

Research on Labor Conflict of Honda under Multi-Level Strength of Preference

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Keywords: Graph model, Strength of Preference, Stability analysis, Labor conflict

Abstract: With the continuous growth of China's national income, the problem of unequal distribution of labor income has become increasingly prominent. This paper focuses on the disputes on the income gap between Chinese and Japanese employees of Japan's wholly-owned company in China, Foshan Honda Auto Parts Manufacturing Co. Ltd. in Guangdong Province. The controversy stems from the strike of Chinese employees who are dissatisfied with wages. This paper takes this incident as an example. Firstly, the decision makers and their strategies and state transition map are modeled by using the GMCR model. Then the preference ordering method is used to sort the 3 decision makers' preference information in the model, at last the equilibrium solution is finally obtained through stability analysis.

1. Introduction

As China's GDP continues to grow, national income is also growing. However, the proportion of labor income to the overall national income is declining. In addition, there is a great gap between income distributions, especially the initial income distribution. This imbalanced pattern is not conducive to the healthy development of the national economy, and it also easily leads to many social contradictions. For example, in January 2013, at Foxconn Electronics Factory in Daxing District, Beijing, thousands of employees started a strike because they were dissatisfied with the Beijing factory's non-adjustment salary and did not issue a year-end award. People gathered in the restaurant and asked the factory executives to reply. The strike lasted until late at night. In November 2011, a foreign-owned company named Hebi in Shanghai did not have an early warning to relocate the factory. There was no reasonable compensation, and as a result, large-scale layoffs were caused, resulting in a large number of employees of unemployed, which triggered a strike of 1,000 people. In recent years, various regions of China, especially in Guangdong and the Pearl River Delta region, have suffered a series of strikes. In fact, strikes by employees will not only affect the normal operation of enterprises, but also harm the interests of enterprises, and indirectly infringe upon the interests of workers and laborers. In today's economic globalization, if we do not pay attention to the labor conflicts of such foreign-funded enterprises, it will easily lead to social unrest, which in turn will have an effect on China and the world trade.

In view of the strike problem of foreign-funded enterprises, the research results are quite abundant, but most of them use the game theory method to study from the perspectives of the salary system and labor relationship settlement, and then propose countermeasures for system construction. Few scholars use graph models for modeling analysis. This paper uses the method of conflict analysis graph model, firstly introduces the graph model and the multi-layer intensity preference, and then combines the specific cases of Honda strike to carry out modeling analysis, and obtains the final strength preference sequence and equilibrium solution of each decision maker.

2. Research method

Kilgour et al. (1987) created the conflict analysis graph model method and perfected it by Fang et

al. (2003). The graph model method of conflict analysis is actually a method of modeling and analyzing conflict behaviors. It can simulate the development of events on the basis of describing conflict events, dynamically track the transition of each decision maker in the conflict between feasible states, and finally find the equilibrium solution of the events. Thereby providing effective decision-making advice for each decision maker in the conflict event. This method only requires the decision maker to give relative preference information, which is relatively flexible and convenient to use. At present, the application of the graph model method has also expanded from the initial water resources field to various fields such as environment, trade, and war. This paper will use the graph model method to analyze and study the Honda strike events.

There is a preference for the choice of each state in a conflict event, the initial simple preference. However, in the actual conflict, sometimes the decision makers have a strong or weak preference for the preference between the two states, that is, a situation that strongly favors a certain state. Therefore, based on the simple preference, this paper adds strength preference to the real model. Specifically, using the model of simple preference sequence acquisition and intensity preference sequence acquisition proposed by Hou Haihang and Xu Haiyan (2016), according to the given statement, the score of each decision maker in each state is calculated, and the strength is firstly determined by the size of the score. The ordering of preferences, after the initial intensity preference sequence is obtained, is corrected by direct state ranking method, and finally the strength preference sequence of each decision maker is obtained. Then analyze the stability of each state, find the equilibrium solution in each state, and help decision makers in conflict to make the right decision.

