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# An Inquiry into the Moral Principles for Just WAR THEORY

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#### Abstract

What I wish to show in this paper is to inquire whether we can justify war or not by using these normative ethical systems, if possible, what the logic justifying the war is. Teleological ethics and deontological ethics are often contrasted with one another on the basis of the general type of ethical system each exemplifies. Utilitarianism is one of the teleological ethical system, while formalism is typical of deontological ethical system. The distinction between the two kinds of system may be conveniently summarized as follows; a teleological theory holds that an action is morally right either if a person's doing it brings about good consequences, or if the action is of a kind which if everyone did it, would have good consequences. It is ultimately the goodness or badness of the consequences of action. In Deontological theory, it is right if it accords with a moral rule, wrong if it violates such a rule. Moral rules are based on an ultimate principle of duty which, in contrast to teleological ethics, does not specify an end or purpose whose furtherance makes actions right. What the ultimate principle specifies is a set of conditions that are necessary and sufficient for any rule of moral obligation to apply to a kind of action. Consequentialist pacifism is usually grounded in some sort of rule-utilitarianism. A utilitarian pacifist may argue that a rule against war or other sorts of violence will tend to promote the greatest happiness for the greatest number. According to the principle of proportionality, although violence is evil, if we may suffer greater other evil than the evil, the violence which eliminates relatively the previous smaller evil could be justified. A broader prohibition against violence other than war can extend the 'greatest happiness' concept to take into account the happiness of sentient beings other than humans. Deontological ethical system, as a formal ethical model, is the older of the two, with the best-recorded example of antiquity being divine command theory. This theory states that an action is good or evil depending on whether it corresponds to rules set by a deity. The most famous theory of deontological ethics is Kant's. Kant's categorical imperative is formulated as follows: "Act according to that maxim by which you can at the same time will that it should become a universal law". It is difficult to supply content to Kant's imperative. Thus, it is not clear that the Kantian imperative can be used to rule out war. Indeed, Kant is a defender of a version of the just war theory, in part because he believes that states have a duty to defend their citizens. Although Kant is not himself a pacifist, one might be able to ground pacifism in Kant's alternative version of the moral law: "Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only" All human being has the autonomy of the will explained as the concept of freedom. If men have freedom of the will then they must be obligated to obey the categorical imperative. Thus whoever has freedom of the will should take responsibility for his behavior, unless he won't do. And as this can be universalized and applied to men with reason, anyone who violates moral law should be punished to preserve the life in community. This principle of deontological ethical system is extended to the conduct of human being in war.

[Keywords] Justice, Teleology, Deontology, Principle, Proportionality

#### **1. Introduction**

Although anyone who is rational person doesn't want breaking out war, this world in which we live has no choice but to wage the war for any number of reasons and to be stricken by it. War makes human beings inevitably confront with moral challenges and conflicts. The aggression involved in war is at odds with basic values of civilization. It attacks people's rights to life, security, subsistence, peace and liberty. A justified war, however, is not necessarily a just war. Such being the case, just war theory in its historical and contemporary forms fails to do justice to the moral problems in war's justification. Every country is bound to insist on it that the war which the country wages is just, because the absolute good of each country is to pursue its own interests. The claim that war justly starts and wages does not show that the war is turned out to be just. The problem of just war is to be subjectified on each side in which takes part.

The theoretician of just war theory, nonetheless, claims that war can, under certain conditions, be morally justified. War is justified insofar as it is the only practical or expeditious way of avoiding or righting those wrongs. It is justified because there is nothing unjust about making it the case that the one who suffers harm in an unjust attack is the aggressor himself rather than the intended victim. After all, were it not for the actions of the aggressor, no one would need to suffer any harm at all, and, if he cared that much about not being harmed himself, he could always avoid the harm by breaking off his attack. Besides when human rights are threatened or violated on a mass scale, such as aggressive war and genocide, the Just War tradition maintains that the aggrieved party has a right to protect itself and to restore a just peace and other friends and allies are justified in intervening to protect or restore that peace. This intervention can entail a justified use of force.

To justify the use of force, there are two normative ethical systems that are most widely discussed and defended in contemporary moral philosophy. One thing is the teleological ethics and other is deontological ethics. These normative ethical systems are an ordered set of moral standards and rules of conduct by reference to which, with the addition of factual knowledge, one can determine in any situation of choice what a person ought to ought not to do. The purpose of this paper is to inquire whether war can be justified or not by using these normative ethical systems, if possible, what the logic justifying the war is. I also try, pursuing this study, to justify war by deontological theory, which has not ever tried yet.

