

THE IMPACT OF NORDIC SOCIAL WELFARE IN GLOBAL PEACE

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Abstract. One of the important human needs peace and security. By studying the Nordic social welfare model with the tools of game theory, our goal is to spread peace and security in large areas of the world. In this article, the evolution of the Nordic model has been studied using the prisoner's dilemma and the stag hunt games. In the end, we show that with this social welfare model, several percent of world peace will be established.

Keywords: game theory, nordic model, prisoner's dilemma game, stag hunt game

1. INTRODUCTION

One of the societies' concerns is the creation of an international community full of peace which is supporter of welfare and individual and collective progress. All countries regardless of their attitude, culture and religion, have a model for achieving to this aim and among these models, four models are the most dominant model in the world including the Angelo-Saxon model, the Continental model, the Mediterranean model and the Nordic model.

The experiences of the European Union (EU) Member States in proposing and implementing of the social-security policies are discussed with the names of its models including the Angelo-Saxon model, the Continental model, the Mediterranean model and the Nordic model, mainly within its main framework. The researches show that the Nordic welfare model is able to secure the level of welfare and social justice with the lowest cost to public sector resources for inhabitants in Nordic countries which are in the level of more costly Continental model in the terms of quality. However, the main reason of being inapplicable of social patterns, applied in sparse Nordic populated countries, in densely populated European countries is social and cultural heterogeneity.

Since classified countries are all members of UN based on above mentioned models, it means, they all have commitments, also have actually similar aims in the areas such as education, hygiene, environment, elimination of discrimination, emigration, social security, etc. They are determined to "development and promotion of public knowledge by creating broad access to education with continual updating, increasing the level of employment, improving working conditions and living conditions, improving the work environment and protection of labors' health and safety, increasing labors' knowledge and offering necessary advice to them, restoring excluded people to the labor market and creating equal employment opportunities and circumstances for men and women in the labor market" which are supported by these models (Coate, 1995), (Ketels, 2008), (Brandt and Svendsen, 2010).

Practically, each one of these models face trouble in reaching to the designed horizon against poverty and unemployment, in some degrees, and economic analysts and policy-makers, exactly for that reason, in all UN Members States, strongly need to assess the structure modification and reorganization in

their social security systems. In the previous studies commissioned by The European Commission, one of the remarkable points is the fact that the Nordic social security model with the highest efficiency is able to provide a level of social justice for people, which is evaluated in the same level with the costly Continental model in the terms of quality. Although, it is true that the implementation of this model has a lot of difficulties and problems for all nations, it is the best model for providing welfare and social security, due to its structure. In one hand, determined values in this model are much closed to moral and religious principles of different religions (particularly Islam); for this reason it can be welcomed in all countries if it implements properly. In the research carried out in Iran, "where is the most Islamic country?" the used variables in this study are based on Quran and Prophet Sunnah in the political-legal, economic and environmental aspects and 113 indexes were examined, totally. The interesting result is that New Zealand got the first rank and Scandinavian countries got the third rank and there is no Islamic country up to 37th rank.

Table 1. 2012 ranking

2012 ranking							
Overall rating	Country	The global competitiveness	Ease of trade	Global innovation	Declared corruption	Human development	welfare
1	Sweden	4	13	2	4	10	3
2	Denmark	12	5	7	1	16	2
3	Finland	3	11	4	1	22	7
4	Norway	15	6	14	7	1	1
5	Swiss	1	28	1	6	11	9
6	New Zealand	23	3	13	1	5	5
7	Singapore	2	1	3	5	26	19
8	USA	7	4	10	19	4	12
9	Netherlands	5	31	6	9	3	8
10	Canada	14	17	12	9	6	6
11	Hong Kong	9	2	8	14	13	18
12	Australia	20	10	23	7	2	4
13	Britain	8	7	5	17	28	13
14	German	6	20	15	13	9	14
15	Ireland	27	15	9	25	7	10

2. NORDIC MODEL AND SCANDINAVIAN (NORDIC) COUNTRIES

The Northern region of Europe is called Scandinavian. It includes Sweden, Norway, Denmark, Finland, Iceland and Faroe islands. Their language is derived from Germanic language. In ancient times Scandinavians who were descended from Vikings, attacked to other lands by ships and despoiled their holding and properties. Northern European whopping people were very superstitious and worshiped Vikings gods such as Thor, Odin and Fenrir the Giant Wolf. Vikings believed if they were killed in war their soul would be gone into Valhalla

(Vikings heaven) (Buchanan, 1975), (Butler, 1994), (Brandt and Svendsen, 2010).