3. Labor conflict modeling

3.1 Background introduction

The relationship between employers and employees is one of the important relations under the socialist market economic system. At the micro level, it is related to the immediate interests of labor, that is, employees and employers. At the macro level, it is also related to the development of social productivity, which in turn affects the harmony and stability of the entire society. Since the implementation of the reform and opening up, in order to optimize the investment environment, China has actively implemented the "introduction" strategy, and has fully opened up China's coastal port cities, and foreign investment has grown significantly. The entry of foreign-funded enterprises has provided rich jobs for China in the early stage of reform and opening up, eased the pressure of employment, promoted the economic development of various regions in China, especially coastal port cities, and strongly supported China's modern economic construction. However, with the continuous increase in the number of foreign-funded enterprises, the contradiction between employers and employees has become increasingly prominent. Domestic workers have committed suicides and strikes frequently, which has aroused the attention of academic circles and the whole society. A harmonious labor-management relationship is conducive to the long-term healthy development of individuals and enterprises, and is also conducive to the long-term stable development of China's economy and to ensure the long-term stability of the country. Therefore, the research in this paper has certain practical significance.

In May 2010, nearly 2,000 employees of Foshan Honda Auto Parts Manufacturing Co., Ltd. of Guangdong Province were collectively struggling due to dissatisfaction with wages and benefits. The difference between the salary of Japanese employees and Chinese employees is 50 times. Another cause is that Foshan City, Guangdong Province has stipulated that the original minimum wage should be adjusted from 770 yuan per month to 920 yuan per month from May 1, 2010, and on this basis, employees should be paid overtime according to the specific circumstances. Other subsidies, which constitute the entire income of the employees. Honda has transferred the original subsidy part of the wages of workers to the basic salary to meet the minimum wage required by the government, but there is no substantial change in the monthly wages of the workers. The company's move caused strong dissatisfaction among the workers. On the 17th, the work was stopped for one day, but the

senior staff promised to reply to the question and the workers resumed work. On the 21st, because some workers “have a salary increase of up to 200 yuan” and “the company has gone to other places to recruit employees”, the second round of strikes began. As a result, the company's executives proposed two solutions, but they were not recognized by the workers. At the same time, Honda's export car factory and other factories have been discontinued due to the disruption of spare parts supply due to the strike. On June 1, the general manager of the company arrived at the factory to appease the workers, promised to give a satisfactory answer, and requested to resume work the next day. In the end, after more than ten days of stalemate between the two sides, the two sides reached an agreement, wages and subsidies increased by 366 yuan, and the factory resumed production.

The strike has had a certain impact on Honda. According to Honda's current production of 650,000 vehicles a year, every day of production stoppage, it will reduce the production of 2,500 new cars. The two sides have been deadlocked for more than ten days before and after the strike. Honda Company The loss is huge. In recent years, China's economy has been developing steadily and steadily, but the strikes have continued. In particular, with the development of economic globalization, the number of foreign-funded enterprises in China has increased, and strikes have occurred frequently. How the management model, corporate culture, and salary structure of foreign-funded enterprises are organically integrated with China, and how the social wealth is distributed fairly and reasonably is a problem that needs to be considered and solved.

3.2 Labor conflict modeling

With the deepening of economic globalization and the strengthening of international cooperation, there are more and more foreign-funded enterprises in China. Driven by economic interests, companies want to reduce the cost of workers' wages as much as possible. On the part of workers, foreign companies are expected to provide more job opportunities while receiving relatively satisfactory compensation. Because there is no perfect institutional guarantee in the process of labor-management, it is easy for labor to adopt destructive behaviors that are dominated by emotions. Strike is one of the manifestations. It is impossible to carry out long-term stable cooperation and finally cause losses to both sides.

In the above-mentioned labor dispute conflicts of Foshan Honda Auto Parts Co., Ltd. in Guangdong Province, there are mainly three decision makers: Honda Auto Parts Company (DM1), Chinese employees (DM2) and third-party coordinators—the Chinese government (DM3)

