WEP Warwick Evans Publishing

International Journal of Global Economics and Management

ISSN: 3005-9690 (Print), ISSN: 3005-8090 (Online) | Volume 7, Number 1, Year 2025
DOI: https://doi.org/10.62051/ijgem.v7n1.26
Journal homepage: https://ijgem.org

# A Study of Supply Chain Decision-Making Considering Bilateral Power Equivalence from the Perspective of fairness Concerns

Meili Song, Xuemei Yin, Yonglong Wang *

School of Business Administration, Chongqing Technology and Business University, Chongqing, NC 400067, China

*Corresponding Author

## ABSTRACT

This paper explores the supply chain decision-making problem under bilateral power equivalence based on the equity concern perspective. Specifically, the equilibrium solutions of the Nash game under risk-neutral, supplier fairness concern and retailer fairness concern are derived and comparatively analysed in the case of power equivalence between upstream and downstream firms in the supply chain. The results show that the retail price is largest when the retailer has fair concern preferences, followed by the risk-neutral and supplier fair concern preferences; the production inputs and the supplier's expected profit are largest when the supplier has fair concern preferences, followed by the risk-neutral and retailer fair concern preferences; the retailer's expected profit is largest when the retailer is risk-neutral, followed by the risk-neutral and supplier fair concern preferences; the retailer's expected profit is largest when the retailer has fair concern preferences, followed by the supplier fair concern preferences, followed by the retailer fair concern preferences. Retailers' expected profits are largest when they are risk-neutral, followed by when retailers have a fair concern preference and smallest when suppliers have a fair concern preference.

## KEYWORDS

Equity concerns; Supply chain decision-making; Nash game; Power parity; Profit distribution

## 1. INTRODUCTION

As markets diversify, both suppliers and retailers play important roles in their respective domains, and as a result, power parity between bilateral firms in the supply chain is becoming more and more common [1]. For example, Tesla and its supplier Panasonic jointly invested US$5 billion to jointly develop and produce solar panels; Apple provided US$450 million in innovation funding to its supplier Corning to support its development of state-of-the-art glass processes [3]; and Procter & Gamble, a major US manufacturer, and Walmart, the number one US retailer, formed a strategic alliance to explore a new model of equal co-operation [4].

In the case of power equivalence, although both parties make decisions independently, due to the information gap between the two parties, supply chain decision makers tend to measure their own contribution to the supply chain and focus on the fairness of the distribution of benefits on this basis [2]. For example, the ‘price war’ between TESCO, the largest retail supermarket in the UK, and Unilever, the largest food supplier in the UK, led to the breakdown of cooperation because both parties refused to make concessions on benefits [5]; in 2010, Master Kong asked Carrefour to increase the price of some instant noodles to gain more revenue, which would cause Carrefour's revenue to be seriously damaged and eventually lead to the breakdown of cooperation . In 2010, Master Kong asked

Carrefour to increase the price of some instant noodles to gain more revenue, which would cause Carrefour's revenue to be seriously damaged and eventually lead to the breakdown of the co-operation between the two parties [6].

For the study of supply chain decision-making under different power structures [7], Choi [8] analysed a game between two manufacturers and a retailer with equivalent power structures, pointing out that the form of the demand function can have a significant impact on the outcome. Based on this, Choi [9] further explored the pricing game process and decision-making of dual-channel supply chain members under different power structures. Wang Wenbin et al [10], on the other hand, analysed the pricing decision problem of closed-loop supply chain under three different power structures. Wei Caimin et al [11] analysed the optimal decision-making problem of dual-channel supply chain members in terms of pricing under different game power structures in the context of dual-channel supply chain system. In addition, Li et al [12] investigated the dynamic pricing and inventory management problems of dual-channel supply chains under different power structures. Further, Zhang Weiyue et al [13] studied and compared the impact of different channel leadership power on profit distribution for the closed-loop supply chain participant recycling decision problem.

In traditional supply chain models, decision makers are usually assumed to be 'fully rational', which means that they always pursue self-interest maximisation as the decision-making goal. For this reason, Kahneman et al. [14], a Nobel Prize winner in economics, first proposed the concept of equity concern under the assumption of limited rationality, i.e., economic agents maximise their own interests while focusing on the fairness of benefit distribution. And among the subsequent studies on fairness concern preferences, supply chain coordination is one of the topics widely concerned by scholars [15]. For example, Du Shaofu et al [16] introduced the fairness concern issue in the traditional two-level supply chain and explored the impact of fairness concern on the coordination of wholesale price contract, revenue sharing contract and repurchase contract. Zhang Xu et al [17] analysed the impact of retailers' fairness concerns on the supply chain with respect to retailers' fairness concern behaviours in a supplier-dominated fresh produce supply chain.Hu [18] investigated supply chain coordination with wholesale price constraints and supplier fairness considerations to supplier-managed inventory and hosted inventory contracts.Jian et al [19] based on the theory of supply chain coordination and dynamic games, by introducing the revenue sharing contract mechanism constructed two game models and analysed the impact of revenue sharing contracts considering fairness concerns on pricing decisions and profit allocation in competitive supply chains.