However, their grandchildren have tremendous difference with them. Scandinavians known as Nordic are calm and peaceful and at the same time thoughtful people, not only they don't despoil, but also by relying on their unique economic system their citizens live on welfare without any expectations to others properties. By evaluating factors such as economic, entrepreneurship, governing system, education, health, personal and social security, individual freedom and social capital among all countries in the world, Legatum Institute publishes a list in which introduced the happiest countries in the world. We understand, by a brief look at this list, from 6 aforementioned Nordic countries, in 2014, Norway got the 1st; Denmark the 4th, Sweden the 6th, Finland the 8th and Iceland got the 11th rank, respectively. What is your opinion about the people who were living by mace and sword, now they reached to the point that they can govern their frigid countries so good?

If you would like to have a country that poverty, discrimination and ignorance do not lead your people always to fight with each other, you must establish justice in all social, economic, and political levels; If you would like to eliminate the rotten ideas from your people believes, you must boost modern science and universities; If you would like that the outbreak of a disease doesn't frighten people, you must exert the health system infrastructure in a good way; If you would like your people have mature attitude, you must value personal freedoms; and finally governing all these affairs needs a stable government which serves people without any motto. The Scandinavians' state system which they use to rule their countries is known "Nordic Model" and they call it "friendship system". The priority of public interest over personal interest is the most striking feature of this system.

Let us compare the Nordic system with American capitalism system. If you were Bill Gates with \$10 million per month or if you were his personnel by 10 thousand dollars per month, in the USA, the Tax Office will tax 10% of your salary as a tax to use for the public interest. Certainly, day by day, the rich people will become richer in this system, and the middle class should nonstop roil the money. After a while, the society will be divided into two classes; low income and rich; and the low incomes will be under pressure, who are in the majority, and will do illegal acts for earning and finding more welfare; after a while the social solidarity will collapse and some movements such as 99% Movement will be

created in the USA protested against these injustice. Now you come and tell that I earn this money in trouble, do you think who is living in a hardship, can believe it?

However, 40% -60% of your income will be subjected to taxation by government in some countries such as Norway, Sweden and Denmark, that of course, people will pay it willingly without any violation or objection because they know it is no need to pay any money when they go to hospital or university. The more you earn, the more taxes you must pay, so there is not any social inequality in this system and if you have chicken for dinner tonight, you will assure that the rest of people do not looking for something in garbage cans. When there is no poverty and everyone is spender, most parts of crimes will be blurred and the society will face security and people have time to do more important activities. They can allocate their time, for example, to acquire science and knowledge for itself (not for taking a degree and finding administrative tasks and doing more comfortable tasks and earning more money), which lead to further developments. If you grow up with Scandinavian dominated culture you never have greed and do not need to pull the rug from under someone, due to meritocracy system you have well job security, to the extent that, Sweden government ensure if you lose your job for any reason, 80% of your salary will be paid to you until 200 days as unemployment insurance. If it continued to other 100 days, this will be reduced to 70% and if it will be continued, it will be reduced to 60% (although in such community, the dominant culture is in the way that its people don't like to sleep at home and earn easy money from the government by archness.) in other words, if a baby was born in these countries, automatically passed two steps of Maslow's pyramid (is known as happiness pyramid) before discharging from hospital.

Compare it with countries in which power and wealth is monopolized by a few and rest of people is deprived of national interests and no matter how hard they work, they won't find welfare and peace unless they enter the power and wealth cycle.

It is interesting that economists thought Scandinavian countries will be annihilate, during the peak flow of the financial crisis in Europe, because their economy is dependent to taxation. Exactly so, but conversely of this fact, happened. Countries such as England, France and Spain had to put pressure on the middle class and labors and increased taxation in order to eliminate the crisis, even they quit some employers. In these countries, this strongly led to people dissatisfaction; even the

domain of these economic problems took the social problems to the extent those movements in England took racism state and in the streets, labors were shouting: "Why do you employ foreigners?" and in some cases in France, employers were gotten hostage by labors to retrieve their rights. If you hit the presidents and prime ministers of these countries by rotten tomatoes you will change to a national hero. On the other hand, in USA, pros and cons wanted to fight each other in Senate to ratify the health insurance for the public.

