Research on International Police Cooperation from the Perspective of Game Theory — Take Extradition Cooperation as an Example

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Abstract

The article analyzes extradition cooperation in international police cooperation from the perspective of game theory, and discusses the supervision mechanism, responsibility mechanism and interest mechanism of extradition cooperation based on "collaborative game", "coordination game" and "guarantee game". It proposed optimization paths such as accelerating the signing of treaties, expanding the scope of application, simplifying extradition procedures, using alternative measures, and relying on international organizations, in order to help my country improve its extradition mechanism and strengthen the effectiveness of overseas pursuit of fugitives.

Keywords: game theory, international police cooperation, extradition cooperation

1. Raising the Question

While globalization has brought about the free flow of people, goods and capital, it has also made transnational crime a norm. It is not uncommon for suspects to flee to other countries after committing crimes in an attempt to avoid legal sanctions. The rampant transnational crime has given rise to the budding and development of international police cooperation. More and more countries have realized that police law enforcement should not be limited to one country. International police cooperation has gradually become the most direct way for countries to combat transnational crime and maintain public security. One of the effective ways. Extradition refers to a kind of international judicial cooperation in which the government of a country requests the government of the country where the criminal suspect is located to transfer the suspect to the country where the crime was committed or the country of nationality. Extradition cooperation is an important part of international police cooperation. Extradition is an important part of international police cooperation. Whether it is successful or not is related to the effectiveness of overseas pursuit and the ultimate realization of the legal purpose. Due to the different legal systems and judicial concepts of various countries, extradition cooperation is interfered by political factors, human rights factors and other issues, as well as restricted by principles such as "no extradition of political prisoners" and "no extradition of death row criminals". At a time when transnational crimes are becoming more serious and extradition cooperation has

repeatedly suffered setbacks, how to improve the extradition mechanism and strengthen overseas pursuits has become a topic that needs urgent thinking and research.

Game theory is a theory that studies conflict and cooperation between rational decision-makers. It mainly analyzes how decision-making subjects make reasonable decisions that are in their own interests under the conditions of mutual constraints and interactions. American scholar Frederic Lemieux believes that international police cooperation is a "dynamic mechanism" between two or more police entities for the purpose of sharing criminal intelligence, carrying out investigation activities, or ultimately arresting criminal suspects. Carrying out intentional or unintentional interactive activities for the common purpose of arrest, etc., is essentially a dynamic process of making choices around national sovereignty and common interests. It is inherently consistent with game theory, which provides insights for the application of game theory in analyzing extradition cooperation. possibility.

2. Model Construction of Extradition Cooperation from the Perspective of Game Theory

Table 1. Game 1

Country B Country A	0	1
0	(4, 4)	(-1, -1)
1	(-1, -1)	(-4, -4)

Game 1 is a collaborative game. Country A and Country B represent two game parties, with two optional strategies: "accept cooperation (0)" and "reject cooperation (1)" respectively. Both countries A and B have the need to carry out extradition cooperation and extradite criminal suspects from each other's countries. However, each country is worried about whether the other country may infringe on its country's sovereignty and interests during the cooperation process. Therefore, both countries can choose to accept or refuse cooperation. If both parties are willing to cooperate, all work is carried out smoothly, and the absconding suspect can be successfully extradited back to the country for trial, both parties can obtain 4 units of benefits. In a situation where one party is willing but the

other refuses to cooperate, one party often refuses to cooperate for various reasons, and not all suspects can be successfully extradited. In this case, it is assumed that the benefits of each party are -1. However, if both parties refuse to cooperate, criminals may use this loophole to evade legal sanctions, making transnational crimes more egregious and difficult to control. At this time, the benefits of both parties are -4. In Game 1, cooperation is a pure Nash equilibrium, that is, the optimal solution. Regardless of whether the other party accepts or rejects, the best choice for the country is always cooperation.

