

2.5 Expected System Payoff under theta=0.9

We now consider the extreme case in which each of the four non-focal authors chooses strategy AS with probability $\theta = 0.9$. The focal author is again fixed as an OG strategist, and the configuration-specific system payoffs $u_{\text{total}}(n_{AS})$ are those obtained previously:

$$u_{\text{total}}(0) = 3.004289, \quad u_{\text{total}}(1) = 2.9110825, \quad u_{\text{total}}(2) = 2.8329, \quad u_{\text{total}}(3) = 2.766334, \quad u_{\text{total}}(4) = 2.70$$

When $\theta = 0.9$, the number of AS authors among the four non-focal authors follows a binomial distribution,

$$\Pr(n_{AS} = k \mid \theta = 0.9) = \binom{4}{k}\theta^k(1-\theta)^{4-k}, \qquad k \in \{0, 1, 2, 3, 4\},$$

yielding the probabilities reported in Table 6. Multiplying each $u_{\text{total}}(n_{AS})$ by its corresponding probability gives the weighted contribution of that configuration to the overall expectation.

Table 6: System payoff components for each realisation of n_{AS} under $\theta = 0.9$.

n_{AS}	System payoff u_{total}	$\Pr(\cdot \mid \theta = 0.9)$	Weighted value
0	3.004289	0.0001	0.0003
1	2.9110825	0.0036	0.0105
2	2.8329	0.0486	0.1377
3	2.766334	0.2916	0.8067
4	2.70887	0.6561	1.7773

Summing the weighted values in Table 6 yields the expected system payoff under $\theta = 0.9$:

$$\mathbb{E}[u_{\text{system}} \mid \theta = 0.9] = 0.0003 + 0.0105 + 0.1377 + 0.8067 + 1.7773 \approx 2.7324.$$

This expectation reflects the aggregate performance of the author–journal system when almost all non-focal authors submit indiscriminately while the focal author remains selective and the journal continues to implement an OG acceptance policy.

Full Matching Table

Table 7: Full Matching Table: All 70 States (4 Other Authors + 1 Journal)

n_{AS}	n_{OG}	n_{OB}	n_{NS}	J	Probability
0	0	0	4	AA	$x_{NS}^4\,y_{AA}$
0	0	0	4	OG	$x_{NS}^4\,y_{OG}$
0	0	1	3	AA	$4x_{OB}x_{NS}^3y_{AA}$
0	0	1	3	OG	$4x_{OB}x_{NS}^3y_{OG}$
0	0	2	2	AA	$6x_{OB}^2x_{NS}^2y_{AA}$
0	0	2	2	OG	$6x_{OB}^2x_{NS}^2y_{OG}$
0	0	3	1	AA	$4x_{OB}^3x_{NS}y_{AA}$
0	0	3	1	OG	$4x_{OB}^3x_{NS}y_{OG}$
0	0	4	0	AA	$x_{OB}^4y_{AA}$
0	0	4	0	OG	$x_{OB}^4y_{OG}$
0	1	0	3	AA	$4x_{OG}x_{NS}^3y_{AA}$
0	1	0	3	OG	$4x_{OG}x_{NS}^3y_{OG}$
0	1	1	2	AA	$12x_{OG}x_{OB}x_{NS}^2y_{AA}$
0	1	1	2	OG	$12x_{OG}x_{OB}x_{NS}^2y_{OG}$
0	1	2	1	AA	$12x_{OG}x_{OB}^2x_{NS}y_{AA}$
0	1	2	1	OG	$12x_{OG}x_{OB}^2x_{NS}y_{OG}$
0	1	3	0	AA	$4x_{OG}x_{OB}^3y_{AA}$
0	1	3	0	OG	$4x_{OG}x_{OB}^3y_{OG}$
0	2	0	2	AA	$6x_{OG}^2x_{NS}^2y_{AA}$
0	2	0	2	OG	$6x_{OG}^2x_{NS}^2y_{OG}$
0	2	1	1	AA	$12x_{OG}^2x_{OB}x_{NS}y_{AA}$
0	2	1	1	OG	$12x_{OG}^2x_{OB}x_{NS}y_{OG}$
0	2	2	0	AA	$6x_{OG}^2x_{OB}^2y_{AA}$
0	2	2	0	OG	$6x_{OG}^2x_{OB}^2y_{OG}$
0	3	0	1	AA	$4x_{OG}^3x_{NS}y_{AA}$
0	3	0	1	OG	$4x_{OG}^3x_{NS}y_{OG}$
0	3	1	0	AA	$4x_{OG}^3x_{OB}y_{AA}$
0	3	1	0	OG	$4x_{OG}^3x_{OB}y_{OG}$
0	4	0	0	AA	$x_{OG}^4y_{AA}$
0	4	0	0	OG	$x_{OG}^4y_{OG}$
1	0	0	3	AA	$4x_{AS}x_{NS}^3y_{AA}$
1	0	0	3	OG	$4x_{AS}x_{NS}^3y_{OG}$
1	0	1	2	AA	$12x_{AS}x_{OB}x_{NS}^2y_{AA}$
1	0	1	2	OG	$12x_{AS}x_{OB}x_{NS}^2y_{OG}$
1	0	2	1	AA	$12x_{AS}x_{OB}^2x_{NS}y_{AA}$
1	0	2	1	OG	$12x_{AS}x_{OB}^2x_{NS}y_{OG}$
1	0	3	0	AA	$4x_{AS}x_{OB}^3y_{AA}$
1	0	3	0	OG	$4x_{AS}x_{OB}^3y_{OG}$