Typically, Scandinavian countries (Sweden, Norway, Finland and Denmark) are well-known due to their policies and high standards for supporting family and desirable welfare level. These countries are among the richest countries in the world and at the same time, government purposely distributes a significant proportion of its economic resources "family policy" among who mostly need economic. There are various programs in these countries as category, but the most important ones are paternal leave program which allow working parents spend more times with their children and children's pension scheme which help parents provide their children expenditure.

Even more interestingly, is that their police never carry gun in normal state and they do not have any death penalty at all. As if, many years ago a man in full health killed 70-80 young and the court sentenced him to capital punishment, 21 years in prison. The fact is Norwegians ever and never do not believe in "punishment" and call this era as "revival" era and attempt to prepare the problematic person to return to the society. In order to be shocked, it is enough to know that it is not necessary to pass the entire period to be repent; and after 10 years you can be discharge conditionally if you show a good manner. Indeed, according to manual statistics (except special cases such as aforementioned one), they could reduce the crime rate and a murder occurs every three years (Brandt and Svendsen, 2010), (Maynard, 1936).

Each year, the International Transparency Institute declares the classification of different countries in terms of the official and national corruption indexes.

The senior researcher of this Institute, Mrs. Mary Chen, studied the main reason of Scandinavian countries' leadership and stated their instructions for other countries in its website:

She writes: along strict rules against corruption, in these countries, there is a kind of wide consensus for fighting against corruption which contains civil partnership and transparency mechanisms such as

exposing some financial information. Preliminary findings of this study on Finland, Denmark and Sweden show that in these countries the consensus and national convergence are relatively good. In addition to serious commitment by political authorities against corruption phenomenon in Finland, Sweden and Denmark (and partly in New Zealand), all countries have some common features which lead to reducing the corruption rate in these countries. The recent studies show that the press freedom (freedom of the media) has a positive relationship with controlling corruption in countries with democratic systems. Finland, Denmark, Sweden and New Zealand have all the high GDP (Gross Domestic Product), low discrimination rate; illiteracy rate is close to zero and cases such as equal opportunities for women and men and free circulation of information have the great importance (Bowles, Fong and Gintis, 2006), (Coase, 1937), (Brandt and Svendsen, 2010).

Moreover, all these countries have the desirable performance in the terms of effectiveness and openness of government. In these countries, in fact, controlling corruption is not limited to these cases. Perhaps, to say, this procedure has historical roots in these countries. Also, in Sweden, the principle of public access to official documents is one of the oldest rules, in its own, and the traces go back to 1766. Most of the European countries enforced censorship law, at that time, although there was public access to official documents in Sweden and this helps to increasing transparency. In terms of openness of government, civil activities and social trust since the past, the countries are in the top of International Transparency Institute's list were in the good position. In fact, the existing transparency mechanism leads even the ordinary citizens consider the statesmen performance and make decision for activities and ask the some questions.

The precise analysis of these factors can help other countries to increase the transparency in different domains by using the similar practices, and gait strongly to controlling corruption. The recent study on Finland Model shows that this model is far less costly and its implementation and applicability of this model in different political conditions is easier because it is a bottom-up model and contains the chromatic role of civil partnership and non-governmental organization (Bowles, Fong and Gintis), (Coate, 1995), (Nobel Foundation, 1974), (André, 2006), (Zak and Knack, 2001).

3. METHOD

By examining the Nordic model and comparing other models in providing the social welfare and achieving to a secure and healthy community, we will show that this model along evolutionary form of these two games are applicable all over the world. We will show which model is much close in achieving to a secure and peaceful world, by examining these two games (Smith, 2008), (Fisher, 2008), (Osborne, 2000), (Neumann and Osborne, 1994).

3.1. Prisoner's Dilemma Game

The main form of the prisoner's dilemma game which is applicable in every field is as follow:

Table 2. The prisoner's dilemma (PD) payoff matrix

		2	
		H	D
1	H	R , R	T , S
	D	S , T	P , P

In which $T > R > P > S$, [1], [2], [3], [20].

The declared variables in this game have a fixed value by keeping preferences.