Studies on the combination of different power structures and fairness concerns are relatively few and mainly focus on the supplier-dominated/retailer-dominated consideration of the impact of fairness concern preferences on supply chain decisions. For the former, Du et al [20] considered the effects of retailers' fairness preferences and consumers' channel preferences on the supply chain by constructing a manufacturer-dominated dual-channel supply chain game model. The results indicated that manufacturers should consider retailers' fair concern preferences. Further, Lei Wang et al [21] applied blockchain technology in the supply chain and explored the agricultural supply chain decision-making problem considering fair concern preferences under different dominant models. Wang Yuyan et al [22] investigated the fairness concern impact of online platforms for supplier dominance as well as in the context of the Internet. In addition, for a dual-channel green supply chain, Wu Chengfeng et al [23] assumed that retailers have fair concern behaviours and manufacturers are in a dominant position in the game, discussed optimal pricing strategies, and coordinated through green cost sharing + two-part pricing contract.

In summary, this paper introduces two-party power equivalence and fair concern preferences into the supply chain in order to study the supply chain decision-making problem under fair concern considering two-party power equivalence. Specifically, for a two-tier supply chain system consisting of a single supplier and a single retailer, firstly, a demand function model is constructed in which the stochastic output depends on the production effort, and the retail price depends on the stochastic output and the production effort; then three models are constructed in which the supplier has fairness concern preference, the retailer has fairness concern preference, and risk neutrality, and the equilibrium solutions are analysed by using the inverse induction method; finally, the impact of changes in fairness concern level of the decision-maker on the decision-maker's decision-making process is explored. Finally, the effects of changes in the level of fairness concern of decision makers on the decisions and profits of supply chain members are investigated, and the equilibrium solutions of the three models are compared and analysed.

## 2. PROBLEM DESCRIPTION AND ASSUMPTIONS

As shown in Figure 1, in a two-tier supply chain consisting of suppliers and retailers with equal power, at the onset of the production season, the retailer and the supplier determine a wholesale price $w_0$ that is favourable to both parties, while the retailer decides on its ordering quantity $q$, the supplier determines its input level of production effort $e$, and finally the retailer sells the purchased product $uq+e$ to the market at the retail price $p$, so that the demand is realised. At the same time, this paper also considers three scenarios, namely, the supplier's fairness preference, the retailer's fairness preference, and bilateral risk neutrality, and explores the impact of their fairness preference on their own decision-making behaviour and profitability, as well as comparing the equilibrium solutions of the game under the three scenarios.

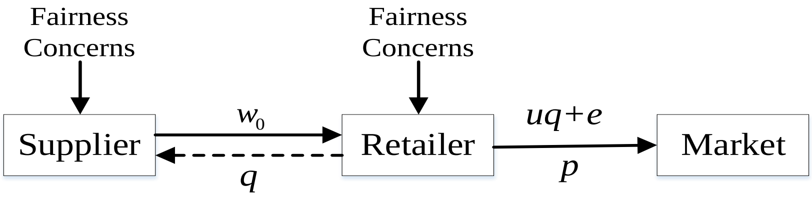


**Figure 1.** The structure diagram

The model construction in this paper is based on the following assumptions:

Assumption 1: The supplier's product output is subject to uncertainty and the product output is affected by production effort, i.e., the actual output is $(uq+e)$. Where $u$ is a random factor, $q$ is the amount of production inputs, and e is the production effort. The cost of production effort is $C(e)=e^2$ [25, 27], and the expected value and mean squared deviation of $u$ are $E(u)=\mu$ and $V(u)=\delta$, respectively [27].

Assumption 2: In the market, the price of a product is in many cases inversely related to the quantity it sells and positively related to the effort of the producer. This trend stems from the traditional norm whereby an increase in production effort is positively correlated with an increase in product quality, while the market price of a product is likewise positively correlated with quality. Drawing on the models of Cachon [26] and Qin [27], let the retail price function of a product be as shown in the equation, where A is a constant.

$$p = A-(uq+e)+ke \tag{1}$$

Assumption 3: In order to simplify the model, without prejudice to the conclusions let the supplier's production cost of the product be $c=0$ [25, 27].

The symbols and meanings involved in this section are shown in Table 1.

**Table 1.** Symbols and their meanings

| Symbol | meaning | Symbol | meaning |
|---|---|---|---|
| $A$ | Market saturation of the product | $p$ | retail price |
| $u$ | stochastic factor | $q$ | order quantity |
| $\mu$ | expected value | $\pi_S^j$ | Manufacturer's profit |
| $\delta$ | variance | $\pi_R^j$ | Retailer's profit |
| $k$ | Coefficient of elasticity of production effort | $NN$ | risk-neutral |
| $\lambda$ | Coefficient of preference for equity concerns | $NS$ | Vendor equity concerns |
| $w_0$ | Initial wholesale price | $NR$ | Retailer equity concerns |
| $e$ | Production effort inputs | | $j \in \{NN, NS, NR\}$ |

# 3. ANALYSIS OF THE NASH GAME MODEL UNDER POWER EQUIVALENCE

Under power equivalence, this paper constructs a game model based on both suppliers and retailers being risk-neutral, suppliers‘ fair concern preferences, and retailers’ fair concern preferences, and next employs backward induction to analyse the equilibrium solutions of the three game models.