Honda Auto Parts has two options. A1: Continue to maintain the current salary and welfare system for Chinese employees, and do not make positive changes; A2: Appropriately improve the labor income and welfare level of Chinese employees, try to achieve regardless of nationality, treat them fairly, and maintain corporate profits by reducing costs and other means. Chinese employees have three optional strategies. B1: Maintain the status quo, do not object to the existing labor income; B2: Actively improve their own level, improve labor efficiency, and then re-negotiate labor remuneration with enterprises; B3: Negative treatment, continue to force enterprises to increase labor compensation through strikes and other means. As a third-party coordinator, the Chinese government has two options. C1: Actively coordinate the handling, for Honda Auto Parts Co., Ltd., coordinate it to maximize the labor income of workers, improve the corresponding benefits of employees, treat all employees of different nationalities equally; for Chinese employees, encourage them to improve themselves On the basis of the technical level, reasonable rights are defended rather than passive strikes. In general, the Chinese government needs to introduce corresponding improvement policies on the basis of maximizing the interests of both parties; C2: Let the two sides develop and do not improve through policies and other means. The policy choices of the various decision makers are as shown in Table 1.

Table. 1 strategy selection table for decision makers of Honda labor conflict issue

Decision maker	selection	Strategy
DM_1	A_1	Continue to maintain the current salary and welfare system for Chinese employees, and do not make positive changes
	A_2	Appropriately improve the labor income and welfare level of Chinese employees, try to achieve equal treatment regardless of nationality, fairness, and other ways to reduce corporate income
DM_2	B_1	Maintain the status quo and not object to existing labor compensation
	B_2	Actively improve their own level, improve labor efficiency, and thus re-negotiate labor compensation with the enterprises
	B_3	Negative treatment, continues to force enterprises to increase labor Compensation through strikes and other means. As a third-party coordinator, the Chinese government has two alternative strategies
DM_3	C_1	Active coordination
	C_2	Let the two sides develop and do not improve through policies and other means

This conflict logically has three decision makers, a total of seven strategies. A total of 27 states, 128 states, are produced. But in fact, some states are not feasible. For example, Honda Auto Parts Co., Ltd. cannot choose two strategies at the same time; Chinese employees cannot choose anything in order to fight for their rights. Therefore, after the infeasible state is removed, the remaining 12 feasible states are shown in Table 2. Among them, "Y" means that the decision maker chooses the strategy, and "N" means that the decision maker gives up the strategy.

Table. 2 Decision Makers, Options and Feasible States

DM_s	Optios	s_1	s_2	s_3	s_4	s_5	s_6	s_7	s_8	s_9	s_{10}	s_{11}	s_{12}
DM_1	A_1	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
	A_2	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
DM_2	B_1	Y	Y	N	N	N	N	Y	Y	N	N	N	N
	B_2	N	N	Y	Y	N	N	N	N	Y	Y	N	N
	B_3	N	N	N	N	Y	Y	N	N	N	N	Y	Y
DM_3	C_1	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
	C_2	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y

Figure 1 depicts the state transition diagram mode for three decision makers. The circles represent 12 possible states, as shown in the example, different types of arcs represent state transitions of different decision makers. Among them, the arrow and the tail of the arc respectively indicate the initial state and the state in which the final transfer arrives. In the figure, a double-headed arrow indicates that the two states can be shifted from each other. A two-way arrow between the state and the state in the figure indicates either a transition from state 7 to state 8, or a transition from state 8 to state 7.

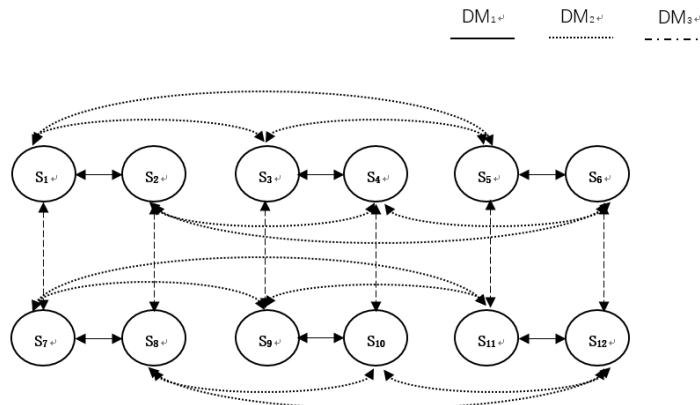


Figure. 1 State transition diagram

4. Sequence acquisition of intensity preference

According to the specific content of the Honda labor conflict, Table 3 lists the preference statements of the parties to the conflict and the corresponding explanations. The statement consists of the decision maker's strategy number and logical symbols. The order in which the statement is ordered represents the strength of a decision maker's willingness to make this statement. The declared value is "T" or "F". "T" stands for a statement that satisfies the decision maker, and "F" is the opposite. Among them, the "&M" symbol represents a decision maker has a strong preference for a statement. A "-" before a statement means that a decision maker does not want a statement to occur. The corresponding statements of the three decision makers and the explanations corresponding to each statement are shown in Table 3.