Because the Nordic model is defined based on the cooperation between the government and the people, we call it H strategy and the applying of other models which are different from this model, we consider D strategy.

H: applying Nordic model

D: applying of other models (the Angelo-Saxon model, the Continental model, the Mediterranean model)

With regard to preferences, we show the table of Prisoner's Dilemma game as this:

Table 3. The prisoner's dilemma (PD) payoff matrix (real)

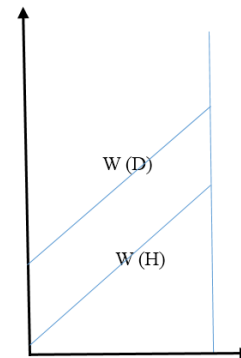
		2	
		H	D
1	H		
	D		

2 , 2	0 , 3
3 , 0	1 , 1

We denote the frequency of H as ϵ and the frequency of D as $1 - \epsilon$. So the fitness of strategies will be as:

$$w(H) = \epsilon u(H, H) + (1 - \epsilon)u(H, D) = 2\epsilon$$

$$w(D) = \epsilon u(D, H) + (1 - \epsilon)u(D, D) = 3\epsilon + (1 - \epsilon) = 1 + 2\epsilon$$

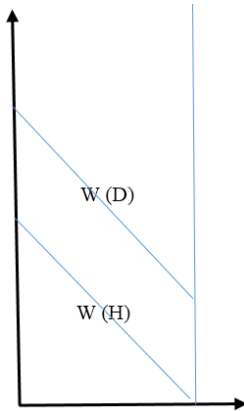


Strategy D is fitness and pure ESS. It means in the first step, countries prefer to use other models aside from the Nordic model and are implemented in ascending trend. Perhaps, the Nordic model is not welcomed at the first step.

We consider mutant strategy D. We have:

$$w(D) = \epsilon u(D, D) + (1 - \epsilon)u(D, H) = \epsilon + 3(1 - \epsilon) = 3 - 2\epsilon$$

$$w(H) = \epsilon u(H, D) + (1 - \epsilon)u(H, H) = 2(1 - \epsilon) = 2 - 2\epsilon$$



In this case, Strategy D is fitness and pure ESS. However, the implementation of other models encounter with the descending trend. Perhaps due to the bellicosity history of these countries, or not having the history and efficiency of the Nordic model, this process will be faced with lower welcome. Of course note that this is a model for global peace and it is not established by repeating once.

3.2. Two- Shot Game

There is a pure Nash equilibrium in the game of the prisoner's dilemma and the players follow this strategy in the further stages. There is better choice with higher interest, in this game, but this choice will happen in the second stage, basically. The players who prefer immediate interests to further interest, choose (D, D) consequence and others choose (H, H) consequences with patience and foresight. Players, in the evolutionary games, inherently, play H strategy or D strategy. In these games we use punitive strategy if a player violated the cooperation in any stage; we will face with lower consequences. Then, the second group is players who use T strategy, it means "the player chooses H strategy if the opponent chose H strategy in previous stage, otherwise the player chooses D".

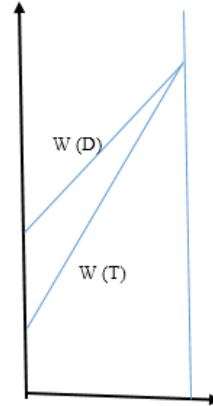
Table 4. The two – shot game matrix

		2	
		T	D
1	T	4 , 4	1 , 4
	D	4 , 1	2 , 2

In this case, we consider the mutant population as strategy T.

$$w(T) = \epsilon u(T, T) + (1 - \epsilon)u(T, D) = 4\epsilon + (1 - \epsilon) = 3\epsilon + 1$$

$$w(D) = \epsilon u(D, T) + (1 - \epsilon)u(D, D) = 4\epsilon + 2(1 - \epsilon) = 2\epsilon + 2$$

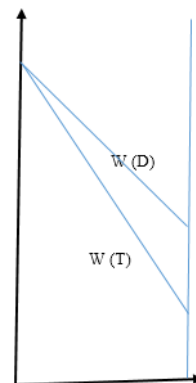


However these two increased in the ascending slope and at the end both of them welcomed equally but strategy D is fitness. Now, Strategy mutated D into a population. In this case, we have

$$w(D) = \epsilon u(D, D) + (1 - \epsilon)u(D, T) = 2\epsilon + 4(1 - \epsilon) = 4 - 2\epsilon$$

$$w(T) = \epsilon u(T, D) + (1 - \epsilon)u(T, T) = \epsilon + 4(1 - \epsilon) = 4 - 3\epsilon$$

With comparing two relations:



In this case, at the beginning both are equally worthy but during these models the other models are more applicable than the Nordic one. In this case the D strategy is a pure ESS. We shall see that according

to the punitive strategy, countries progress toward cooperation.