Table 2. Game 2

Country B Country A	0	1
0	(3, 3)	(-2, 4)
1	(4, -2)	(1, 1)

Game 2 is a collaborative game. Country A and Country B represent two game parties, with two optional strategies: "cooperation (0)" and "defection (1)" respectively. Game 2 is essentially the classic model "Prisoner's Dilemma". According to the reward structure, the optimal choice for each player is to defect. However, when the defect strategy is adopted at the same time, the equilibrium result is not optimal for both parties. When both parties choose "cooperation" at the same time, the collective benefit reaches reached the highest value. This creates a "conflict between individual rationality and collective rationality." Since betrayal can bring immediate benefits, countries have strong incentives to choose betrayal rather than cooperation. Therefore, measures are needed to supervise and even sanction state behavior, which can include signing a treaty in advance or forming an international organization for coordination. Defection will cause greater losses, and treaties and organizations can ensure to a certain extent that the occurrence of defection is reduced and cooperation can be continued. International conventions such as Article 16 of the United Nations Convention against Transnational Organized Crime, Article 44 of the United Nations Convention against Corruption, and Article 6 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and

Psychotropic Substances have certain regulations on extradition.

Table 3. Game 3

Country B Country A	0	1
0	(4, 2)	(-4, -4)
1	(1, 1)	(2, 4)

Game 3 is a coordination game. Country A and Country B represent two game parties and have two optional strategies, "0" and "1" respectively. Among them, Country A likes 0 and Country B likes 1. The prototype of Game 3 is "Couple War": a couple has different hobbies, the boy likes to watch football, the girl likes to watch dramas, so how do they spend their weekend time? Although boys want to watch football together and girls want to watch dramas together, what they least want to see is spending this rare weekend time separately if they are separated. There are two equilibrium results in Game 3, either of which will be what one of the parties wants to happen, that is, A and B respectively want the results to be (0, 0) and (1, 1). The dilemma is which equilibrium result can win. If everyone insists on their preferred outcome, it is easy to fall into endless internal friction, but just like the name "coordination game", if an agreement can be reached in advance, once the equilibrium result is confirmed, theoretically no party will go back. Betrayal, which is the most ideal state, highlights the necessity and importance of signing an extradition treaty in advance.

Table 4. Game 4

Country B Country A	0	1
0	(4, 2)	(-4, -4)
1	(1, 1)	(3, 4)

Table 5. Game 5

Country B Country A	0	1
0	(5, 2) =》 (4, 1)	(4, 3) =》 (3, 3)
1	(6, 1) =》 (6, 0)	(0, 0) =》 (0, 0)

Game 4 is based on Game 3, changing the lower right corner of the matrix from (2, 4) to (3, 4). The relative dominance of women in romantic relationships is assumed to mirror the relative dominance of great powers in international relations. At this time, the original two equilibrium results are broken, and (3, 4) becomes a better choice than (2, 4). After all, 7 is always greater than 6, which reflects that in the process of cooperation, the benefits tend to favor big countries, resulting in small countries. Enthusiasm to participate is low. When formulating extradition rules and carrying out extradition cooperation, small countries often have no choice but to passively accept the requests made by big countries.

Game 5 shows the opposite situation. Country A and Country B have two alternative strategies: "action (0)" and "wait (1)" respectively. Game 5 is also called the "Smart Pig Game": There is a big pig and a small pig in the pig pen. There is a trough on one side of the pig pen and a button on the other side. Pressing the button will give you 7 units of food. It flows into the trough, but each time you press the button, you need to consume 1 unit of food. In order to eat food, the big pig and the little pig have two strategies to choose from: one is to press the button themselves and then return to the trough to eat; the other is to wait for the other party to press the button and the food flows into the trough. If you press the button at the same time, the big pig can eat 5 units of food, and the little pig can eat 2 units of food, and each consumes 1 unit, that is (4, 1); if the big pig presses the button, because the round trip delay can only eat 4 units of food and consume 1 unit of food, while the piglet can eat 3 units of food by staying at the trough without consuming any energy, that is (3, 3); If the little pig presses the button, it can only eat 1 unit of food and consume 1 unit of energy due to the round trip delay, while the big pig can eat 6 units of food by staying at the trough without consuming any energy, that is (6,0). Of course, if both pigs choose to wait without pressing the switch, neither pig will be able to eat food, that is, (0, 0).