Table. 3 Statements and explanations of decision makers in the Honda labor conflict

Decision maker	statement	Explanation
DM_1	$-B_3 \& M$	Strongly do not want DM_2 strike
	B_1	Hope that DM_2 will maintain the status quo and will not object to labor compensation
	$A_2 \text{ IFF } B_2$	Hope DM_2 will re-negotiate labor compensation after improving its own technology
	A_1	Don't want to raise wages
	C_1	Hope the government can coordinate
	$C_2 \text{ IFF } A_1 \& B_1$	When DM_2 does not raise objections and does not raise wages, it is hoped that DM_3 will not intervene.
DM_2	$A_2 \& M$	Strongly hope that DM_2 will raise wages
	$C_1 \& M$	Strongly hope that DM_3 will actively coordinate
	$-B_1$	Objecting existing labor compensation
	B_2	Hope to improve their technical level
	$B_3 \text{ IFF } A_1 \& C_2$	If and only if DM_1 does not raise wages, DM_3 does not coordinate, continue to strike
DM_3	$-B_3 \& M$	Strongly does not want DM_2 to continue to strike
	$A_2 \& B_2$	Hope that DM_2 will improve itself while DM_1 raises wages accordingly.
	$-A_1$	Hope DM_1 raise wages
	$-B_1 \& C_1$	Actively coordinate when DM_2 disputes wages
	$-C_2$	Will not let the two sides develop
	$B_1 \text{ IFF } A_1 \& C_1$	DM_2 maintains the status quo if and only if DM_1 does not raise wages and DM_3 coordination

According to the acquisition method of the intensity preference sequence proposed by Hou Yuhang and Xu Haiyan, the "score" of each state of the decision maker i is defined by $\Psi(s)$, $\Psi_j(s)$ is the state's based on the declared value of Ω_i , k is given the number of statements made. Based on this, the score of each state is expressed by the following formula (1)

$$\Psi = \sum_{j=1}^k \Psi_j(s) \quad (1)$$

After adjusting the weights g times, the weight expression corresponding to each statement is obtained as the following formula (2):

$$W_j^{(R)} = \begin{cases} 2^{k-j}, & 1 \leq j \leq k \\ 2^{k-j} + 2^k, & 1 \leq j \leq 1 \\ 2^{k-j} + 2 \cdot 2^k, & 1 \leq j \leq 1 \\ \dots & \dots \\ 2^{k-j} + (g-1) 2^k, & 1 \leq j \leq 1 \\ 2^{k-j} + g \cdot 2^k, & 0 < j \leq 1 \end{cases} \quad (2)$$

The value of the states based on the statement j can be expressed as the following formula (4):

$$\Psi(s) = \begin{cases} W_j^{(R)} & \Omega_j(s) = T \\ 0 & \Omega_j(s) = F \end{cases} \quad (3)$$

In summary, according to formulas (1), (2), (3), a complete score of a certain state can be obtained, and then all states are sorted according to the score of the score obtained, and finally, the strength preference sequence of a certain decision maker is obtained. This article takes DM_1 as an example to find the state scores. First, the value of each declaration of DM_1 in each state is obtained, as shown in Table 4. According to the table, each state score can be obtained by combining equations (1), (2), and (3). The result is:

$$\Psi(s_1)=86: \Psi(s_2)=82: \Psi(s_3)=126: \Psi(s_4)=122: \Psi(s_5)=5: \Psi(s_6)=2: \Psi(s_7)=85: \Psi(s_8)=80: \Psi(s_9)=124: \Psi(s_{10})=120: \Psi(s_{11})=4: \Psi(s_{12})=0$$