# 2. Morality Principles to the Ethical Judgment on War

#### 2.1. Teleological theory of ethics

Teleology is referred to as results-oriented ethics. It focuses on the purpose of each action and whether there is an intention or meaning for the action. It deals with the consequences of an action, therefore it used to be called as consequentialism. The test of right and wrong action in a teleological theory of ethics consists in applying a standard of value to the consequences of the actions. If the consequences of someone's doing a particular action or of everyone's doing a type of action fulfill the standard of value, the consequences are good and therefore the action or action type is right. The consequences of an action in teleological ethical system are understood to comprise all the effects which the action has in the future of the world. They include everything that happens because the action is done, and everything which would have been different in the future if the action had not occurred.

The basic concept of utilitarian ethics is, as its name indicates, the idea of utility, an act is right if it is useful. Useful thing in utilitarianism is something that brings about a desirable or good end, an end that has intrinsic value to everyone. The basic principle of utilitarian ethics is that the right depends on the good. This means that we can know whether an act is morally right only by finding out what its consequences are and then determining the intrinsic goodness of those consequences. The moral rightness of an act is not itself an intrinsic value. On the contrary, an act is right only when it is instrumentally good and its rightness consists in instrumental goodness[1].

The intrinsic values by which utilitarians judges the goodness of the consequences of a right act are explained as J. Bentham's pleasure, J. S. Mill's happiness, and G. E. Moore's intrinsic goodness etc. The fundamental norm of hedonistic utilitarianism may be stated thus: An act is right if it brings about pleasure(or prevents the bringing about of pain); an act is wrong if it brings about pain (or prevents the bringing about of pleasure). The fundamental norm of eudaimonistic utilitarianism may be stated in a corresponding way, merely by substituting 'happiness' for 'pleasure' and 'unhappiness' for 'pain'. The act that is founded to maximize intrinsic value and minimize intrinsic disvalue is the act we morally ought to do.

The standard of value for judging the consequences of actions must be completely impartial and universal in its application. In calculating the positive of negative value of consequences, one person's pleasure (or happiness or intrinsic good) is to count exactly as much as another's,. The agent's own interests are to be considered along with everyone else's, but no greater (and no lesser) weight is to be given to his interests than to those of any other individual. In utilitarianism all human beings have an equal right to the fulfillment of their interest. According to the utilitarianism, it would be wrong for us to try to make an accurate calculation each time. What we must do is to use our common sense and choose on the basis of similar situation in the past. After all, it does not take much thought to predict that murdering someone is going to produce more unhappiness in the world than respecting the person's life[2].

Teleological theory involves examining past experiences in order to figure out the results of present actions. An example of teleological ethical system is utilitarianism which is also referred to as the greatest happiness principle. The principle of utility measures how much overall pleasure or happiness as intrinsic value can be derived from a certain action and how much pain or unhappiness as intrinsic disvalue is averted. So it can be explained in the words "the maximizing of intrinsic value and the minimizing of intrinsic disvalue. The maximizing of intrinsic value and the minimizing of intrinsic disvalue means that one must do so that he may increase the happiness(or pleasure etc) of the people in community to which he belonged, and lest he should increase the unhappiness(or pain etc) of them.

There are three variables of factors that must be introduced in order to make it clear to maximize intrinsic value and to minimize intrinsic disvalue. First, it means to bring about, in the case of one person, the greatest balance of value over disvalue. If act 1 yields +1000 units of happiness and -500 units of unhappiness for a given person, while act 2 or rule yields +700 units and - 100 units for that person, then, all other factors being equal, act 2 is better than the first since the balance of the second is greater than the balance of act 1.

	-	
Unit	Units of	Units of
	happiness	unhappiness
Behavior	(+)	(-)
Act 1	1000	-500
Act 2	700	-100

**Table 1.** The calculation to maximize of intrinsic value.

Second, it means that the happiness or unhappiness must be concerned in that of all persons affected. Suppose that there are several people in a community. Each person experiences some difference of happiness or unhappiness in his life as a consequence of the act or rule but no difference occurs in the lives of anyone else, then the calculation of maximum value and minimum disvalue must include the balance of pluses and minuses occurring in the experience of everyone of them. Third, the factor to maximize intrinsic value and to minimize intrinsic disvalue is the principle that, in calculating the nits of happiness or unhappiness for different persons, the same criteria for measuring quantity are used[2].