## 3.1. Risk-Neutral Models (NN Models)

If both the supplier and the retailer are risk-neutral, the order of the Nash game in the supply chain is such that the supplier decides its optimal level of production effort input e, while the retailer decides its optimal ordering quantity $q$, and the supplier's and the retailer's expected profit functions are, respectively:

$$\begin{cases} \pi_S^{NN}(e) = E(wQ - e^2) = w(\mu q + e) - e^2 \\ \pi_R^{NN}(q) = E[(p-w)Q] = E[A - uq - e + ke - w)(uq + e)] \\ = (A - e + ke - w)(\mu q + e) - \mu q e - (\mu^2 + \delta^2)q^2 \end{cases} \tag{2}$$

Under the NN model, the optimal production effort inputs, order quantities, retail prices and expected profits of the suppliers and retailers can be found using backward induction, thus leading to Proposition 1.

Proposition 1 If the NN model is used, the optimal decisions of suppliers and retailers are:

$$\begin{cases} q^{NN*} = \dfrac{[2A + (k-4)w_0]\mu}{4(\delta^2 + \mu^2)} \\ e^{NN*} = \dfrac{w_0}{2} \\ p^{NN*} = \dfrac{2(k-1)w_0\delta^2 + (k+2)w_0\mu^2 + 2A(2\delta^2 + \mu^2)}{4(\delta^2 + \mu^2)} \end{cases} \tag{3}$$

At this point, the optimal expected profits of the supplier and the retailer are:

$$
\begin{cases}
\pi_S^{NN*} = \dfrac{w_0[2A\mu^2 + w_0(\delta^2 + k\mu^2 - 3\mu^2)]}{4(\delta^2+\mu^2)} \\
\pi_R^{NN*} = \dfrac{4A^2\mu^2 + 4Aw_0[2\delta^2 + (k-2)\mu^2] + w_0{}^2[4(k-3)\delta^2 + (k-2)^2\mu^2]}{16(\delta^2+\mu^2)}
\end{cases} \tag{4}
$$

### 3.2. Supplier Fairness Concern Preference Model (NS Model)

If the supplier has fair concern preference and the retailer is risk neutral, the supplier will not only be concerned about its own profit, but also the profit of other members. In this case, drawing on the introduction of the supplier's fair concern preference coefficient $\lambda_S$ [24], and the supplier's utility function $U_S^{NS}$ and the retailer's profit function $\pi_R^{NS}$ are:

$$
\begin{cases}
U_S^{NS}(e) = \pi_S^{NN} - \lambda_S(\pi_R^{NN} - \pi_S^{NN}) \\
\qquad\qquad = (1+\lambda_S)[w(\mu q + e) - e^2] - \lambda_S[(A - e + ke - w)(\mu q + e) - \mu qe - (\mu^2+\delta^2)q^2] \\
\pi_R^{NS}(q) = E[(p-w)(uq+e)] = (A - e + ke - w)(\mu q + e) - \mu qe - (\mu^2+\delta^2)q^2
\end{cases} \tag{5}
$$

Under the NS model, the optimal production effort inputs, order quantities, retail prices and expected profits of the suppliers and retailers can be found using backward induction to obtain Proposition 2.

Proposition 2 If the NS model is used, the optimal decisions of suppliers and retailers are:

$$
\begin{cases}
q^{NS*} = \dfrac{A\mu[2+(2+k)\lambda_S] + w_0\mu[k-4(1+\lambda_S)]}{4\delta^2(1+k\lambda_S) + [4+(4+k^2)\lambda_S]\mu^2} \\
p^{NS*} = \dfrac{\begin{bmatrix} 2(-1+k)w_0\delta^2(1+2\lambda_S) + 2A\delta^2(2+\lambda_S+k\lambda_S) \\ +2A(1+\lambda_S)\mu^2 + w_0(2+k+2\lambda_S+k\lambda_S+k^2\lambda_S)\mu^2 \end{bmatrix}}{4\delta^2(1+k\lambda_S) + [4+(4+k^2)\lambda_S]\mu^2} \\
e^{NS*} = \dfrac{w_0\delta^2(2+4\lambda_S) + w_0(2+2\lambda_S+k\lambda_S)\mu^2 - A\lambda_S(2\delta^2+k\mu^2)}{4\delta^2(1+k\lambda_S) + [4+(4+k^2)\lambda_S]\mu^2}
\end{cases} \tag{6}
$$