Table. 4 The true and false value of the declaration in each state of DM1

	s_1	s_2	s_3	s_4	s_5	s_6	s_7	s_8	s_9	s_{10}	s_{11}	s_{12}
Ω_1	T	T	T	T	F	F	T	T	T	T	F	F
Ω_2	T	T	F	F	F	F	T	T	F	F	F	F
Ω_3	F	F	F	T	F	F	F	F	F	T	F	F
Ω_4	T	F	T	F	T	F	T	F	T	F	T	F
Ω_5	T	T	T	T	T	T	F	F	F	F	F	F
Ω_6	F	F	F	F	F	F	T	F	F	F	F	F

According to the numerical results, the intensity preference sequence is:

$$s_1 > s_7 > s_2 > s_8 \gg s_4 > s_{10} > s_3 > s_9 \gg s_5 > s_6 > s_{11} > s_{12}$$

According to the definitions of Hou Yuhang and Xu Haiyan's method, if $\Psi(s) - \Psi(q) \geq 2^k$, then connect with " \gg ". $s_8 \gg s_4$ In the intensity preference sequence of DM_1 belongs to this situation. By analogy, the final strength preference sequence of DM_2 can be obtained as:

$$s_4 > s_6 > s_2 > s_{10} > s_{12} > s_8 \gg s_3 > s_5 > s_1 > s_9 > s_{11} > s_7$$

The final strength preference sequence of DM_3 is:

$$s_4 > s_{10} > s_2 > s_8 > s_3 > s_1 > s_9 > s_7 \gg s_6 > s_{12} > s_5 > s_{11}$$

5. Stability analysis

This paper analyzes actual cases using various stability definitions under intensity preference. Hanouda (2004) et al. defines four stability cases for two decision makers under intensity preference, including Nash stability, general super rational stability (GMR), symmetric super rational stability (SMR), and sequence stability (SEQ). Subsequently, this definition was extended to multiple decision makers in 2006. After taking into account the strength of the preference, depending on the degree of counterattack, stability can also be divided into strong stability and weak stability. For a risk-averse decision-maker, if all his unilateral improvements from a certain state are strongly countered, that is, the state is optimal, it can be called strong stability. The meaning of weak stability can be analogized. The stability is divided into three table representations below. Among them, Tables 5, 6, and 7 respectively represent equilibrium solutions under general stability, strong stability, and weak stability. " \checkmark " in the table indicates that under the definition of such stability, a certain state is an equilibrium solution. "E" is an abbreviation for the English word "Equilibrium", which means equilibrium. The " \star " sign in the "E" column for each stability definition represents a state that is a balanced solution for all decision makers.

As can be seen from Table 5, state 4 is an equilibrium solution under the four stability definitions of Nash, GMR, SMR, and SEQ. States 2, 3, and 8 satisfy the three stable GMR, SMR, and SEQ, and states 1, 5, 6, 9, and 10 only satisfy the two definitions of GMR and SMR. States 11, 12 do not satisfy any of the standard stability definitions. Under state 11 and state 12, the decision-making scheme that the parties are not willing to see, that is, the strike, is selected. At this time, the decision-making plan that allows both parties to develop and not improve through policies and the like is selected. At this time, whether or not there is an increase in labor compensation, there is no optimal solution for all parties to the conflict. Therefore, states 11 and 12 do not have an equilibrium solution under the definition of stability. It can be seen from Table 6 that states 2, 4, and 8 are equilibrium solutions defined by strong stability. For state 2 and state 8, it is willing to re-negotiate labor remuneration, but at this time, the status quo is maintained and no positive changes are made. Therefore, this state cannot be stabilized for a long time, and then a negative treatment method is selected. States 3, 9, and 10 only satisfy the two definitions of GMR+ and SMR+. At this point, states 1, 5, and 6 are no longer equalization solutions under any strong stability definition. For state 1, we maintain the status quo and do not coordinate. In general, the decision-making tripartite has not chosen a positive decision-making plan. There is a strong desire to raise wages, so State 1 cannot maintain strong stability. For states 5 and 6, strikes are chosen, and this is a situation that is strongly undesirable and therefore, these two states are also unstable. There is no equilibrium solution under the definition of weak stability.