3.3. N - Shot Game

To check this game is repeated in N stages, the payoffs of players at any stage before the process is the sum of the payoffs. Table games are as follows:

Table 4. The two – shot game matrix (real)

		2	
		T	D
1	T	2n , 2n	n - 1 , 2 + n
	D	2 + n , n - 1	n , n

In the first case ϵ mutant population to consider

$$w(T) = \epsilon u(T, T) + (1 - \epsilon) u(T, D) = 2n \epsilon + (n - 1)(1 - \epsilon) = n \epsilon + n + \epsilon - 1$$

$$w(D) = \epsilon u(D, T) + (1 - \epsilon) u(D, D) = (2 + n)\epsilon + n(1 - \epsilon) = 2 \epsilon + n$$

H

If the strategy T, there must be more fit

$$\forall \epsilon \quad w(T) > w(D) \Rightarrow \epsilon > \frac{1}{n-1}$$

This means that if strategy mutated T into the population until that $\epsilon > \frac{1}{n-1}$ Strategy T is more fit of strategy and transmitted to future generations and, in this case the Nordic model during the next generations runs well.

If we consider mutant D strategy

$$w(D) = \epsilon u(D, D) + (1 - \epsilon) u(D, T) = n \epsilon + (n + 2)(1 - \epsilon) = n + 2 - 2\epsilon$$

$$w(T) = \epsilon u(T, D) + (1 - \epsilon) u(T, T) = (n - 1)\epsilon + 2n(1 - \epsilon) = 2n - \epsilon - n \epsilon$$

If strategy T is fitness and should be expanded in future generations:

$$\forall \epsilon \quad w(T) > w(D) \Rightarrow \epsilon < \frac{n-2}{n-1}$$

Because strategy D is mutated population and most of the population of T strategy is, as long as $\epsilon < \frac{n-2}{n-1}$ strategy T is more fit of D strategy and it transfers to the next generations and it means the more repetition of the prisoner's dilemma game by D jump, the more Nordic model will be used.

So far, Scandinavian countries live in peace, after the Second World War, about 70 years. Using and repeating this game along cooperation based on Nordic model will reduce war among countries as far as possible.

4. STAG HUNT GAME

The main form of Stag Hunt Game is as follow

Table 5. The Stag Hunt with second shot payoff matrix

		2	
		H	D
1	H	3 , 3	0 , 2
	D	2 , 0	1 , 1

$$\begin{cases} \text{player 1:} & R > s \quad , \quad P > T \\ \text{player 2:} & r > t \quad , \quad p > s \end{cases}$$

The declared variables in this game have a fixed value by keeping preferences (Axelrod, 1980), (Axelrod, 1984), (Bender, Kramer and Stout, 1991), (Podimata and Ponayotis, 2015).

This game shows that the players will gain the higher interests if they have cooperation. According to the structure of the Stag Hunt Game and the Nordic model in this game, we placed the Nordic model as the Stag Hunt Game because the Nordic model leads the world to the global peace and its implementation is better than the rest of models, in every respect, and the hunting rabbit which has less interests is placed for implementing other models.