At this point, the optimal expected profits of the supplier and the retailer are:

$$
\begin{cases}
\pi_R^{NS*} = \dfrac{\begin{bmatrix} 2Aw_0\{4\delta^4(1+4\lambda_S+2\lambda_S{}^2+k\lambda_S{}^2) + \delta^2\mu^2[k^2\lambda_S{}^2 + 8\lambda_S(1+\lambda_S) + 2k(1+\lambda_S)^2] \\ +2\mu^4(k-2)(1+\lambda_S)^2\} - A^2\{4\delta^4\lambda_S(2+\lambda_S+k\lambda_S) + \delta^2\mu^2[(4+k^2)\lambda_S{}^2 - 4] \\ -4(1+\lambda_S)^2\mu^4\} + w_0{}^2\{4\delta^4(-3+k-2\lambda_S)(1+2\lambda_S) \\ +\delta^2(1+2\lambda_S)[k^2 - 8(1+\lambda_S)]\mu^2 + (k-2)^2(1+\lambda_S)^2\mu^4\} \end{bmatrix}}{[4\delta^2(1+k\lambda_S) + 4\mu^2 + \mu^2(4+k^2)\lambda_S]^2} \\
\pi_S^{NS*} = \dfrac{\begin{bmatrix} w_0\{-2A\delta^2\lambda_S + 2w_0\delta^2(1+2\lambda_S) + 2A(1+\lambda_S)\mu^2 \\ +(k-2)w_0(1+\lambda_S)\mu^2\} \times \{4\delta^2(1+k\lambda_S) + [4+(4+k^2)\lambda_S]\mu^2 \\ -\{2w_0\delta^2(1+2\lambda_S) + w_0(2+2\lambda_S+k\lambda_S)\mu^2 - A\lambda_S(2\delta^2+k\mu^2)\}^2 \end{bmatrix}}{[4\delta^2(1+k\lambda_S) + 4\mu^2 + \mu^2(4+k^2)\lambda_S]^2}
\end{cases} \tag{7}
$$

Proposition 3 Under the NS model there are :1) $e^{NS*}$, $p^{NS*}$, and $\pi_R^{NS*}$ are decreasing functions with respect to $\lambda_S$, and $q^{NS*}$ is an increasing function with respect to $\lambda_S$; $\pi_S^{NS*}$ is an increasing function with respect to $\lambda_S$ if $0<\lambda_S<\lambda_{S0}$; $\pi_S^{NS*}$ is a decreasing function with respect to $\lambda_S$ if the supplier's fairness concern preference is large, i.e., $\lambda_S>\lambda_{S0}$.

Where $\lambda_{S0}$ satisfies $\lambda_{S0}=\dfrac{4(2-k)w_0\mu^2(\delta^2+\mu^2)}{4A(\delta^2+\mu^2)(2\delta^2+k\mu^2)+w_0[8(-2+k)\delta^4+2(-8-2k+3k^2)\delta^2\mu^2+(-8+k^3)\mu^4]}$.

Proposition 3 illustrates that the supplier's fair concern preference $\lambda_S$ will lead to an impairment of the retailer's expected profit, as well as a reduction in the level of its own production effort inputs $e^{NS*}$ and in the retailer's retailer price $p^{NS*}$, but will lead to an increase in the quantity ordered $q^{NS*}$; the supplier's expected profit increases first and then decreases as $\lambda_S$ increases.

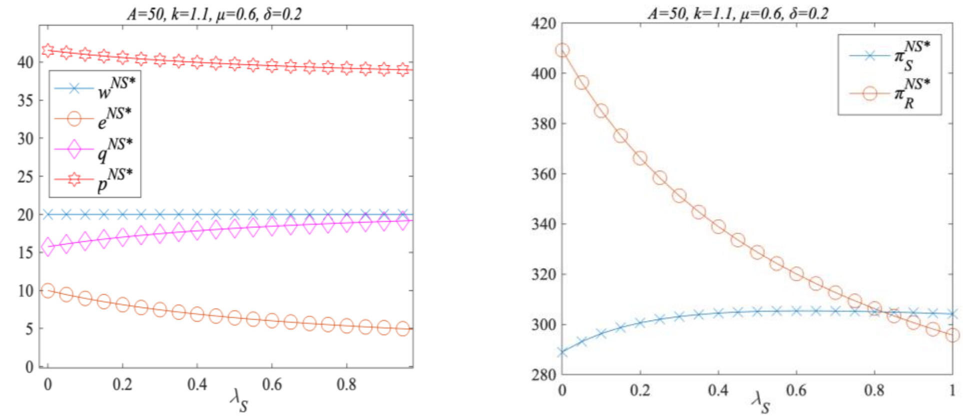


**Figure 2.** Effect of $\lambda_S$ on decision variables

### 3.3. Retailer Fairness Concerns Preference Model (NR Model)

If the retailer has fair concern preference and the supplier is risk-neutral, the retailer will not only be concerned about its own profit, but also the profit of other members. At this point, drawing on the literature [24] to introduce the supplier's fair concern preference coefficient $\lambda_R$, the supplier's profit function $\pi_S^{NR}$ and the retailer's utility function $U_R^{NR}$ can be obtained, respectively:

$$\begin{cases} \pi_S^{NR}(e)=w(\mu q+e)-e^2 \\ U_R^{NR}(q)=\pi_R^{NN}-\lambda_R(\pi_S^{NN}-\pi_R^{NN}) \\ \qquad\qquad =(1+\lambda_R)[(A-e+ke-w)(\mu q+e)-\mu qe-(\delta^2+\mu^2)q^2-\lambda_R[w(\mu q+e)-e^2] \end{cases} \tag{8}$$