In summary, state 4 is the optimal solution of this conflict. In state 4, DM_2 actively improves its own technology and improves labor productivity, thus re-negotiating labor compensation with enterprises. At this time, DM_1 also actively improves the labor compensation of Chinese employees and maintain corporate income through other means. As a third party, DM_3 also actively coordinating between the two decisions makers. Therefore, each decision-making scheme of state 4 can enable each decision-maker to obtain a satisfactory solution and effectively resolve conflicts between parties.

Table. 5 Equilibrium solution under standard stability

State	Nash				GMR				SMR				SEQ			
	DM_1	DM_2	DM_3	E	DM_1	DM_2	DM_3	E	DM_1	DM_2	DM_3	E	DM_1	DM_2	DM_3	E
s_1	√		√		√	√	√	★	√	√	√	★	√		√	
s_2			√		√	√	√	★	√	√	√	★	√	√	√	★
s_3		√	√		√	√	√	★	√	√	√	★		√	√	
s_4	√	√	√	★	√	√	√	★	√	√	√	★	√	√	√	★
s_5	√		√		√	√	√	★	√	√	√	★	√		√	
s_6			√		√	√	√	★	√	√	√	★			√	
s_7					√		√		√		√		√		√	
s_8					√	√	√	★	√	√	√	★	√	√	√	★
s_9		√			√	√	√	★	√	√	√	★		√		
s_{10}	√	√			√	√	√	★	√	√	√	★	√	√		
s_{11}	√				√				√				√			
s_{12}						√	√			√	√				√	

Table. 6 Equilibrium solution under strong stability

State	GMR ⁺				SMR ⁺				SEQ ⁺			
	DM_1	DM_2	DM_3	E	DM_1	DM_2	DM_3	E	DM_1	DM_2	DM_3	E
s_1	√		√		√		√		√		√	
s_2	√	√	√	★	√	√	√	★	√	√	√	★
s_3	√	√	√	★	√	√	√	★		√	√	
s_4	√	√	√	★	√	√	√	★	√	√	√	★
s_5	√		√		√		√		√		√	
s_6		√	√			√	√				√	
s_7	√		√		√		√		√		√	
s_8	√	√	√	★	√	√	√	★	√	√	√	★
s_9	√	√	√	★	√	√	√	★		√		

s_{10}	√	√	√	★	√	√	√	★	√	√		
s_{11}	√				√				√			
s_{12}		√				√						

Table. 7 Equilibrium solution under weak stability

State	GMR				SMR				SEQ			
	DM_1	DM_2	DM_3	E	DM_1	DM_2	DM_3	E	DM_1	DM_2	DM_3	E
s_1		√				√						
s_2												
s_3												
s_4												
s_5		√				√						
s_6	√				√							
s_7												
s_8												
s_9												
s_{10}												
s_{11}												
s_{12}			√				√					

6. Conclusion

This paper combines the strategic priority ranking method with the intensity preference and applies it to the labor conflict between Chinese employees and enterprises in Guangzhou Honda. Firstly, the conflict graph model is established. Secondly, the strength preference ranking of each decision maker in the conflict is solved. According to the stability definition after sorting and expansion, the equilibrium solution under the definition of general stability and strong and weak stability is obtained. Finally, the analysis is obtained. The optimal solution to the secondary conflict event helps the parties to the conflict to choose the best strategy in practice. This paper adds strength based on the simple preferences of decision makers in the conflict, and distinguishes the degree of preference or disgust to more accurately describe the attitudes of decision makers in conflict events. In recent years, China's labor conflicts have been frequent. In the midst of conflicts, enterprises should consider long-term stability and development, adopt a positive negotiation attitude, and appropriately meet the needs of workers. Workers can't take the overly aggressive approach to dealing with problems such as strikes. Instead, they should first think about how to improve themselves to obtain capital for renegotiation with companies in order to achieve long-term development of their careers. In addition, the government as the coordinator of the incident cannot allow the two sides to develop, but should actively coordinate and play the role of "lubricant" in the conflict, promote the early resolution of contradictions, promote economic development, and maintain the good functioning of the social system.

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