H: applying Nordic model

D: applying of other models (the Angelo-Saxon model, the Continental model, the Mediterranean model)

We show the table of Stag Hunt Game as this:

Table 6. The Stag Hunt Game

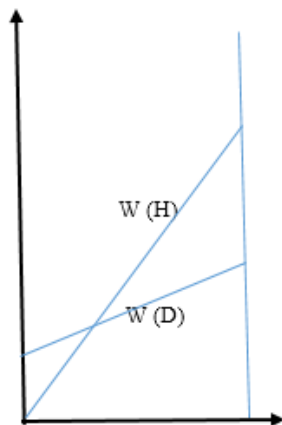
		2	
		H	D
1	H	3 , 3	0 , 2
	D	2 , 0	1 , 1

We assume that a small fraction of the population is ϵ mutant population D strategy in the fall and $1-\epsilon$ strategy H. Fitness consider the following strategies:

$$w(H) = \epsilon u(H, H) + (1 - \epsilon)u(H, D) = 3\epsilon$$

$$w(D) = \epsilon u(D, H) + (1 - \epsilon)u(D, D) = 2\epsilon + (1 - \epsilon) = 1 + \epsilon$$

Comparing the above equation, we see the strategy H is more fit of strategy D:

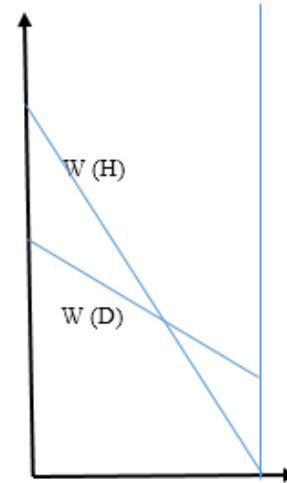


Strategy D is more fit if $\epsilon < \frac{1}{2}$ and a mixed ESS. If $\epsilon > \frac{1}{2}$ strategy H is more fit. It means half of the countries use the Nordic model, in the first stage, and the other half use other models.

We take D mutant strategy. We have:

$$w(D) = \epsilon u(D, D) + (1 - \epsilon)u(D, H) = \epsilon + 2(1 - \epsilon) = 2 - \epsilon$$

$$w(H) = \epsilon u(H, D) + (1 - \epsilon)u(H, H) = 3(1 - \epsilon) = 3 - 3\epsilon$$



H strategy is more fit if $\epsilon < 1/2$ and a mixed ESS. If $\epsilon > 1/2$ D strategy is more fit. This means that in the first half of the Nordic countries and the other half the other models are running.

4.1. Two- Shot Game

Players, in the evolutionary games, inherently, play H strategy or D strategy. In these games we use punitive strategy if a player violated the cooperation in any stage; we will face with lower consequences. Then, the second group is players who use T strategy, it means “the player chooses H strategy if the opponent chose H strategy in previous stage, otherwise the player chooses D”.

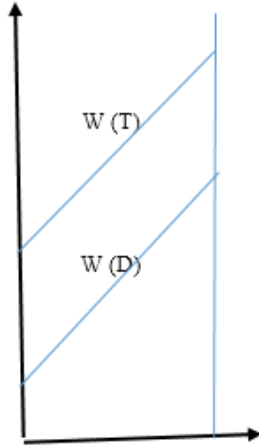
Table 7. The Two-Shot game matrix

		2	
		T	D
1	T	6 , 6	3 , 5
	D	5 , 3	2 , 2

First, we assume that ϵ mutant small fraction of the population that plays into the crowd and T strategy.

$$w(T) = \epsilon u(T, T) + (1 - \epsilon)u(T, D) = 6\epsilon + 3(1 - \epsilon) = 3\epsilon + 3$$

$$w(D) = \epsilon u(D, T) + (1 - \epsilon)u(D, D) = 5\epsilon + 2(1 - \epsilon) = 3\epsilon + 2$$



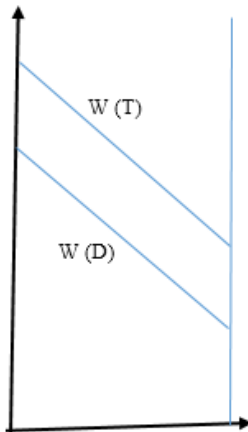
When we enter mutant T strategy in population, this strategy is superior, in the second stage. These two increases by ascending slope and most of countries use the Nordic model.

The latter strategy is intended mutated into D in our population, in this case:

$$w(D) = \epsilon u(D, D) + (1 - \epsilon)u(D, T) = 2\epsilon + 5(1 - \epsilon) = 5 - 3\epsilon$$

$$w(T) = \epsilon u(T, D) + (1 - \epsilon)u(T, T) = 3\epsilon + 6(1 - \epsilon) = 6 - 3\epsilon$$

To search for fitness in the following graph draw



When we enter mutant D strategy in population, in this case, T strategy is superior. Both descend and

both strategies will be implemented but the Nordic model takes more attention due to its absolute merit.