Under the NR model, the optimal production effort inputs, order quantities, retail prices and expected profits of the suppliers and retailers can be found using backward induction, which leads to Proposition 4.

Proposition 4 If the NR model is used, the optimal decisions of suppliers and retailers are:

$$\begin{cases} e^{NR*} = \dfrac{w_0}{2} \\ q^{NR*} = \dfrac{2A\mu}{(\delta^2+\mu^2)} + \dfrac{w_0\mu[(k-3)+(k-6)\lambda_R]}{4(1+\lambda_R)(\delta^2+\mu^2)} \\ p^{NR*} = A - \dfrac{w_0}{2} + \dfrac{kw_0}{2} - \dfrac{A\mu^2}{2(\delta^2+\mu^2)} - \dfrac{w_0\mu^2[(k-6)\lambda_R+(k-4)]}{4(1+\lambda_R)(\delta^2+\mu^2)} \end{cases} \tag{9}$$

At this point, the optimal expected profits of the supplier and the retailer are:

$$\begin{cases} \pi_S^{NR*} = \dfrac{{w_0}^2\delta^2\mu^2+2w_0A}{4(\delta^2+\mu^2)} + \dfrac{{w_0}^2[(k-5)\lambda_R+(k-3)]\mu^2}{4(1+\lambda_R)(\delta^2+\mu^2)} \\ \pi_R^{NR*} = \dfrac{\begin{bmatrix} 4A^2(1+\lambda_R)^2\mu^2+4Aw_0(1+\lambda_R)^2\{2\delta^2+(-2+k)\mu^2\} \\ +{w_0}^2\{4(k-3)\delta^2(1+\lambda_R)^2+[4+8\lambda_R-4k(1+\lambda_R)^2+k^2(1+\lambda_R)^2]\mu^2\} \end{bmatrix}}{16(1+\lambda_R)^2(\delta^2+\mu^2)} \end{cases} \tag{10}$$

Based on the optimal decision result given in Proposition 4, the following analysis of the supplier fairness concern coefficient is carried out in order to investigate the impact of the supplier fairness concern coefficient on decision making, and Proposition 5 is obtained.

Proposition 5 Under the NR model there are: $q^{NR*}$, $\pi_S^{NR*}$ and $\pi_R^{NR*}$ are all decreasing functions with respect to $\lambda_R$; $p^{NR*}$ is an increasing function with respect to $\lambda_R$.

Proposition 5 illustrates that the retailer's fair concern preference $\lambda_R$ will lead to an impairment of its own expected profit $\pi_R^{NR*}$ and the supplier's expected profit $\pi_S^{NR*}$, as well as a reduction in production inputs $q^{NR*}$, but it will lead to an increase in the retail price $p^{NR*}$ for the retailer. This is shown in Figure 3.

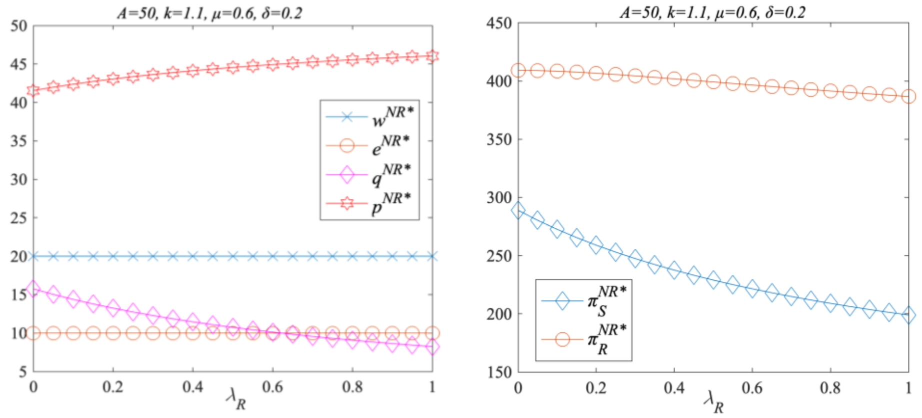


**Figure 3.** Effect of $\lambda_R$ on decision variables

## 4. COMPARATIVE ANALYSIS OF MODELS

Based on the equilibrium results obtained from the three game structures above, the following proposition can be obtained by comparing the optimal ordering quantity, the level of production effort input, the wholesale price and the size of the expected profit.