It is not difficult to find through the profit matrix that the best strategy from Xiaozhu's perspective is to wait. Even if you press the button, its benefits can only barely offset the food consumption. Then, when the little pig's strategy has been determined, in order for the big pig to eat the food, the big pig can only press

the button. In other words, the Nash equilibrium of Game 5 is that the big pig acts and the little pig waits. This is a typical equilibrium of "more work, less gain, less work, less gain". If the big pig represents a big country and the little pig represents a small country, and they are placed in the same game environment, this typical "free-riding phenomenon" will occur. Interpol provides services to its 196 member countries relatively fairly, but its main source of funding comes from developed countries such as the United Kingdom, Germany, and Canada, and developing countries often default on their dues. Big countries have assumed more obligations, but in many cases the benefits achieved are not particularly impressive, which will inevitably affect their enthusiasm for participation. In extradition cooperation, the responsibilities and obligations of big countries and small countries should be balanced as much as possible. Big countries take the lead in shouldering more work, and small countries also need to actively participate.

Table 6. Game 6

Country B Country A	0	1
0	(4, 4)	(2, 0)
1	(0, 2)	(2, 2)

Table 7. Game 7

Country B Country A	0	1
0	(7, 1)	(2, 0)
1	(0, 2)	(2, 2)

Game 5 is a guaranteed game. Country A and Country B represent two game parties, with two optional strategies: "cooperation (0)" and "defection (1)" respectively. Game 5 is also called the "Deer Hunting Game": There are two hunters in the village, and they have two options: rabbit hunting and deer hunting. Rabbit hunting can be completed alone, and each person can get 2 units of income per day; deer hunting needs to be completed cooperatively. Each person can earn 4 units of income per day. There are two Nash equilibrium points in Game 5: two hunters hunt rabbits separately, and each person gets 2 units of income; two hunters

cooperate to hunt deer, and each person gets 4 units of income. There are two Nash equilibria. This means that there are two outcomes, and no matter which outcome occurs, it cannot be determined by the Nash equilibrium itself. But obviously, from an individual or overall perspective, the benefits of cooperative deer hunting are greater than the benefits of individual rabbit hunting, and the optimal strategy must be cooperative deer hunting.

However, there is an implicit premise in Game 5: the abilities and contributions of the two hunters are equal, and both parties can and are willing to share the prey equally; but the reality cannot be that simple. If the income distribution is based on ability and contribution, then the greater the ability, the greater the contribution. The Orion will ask for more points, and the distribution result may appear as shown in Game 6 (7, 1). Although the overall interests have not changed, for the weaker party, the benefits of hunting rabbits alone are greater than the benefits of hunting deer cooperatively. After weighing the balance, he may refuse to cooperate, leading to the breakdown of cooperation, and collective rationality cannot be realized. Extradition is important and necessary, and the possibility of win-win cooperation also exists. The benefits of cooperation for all parties may be greater than the benefits of fighting alone. However, in the process of benefit distribution, a scientific and reasonable distribution mechanism should be established to ensure that the benefits of cooperation are greater than those of refusal to cooperate. Only in this way can cooperation reach Pareto optimality and ensure long-term stability of cooperation.

3. Optimized Paths for Extradition Cooperation

3.1 Speed up the Signing of Treaties

Extradition treaties are the basis for extradition cooperation. As of September 2023, China has concluded a total of 60 bilateral extradition treaties with other countries. Compared with the number of European and American countries, which is around 100, there is still a certain gap, and most of them are Asian and African countries. Many fleeing people choose to go to the future. Countries that have signed treaties with our country, such as the United States, Canada, and New Zealand, have brought resistance to our country's overseas pursuit of fugitives. Therefore, it is necessary to conduct

consultations and negotiations on extradition cooperation with more countries, enhance mutual trust, conclude extradition treaties as early as possible, and create favorable conditions for extradition cooperation and combating transnational crimes.