n_{AS}	n_{OG}	n_{OB}	n_{NS}	J	Probability
1	1	0	2	AA	$12x_{AS}x_{OG}x_{NS}^2y_{AA}$
1	1	0	2	OG	$12x_{AS}x_{OG}x_{NS}^2y_{OG}$
1	1	1	1	AA	$24x_{AS}x_{OG}x_{OB}x_{NS}y_{AA}$
1	1	1	1	OG	$24x_{AS}x_{OG}x_{OB}x_{NS}y_{OG}$
1	1	2	0	AA	$12x_{AS}x_{OG}x_{OB}^2y_{AA}$
1	1	2	0	OG	$12x_{AS}x_{OG}x_{OB}^2y_{OG}$
1	2	0	1	AA	$12x_{AS}x_{OG}^2x_{NS}y_{AA}$
1	2	0	1	OG	$12x_{AS}x_{OG}^2x_{NS}y_{OG}$
1	2	1	0	AA	$12x_{AS}x_{OG}^2x_{OB}y_{AA}$
1	2	1	0	OG	$12x_{AS}x_{OG}^2x_{OB}y_{OG}$
1	3	0	0	AA	$4x_{AS}x_{OG}^3y_{AA}$
1	3	0	0	OG	$4x_{AS}x_{OG}^3y_{OG}$
2	0	0	2	AA	$6x_{AS}^2x_{NS}^2y_{AA}$
2	0	0	2	OG	$6x_{AS}^2x_{NS}^2y_{OG}$
2	0	1	1	AA	$12x_{AS}^2x_{OB}x_{NS}y_{AA}$
2	0	1	1	OG	$12x_{AS}^2x_{OB}x_{NS}y_{OG}$
2	0	2	0	AA	$6x_{AS}^2x_{OB}^2y_{AA}$
2	0	2	0	OG	$6x_{AS}^2x_{OB}^2y_{OG}$
2	1	0	1	AA	$12x_{AS}^2x_{OG}x_{NS}y_{AA}$
2	1	0	1	OG	$12x_{AS}^2x_{OG}x_{NS}y_{OG}$
2	1	1	0	AA	$12x_{AS}^2x_{OG}x_{OB}y_{AA}$
2	1	1	0	OG	$12x_{AS}^2x_{OG}x_{OB}y_{OG}$
2	2	0	0	AA	$6x_{AS}^2x_{OG}^2y_{AA}$
2	2	0	0	OG	$6x_{AS}^2x_{OG}^2y_{OG}$
3	0	0	1	AA	$4x_{AS}^3x_{NS}y_{AA}$
3	0	0	1	OG	$4x_{AS}^3x_{NS}y_{OG}$
3	0	1	0	AA	$4x_{AS}^3x_{OB}y_{AA}$
3	0	1	0	OG	$4x_{AS}^3x_{OB}y_{OG}$
3	1	0	0	AA	$4x_{AS}^3x_{OG}y_{AA}$
3	1	0	0	OG	$4x_{AS}^3x_{OG}y_{OG}$
4	0	0	0	AA	$x_{AS}^4y_{AA}$
4	0	0	0	OG	$x_{AS}^4y_{OG}$
$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$

Simplified θ-Matching Table

Table 8: Long-run Matching Table ($x_{AS} = \theta$, $x_{OG} = 1 - \theta$)

n_{AS}	n_{OG}	Journal	Probability
4	0	OG	θ^4
3	1	OG	$4\theta^3(1-\theta)$
2	2	OG	$6\theta^2(1-\theta)^2$
1	3	OG	$4\theta(1-\theta)^3$
0	4	OG	$(1-\theta)^4$