Proposition 6 A comparison of ordering quantity, production effort input level, wholesale price and expected profit under the RN, RS and RR models is obtained:

1) $q^{NS*} > q^{NN*} > q^{NR*}$; 2) $e^{NR*} = e^{NN*} > e^{NS*}$; 3) $p^{NR*} > p^{NN*} > p^{NS*}$;

4) $\pi_R^{NN*} > \pi_R^{NR*} > \pi_R^{NS*}$; 5) $\pi_S^{NS*} > \pi_S^{NN*} > \pi_S^{NR*}$.

Proposition 6 shows that production inputs are largest when the supplier has a fair concern preference, then risk-neutral, and when the retailer has a fair concern preference, in that order; the retailer's production effort is the same when the retailer has a fair concern preference as when it is fair-neutral, and both are higher than when the supplier has a fair concern preference; the retailer's retail price is largest when the retailer has a fair concern preference, then risk-neutral, in that order, suppliers have a fair concern preference; the retailer's expected profit is greatest when it is risk-neutral, followed by the retailer with a fair concern preference and the supplier with a fair concern preference; and the supplier's expected profit is greatest when it has a fair concern preference, followed by the risk-neutral, retailer with a fair concern preference scenario. This is shown in figures 4 to 6.

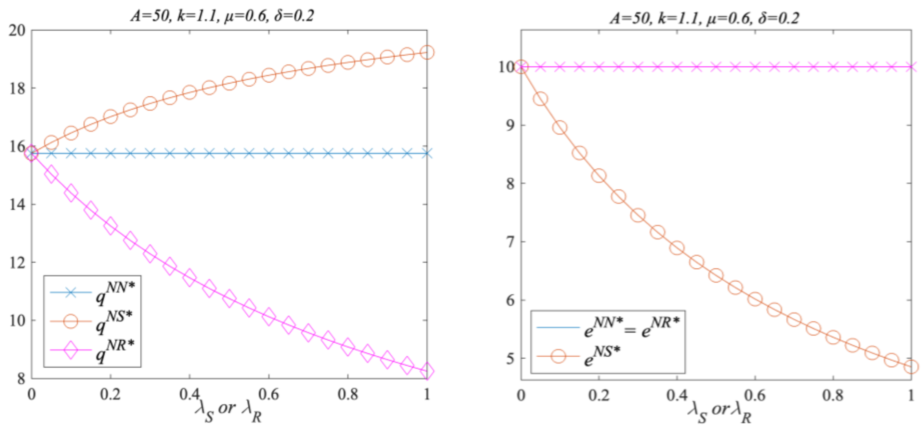


**Figure 4.** Effect of $\lambda_S$ or $\lambda_R$ on production inputs and production effort in the three scenarios

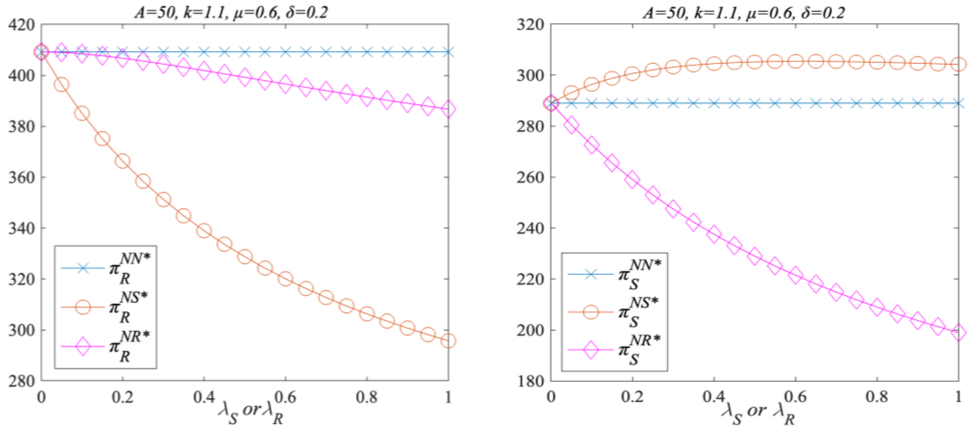


**Figure 5.** Effect of $\lambda_S$ or $\lambda_R$ on the expected profit of retailers, suppliers in the three scenarios

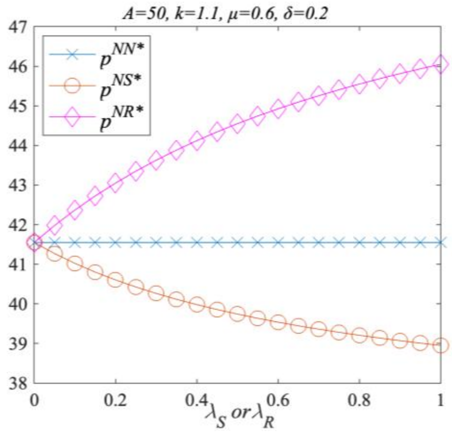


**Figure 6.** Effect of $\lambda_S$ or $\lambda_R$ on retail prices in the three scenarios

# 5. SUMMARY

In a two-tier supply chain consisting of suppliers and retailers with equal power, three scenarios such as suppliers with fair concern preferences, retailers with fair concern preferences, and bilateral risk neutrality are considered. Meanwhile, based on the fact that product output has uncertainty risk and is affected by production effort, and the market price of the product is affected by the actual output quantity of the product and production effort, a demand function model is constructed in which the stochastic output is dependent on the production effort, and the retail price is dependent on the stochastic output and the production effort. The influence of fair concern preference on decision-making behaviour and expected profit of supply chain enterprises is investigated, and the decision-making and expected profit in the three scenarios are also compared and analysed. The following conclusions can be drawn from the full analysis:

1) If a supplier has a fairness preference, its fairness preference will result in a loss of the retailer's expected profit, a reduction in its own level of production effort and in the retailer's retail price, but it will result in an increase in the retailer's order quantity. In addition, the impact of the supplier's fairness preference on its own expected profit is more complex and is related to the parameter $\{\lambda_S, \delta, \mu, k\}$. The supplier's fairness preference will lead to a decrease in the retailer's expected profit.

2) The retailer's fairness preference will result in an increase in its retail price, but will lead to an impairment of its own and the supplier's expected profit, as well as a reduction in the retailer's order quantity.