4.2. N- Shot Game

To check this game is repeated in N stages, the payoffs of players at any stage before the process is the sum of the payoffs. Table games are as follows:

Table 8. The N-Shot game matrix

		2	
		T	D
1	T	3n , 3n	3(n-1) , 3n-1
	D	3n-1 , 3(n-1)	n , n

In the first case ϵ mutant population to consider

$$w(T) = \epsilon u(T, T) + (1 - \epsilon)u(T, D) = 3n\epsilon + 3(n-1)(1 - \epsilon) = 3n + 3\epsilon - 3$$

$$w(D) = \epsilon u(D, T) + (1 - \epsilon)u(D, D) = (3n-1)\epsilon + n(1 - \epsilon) = 2n\epsilon + n - \epsilon$$

If the strategy T, there must be more fit

$$\forall \epsilon \quad w(T) > w(D) \Rightarrow \epsilon < 1 + \frac{1}{2n-4}$$

This means that if T strategy mutated into the population until that $\epsilon < 1 + \frac{1}{2n-4}$ Strategy T is more fit of strategy D and transmitted to future generations. In fact, the repetition of this game is, the more countries move towards the implementation of the Nordic model so that other models will be completely extinct

If we consider mutant D strategy

$$w(D) = \epsilon u(D, D) + (1 - \epsilon)u(D, T) = n\epsilon + (3n-1)(1 - \epsilon) = 3n-1 + \epsilon - 2n\epsilon$$

$$w(T) = \epsilon u(T, D) + (1 - \epsilon)u(T, T) = 3(n-1)\epsilon + 3n(1 - \epsilon) = 3n - 3\epsilon$$

If strategy T is fitness and should be expanded in future generations:

$$\forall \epsilon \quad w(T) > w(D) \Rightarrow \epsilon < \frac{1}{4-2n}$$

Because D is mutated population and population of strategy T is, as long as $\epsilon < \frac{1}{4-2n}$ Strategy T is more fit of strategy D and transmitted to future generations. However, if mutated (Strategy D) has entered into only with the implementation of a strategy game T good times and in other cases T-slope descending to the extinction strategy will be.

5. CONCLUSION

Comparing the evolution of the prisoner's dilemma and stag hunt games, we will understand the hunting deer game model is the better one for exerting the Nordic model because the superiority and the merit of the Nordic model will be specified sooner by hunting deer, and we will achieve to a secure world and free from war, poverty and discrimination by exerting the Nordic model through hunting deer game.

Consider "n" is the country interested in exerting Nordic model. "V" is the value of achieving to a peaceful world and free from war, "C" is the cost of exerting Nordic model ($V > C > 0$). Because all conditions are symmetric for n player, the outcome Matrix for n player is considered as follows:

		n - 1	
		H	D
1	H	V , V	0 , $\frac{V-C}{2}$
	D	$\frac{V-C}{2}$, 0	$\frac{V}{2}$, $\frac{V}{2}$

H: Cooperation for the applying of the Nordic model
 D: Defect for the applying of the Nordic model

Suppose q is the probability of reaching a peaceful world. In this case, the probability of achieving world peace is as follows:

		n - 1	
		q	1 - q
1	p	V , V	0 , $\frac{V-C}{2}$
	1 - p	$\frac{V-C}{2}$, 0	$\frac{V}{2}$, $\frac{V}{2}$

$$\pi_1(p, q) = p [V q^{n-1}] + (1 - p) \left[\frac{V-C}{2} q^{n-1} + \frac{V}{2} (1 - q)^{n-1} \right]$$

The best response when the players change their strategies are indifferent, that is,

$$V q^{n-1} = \frac{V-C}{2} q^{n-1} + \frac{V}{2} (1 - q)^{n-1}$$

As a result, we have:

$$q = \frac{1}{1 + (1 + \frac{C}{V})^{\frac{1}{n-1}}}$$

By examining this equation we will understand that the more countries cooperated in implementing the Nordic Model, the more possibility is in achieving to the peaceful world, but we never reach to an absolute peace through exerting this model and the maximum peace will be 50%. For achieving to absolute peace, we need more strategies to exert them properly to achieve a global peace.

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