3.2 Expand the Scope of Application

In order to protect the human rights of extradited persons, various countries have stricter review of extradition, and extradition is also subject to many restrictions. For example, the "double criminality" principle of extradition can only be implemented when the crime of the person being requested to extradite constitutes a crime according to the laws of both the requesting country and the requested country and should be punished with a certain penalty. Because many countries do not criminalize gambling, pornography and other behaviors, my country's extradition applications for such crimes have repeatedly been rejected. Article 44 of the United Nations Convention against Corruption states that as long as the crime is stipulated in the Convention, even if the other country has not convicted the crime, it can still seek extradition, which weakens the rigidity of the "double criminality" principle. In practice, regarding other restrictions such as "no extradition of political prisoners" and "no extradition of death row prisoners", the flexibility and effectiveness of extradition can also be improved through case-by-case negotiation.

3.3 Simplifying Extradition Procedures

To ensure the interests of all parties and for the purpose of improving efficiency, attempts can be made to simplify extradition procedures on the basis of existing treaties. Traditional extradition takes a long time, has many variables, and has cumbersome and complicated procedures. Simplified extradition improves work efficiency on the basis of protecting the basic rights and interests of the extradited person. Article 13 of the "Extradition Treaty between China and Peru" stipulates "simplified transfer", which is our country's standard. It is a useful attempt to simplify extradition procedures, and other countries can also add relevant provisions on simplified extradition on the basis of existing treaties.

3.4 Use Alternative Measures

Alternative measures to extradition are considered actions taken to achieve the purpose of arresting, trying or punishing criminal suspects when extradition cooperation cannot be carried out or for other purposes, including measures such as the repatriation of illegal immigrants, prosecution in other places, and persuasion to return. In recent years, Laos and Myanmar have handed over a large number of telecommunications and network fraud suspects to China. The Chinese government has canceled their passports, causing them to lose their legal residence status abroad. Laos and Myanmar then handed over these "criminal suspects" to China in the form of repatriation. This is the repatriation of illegal immigrants, which uses the provisions of the immigration law on illegal immigrants. Because it can achieve the same effect as extradition, it is also called de facto extradition. It is widely used because of its simplicity, speed, and low difficulty in cooperation. In the "Hundred Red Notice Personnel" overseas pursuit of fugitives, persuasion to return has also been widely used, and more than 70% of fugitive suspects have been successfully persuaded to return to the country.

3.5 Relying on International Organizations

As the world's largest law enforcement cooperation organization, although the red notice issued by Interpol does not have legal effect, it is highly recognized by many countries, especially African countries, and is basically regarded as an arrest warrant. However, it has not yet signed an extradition treaty with our country. For countries, the Interpol channel is also one of the most convenient and effective methods; at the regional level, the European Arrest Warrant is a new model of criminal judicial cooperation within the EU for the arrest and transfer of suspects. EU member states only need to provide Arrest and transfer can be carried out by issuing a European Arrest Warrant by the executing country. This provides a model for my country to carry out international extradition cooperation. It can be used in the two leading organizations — the Shanghai Cooperation Organization and the Lancang-Mekong Integrated Law Enforcement and Security Cooperation Center. Try to implement this regional arrest warrant system to conduct border extradition cooperation more efficiently.

Fund Project

References

Chen Yue. (2019). *International Politics*. Beijing: Higher Education Press, 183-186.

Duan Houzhuang. (2017). Research on international police cooperation from the perspective of game theory. Beijing: People's Public Security University of China, 40-46.

Frédéric Lemieux. (2016). *Theory and Practice of International Police Cooperation*. Beijing: China People's Public Security University Press, 1.

Wang Lei, Wang Qichao. (2021). A review of domestic and foreign research on international police cooperation. *Journal of Beijing Police College*, (1), 72.

Yu Wenpei. (2020). European arrest warrant from the perspective of international criminal cooperation. *Journal of Heilongjiang Provincial Political and Legal Management Cadre College*, (3), 102-104.

Zhang Huimiao. (2023). Research on the legal mechanism of international cooperation in extradition in my country's overseas pursuit of fugitives. Liaoning: Dalian Maritime University, 36.

Zhao Yu. (2019). *Special Research on International Law Enforcement Security Cooperation*. Beijing: China People's Public Security University Press, 144-146.