3) Production inputs are largest when the supplier has a fair concern preference, followed by the risk-neutral, retailer has a fair concern preference scenario; the retailer's production effort is the same as when it is fair-neutral when the retailer has a fair concern preference, and both are higher than the supplier has a fair concern preference scenario; the retailer's retail price is largest when the retailer has a fair concern preference, then followed by the risk-neutral, supplier has a fair concern preference; the retailer's expected profit is greatest when it is risk-neutral, and then in the order in which the retailer has a fair concern preference and the supplier has a fair concern preference; the supplier's expected profit is greatest when the supplier has a fair concern preference, and then in the order in which it is risk-neutral and the retailer has a fair concern preference.

# ACKNOWLEDGEMENTS

This work was supported by the Social Science Planning Project of Chongqing (2023NDYB75).

# REFERENCES


[1] Jiang, Y. Q., Mu, Z. Y. (2023). A Study on Green Innovation Decision-making in Supply Chains with Different Power Structures under Platform Services. Logistics Technology, 46(17), 124–130. http://doi.org/10.13714/j.cnki.1002-3100.2023.17.032

[2] Fan, J. C., Chen, W., Fu, H., et al. (2023). The research of the quality incentive strategies in a retailer-dominated supply chain from the perspective of product liability. Journal of Industrial Engineering and Engineering Management, 37(1), 187–199. http://doi.org/10.13587/j.cnki.jieem.2023.01.018

[3] Grean, M., Shaw, M. J. (2002). Supply-Chain Partnership Between P&G and Wal-Mart. E-Business Management: Integration of Web Technologies with Business Models, 1, 155–171. https://www.sci-hub.ru/10.1007/0-306-47548-0_8

[4] Chen, X., Wang, X., Gong, K. (2017). The Effect of Bidimensional Power Structure on Supply Chain Decisions and Performance. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 50(3), 1095–1110. http://dx.doi.org/10.1109/tsmc.2017.2704445

[5] Liu, F. (2019). Research on Procurement Cost Stickiness of Walmart from the Perspective of Supply Chain Management . East China Jiaotong University, 3. https://www.sci-hub.ru/10.27147/d.cnki.ghdju.2019.000034

[6] Ding, Q., Dong, C., Pan, Z. (2016). A Hierarchical Pricing Decision Process on a Dual-Channel Problem with One Manufacturer and One Retailer. International Journal of Production Economics, 175, 197–212. http://dx.doi.org/10.1016/j.ijpe.2016.02.014

[7] Wang, J. J., Xu, M. L. (2021). Decision-Making of Risk-Averse Closed-Loop Supply Chain Under Different Power Structures and Alliance Strategies. Chinese Journal of Management Science, 29(9), 111–122. https://www.sci-hub.ru/10.16381/j.cnki.issn1003-207x.2019.0440

[8] Choi, S. C. (1991). Price Competition in a Channel Structure with a Common Retailer. Marketing Science, 10(4), 271–296. https://www.sci-hub.ru/10.1287/mksc.10.4.271

[9] Chow, S. C. (1996). Price Competition in a Duopoly Common Retailer Channel. Journal of Retailing, 72(2), 117–134. https://www.sciencedirect.com/science/article/pii/S002243599690010X

[10] Wang, W. B., Da, Q. L., Nie, R. (2011). Pricing and Coordination of Closed-Loop Supply Chain Considering Channel Power Structure. Chinese Journal of Management Science, 19(5), 29-36. https://www.sci-hub.ru/10.16381/j.cnki.issn1003-207x.2011.05.012

[11] Wei, C. M., Li, Z. P., Fan, Z. (2018). Pricing Decision Research of Dual-Channel Supply Chain with Multiple Competing Retailers Under Different Game Frameworks. Operations Research and Management Science, 27(6), 63–74. https://qikan.cqvip.com/Qikan/Article/Detail?id=675493823&from=Qikan_Search_Index

[12] Li, M., Mizuno, S. (2022). Dynamic Pricing and Inventory Management of a Dual-Channel Supply Chain Under Different Power Structures. European Journal of Operational Research, 303(1), 273–285. https://www.sciencedirect.com/science/article/pii/S0377221722001709

[13] Zhang, W. Y., Liu, C. G., Li, F., et al. (2021). Impact of Channel Power Structure and Recycling Mode on Closed-Loop Supply Chain. Journal of Systems Engineering, 36(4), 495–508. https://www.sci-hub.ru/10.13383/j.cnki.jse.2021.04.005

[14] Kahneman, D., Knetsch, J. L., Thaler, R. H. (1986). Fairness and the Assumptions of Economics. Journal of Business, 285–300. https://www.jstor.org/stable/2352761

[15] Kanda, A., Deshmukh, S. G. (2008). Supply Chain Coordination: Perspectives, Empirical Studies and Research Directions. International Journal of Production Economics, 115(2), 316–335. https://www.sci-hub.ru/10.1016/j.ijpe.2008.05.011

[16] Du, S. F., Du, C., Liang, L., et al. (2010). Supply chain coordination considering fairness concerns. Journal of Management Sciences in China, 13(11), 41–48. https://www.CNKI:SUN:JCYJ.0.2010-11-006

[17] Zhang, X., Zhang, Q. (2017). Coordination Mechanism of Fresh Product Supply Chain Under Retailer's Fairness Concern. Journal of Systems Engineering, 32(4), 461–473. https://www.sci-hub.ru/10.13383/j.cnki.jse.2017.04.004

[18] Hu, B., Meng, C., Xu, D., et al. (2018). Supply Chain Coordination Under Vendor Managed Inventory-Consignment Stocking Contracts With Wholesale Price Constraint and Fairness. International Journal of Production Economics, 202, 21–31. https://www.sci-hub.ru/10.1016/j.ijpe.2018.05.009

[19] Jian, J., Zhang, Y., Jiang, L., et al. (2020). Coordination of Supply Chains with Competing Manufacturers Considering Fairness Concerns. Complexity, 2020, 1-15. https://www.sci-hub.ru/10.1155/2020/4372603

[20] Du, X., Zhao, W. (2021). Managing a Dual-Channel Supply Chain with Fairness and Channel Preference. Mathematical Problems in Engineering, 2021, 1–10. https://www.sci-hub.ru/10.1155/2021/6614692

[21] Wang, L., Jin, X. E. (2023). Analysis of Agricultural Product Supply Chain Decision-making under Different Dominant Modes with Fairness Concern. Logistics Technology, 46(21), 122–131. https://www.sci-hub.ru/10.13714/j.cnki.1002-3100.2023.21.031

[22] Wang, Y. Y., Li, J. (2018). Research on Dominant Modes of E-Closed-Loop Supply Chain with Online Platform Sales and Recycling Considering Fairness Concerns. Chinese Journal of Management Science, 26(1), 139-151. https://www.sci-hub.ru/10.16381/j.cnki.issn1003-207x.2018.01.014

[23] Wu, C. F., Lin, S. C., Xu, C. F. (2022). Pricing and Coordination Mechanism of Dual-Channel Green Supply Chain with Retailer's Fairness Concerns. Review of Economics and Management, 38(5), 112-123. https://www.sci-hub.ru/10.13962/j.cnki.37-1486/f.2022.05.009

[24] Zou, Q. M., Hu, L. Q., Zou, T. J. (2022). Pricing and Coordination of a Supply Chain with Fairness Concerns under Carbon Cap—and—Trade Mechanism. Chinese Journal of Management Science, 30(10), 142-154. https://www.sci-hub.ru/10.16381/j.cnki.issn1003-207x.2020.0550

[25] Cachon, G. P., Lariviere, M. A. (2005). Supply Chain Coordination with Revenue-Sharing Contracts: Strengths and Limitations. Management Science, 51(1), 30–44. https://www.sci-hub.ru/10.1287/mnsc.1040.0215

[26] Wang, Y. L., Yin, X. M., Zheng, X. Y., et al. (2023). Supply Chain Decision-Making Considering Green Technology Effort: Effect on Random Output and Retail Price with Fairness Concerns. Economic Computation & Economic Cybernetics Studies & Research, 57(1), 103–120. http://dx.doi.org/10.24818/18423264/57.1.23.07

[27] Wang, Y. L., Fu, H., Fang, X., et al. (2019). Supply Chain Coordination Strategy Following Output Disruption. Chinese Journal of Management Science, 27(7), 137–146. https://www.sci-hub.ru/10.16381/j.cnki.issn1003-207x.2019.07.013