#### 2.2. Deontological theory of ethics

Teleology extends beyond just ethics, and refers to any aspect of existence with a definite end, whether in human behavior or in nature. According to teleological ethical system, an action cannot be known to be right or wrong merely by understanding it as being of a certain type. It is necessary to know either what consequences result when people generally perform actions of that type, or what consequences result from a particular act of that type performed at a particular time. In a teleological system, unless we apply a standard of intrinsic value to the consequences either of a particular act or of an action type, we cannot tell whether it is right or wrong[2].

Deontological theory of Ethics holds that the goodness or the badness of the consequences of an action doesn't make the action right or wrong. In this ethical system some kind of action itself has greater significance than the consequence of a particular action. An action is right in their view if it is of a kind that all moral agents have an obligation to perform; it is wrong if it is one that all moral agents are obligated to avoid. The statement that all moral agents are obligated to do or to refrain from doing a certain kind of action is a moral rule of conduct,, and deontological ethical system believes that the ground of such obligation lies in the fact that the moral rule in question satisfies the requirements of an ultimate norm or supreme principle of duty, which is often designated as the moral law.

From the standpoint of a deontological ethical system, once we know what moral rules to apply to action-types and also know that a particular act exemplifies an actiontype that falls under a rule, we can tell whether the act in question is right or wrong, independently of our knowing whether its consequences are good or bad, or indeed, independently of our knowing anything about in consequences. Given a description of the act as being of a certain type, we determine whether that action type conforms to or violates a moral rule which correctly applies to it[2].

The primary norm of a deontological ethical system is the Moral Law. It is this ultimate principle which determines what specific rules of conduct impose a moral duty on everyone to comply with them. Kant's moral philosophy is usually regarded as a deontological ethical system, being called formalism. According to his theory the moral rule must show how the ultimate criterion can be established a priori, entirely free of empirical considerations. It is important to note that Kant distinguishes between two meanings of the word 'outer': an empirical and a transcendent meaning. The outer in the transcendent meaning is that which is independent of and unrelated to sensation[3].

Kant takes to be the key concept of morality, which he calls it the good will. A human with good will acts not only in accordance with duty, but also for the sake of duty. Having a good will is a necessary condition and sufficient condition for being a good person. And one must not only have good intentions, but must also strive with all one's will power and determination to perform the act which is one's duty.

Good will is the motive to perform an action as a matter of principle, regardless of one's inclination. If the value of good will would be conditional upon the achievement of ends as well as upon their worth, it would be judged merely as a means. But since its value is unconditional, it must derive its value solely from the principle which it exemplifies. The duty for moral law is to be recognized as binding upon one's will regardless of ends, consequences, and inclinations. So we are left with the claim that, to be valid, a rule must pass the test of the supreme principle or ultimate criterion of morality which is an a prior moral law called the categorical imperative.

This categorical imperative has three formulations which Kant believes are simply different ways of saying the same thing. First formulation is that, for a rule to be a moral law, it must be consistently universalizable. The second is that, for a rule to be a moral law, it must be such that, if all persons were to follow it, they would treat each other as ends in themselves, never as means only. Finally the formulation is that, for a rule to be a moral law, it must be capable of being selfimposed by the will of each person when he is universally legislating. The concept of a will that is a universal legislator and is the source of the very rules of conduct that bind a person regardless of his inclinations and ends is given the name 'the autonomy of the will'[2].

Autonomy of the will is that property of it by which it is a law to itself(independently of any property of the objects of volition). The principle of autonomy then is; "Always so to choose that the same volition shall comprehend the maxims of our choice as a universal law"[4]. The autonomy of the will is explained as the concept of freedom. If men have freedom of the will then they must be obligated to obey the categorical imperative.

The concept of morality is formalistic because it defines the relations among the members of a moral community without reference to their personal characteristics and without reference to their varying interests and goals in life. Morality sets a formal framework within which people pursue their interests and goals. Logical universalizability can be used as a basis of moral reasoning about whether a giver action is to be judged right or wrong. Justice in deontological ethical system is fundamental to the relations among persons in a moral community. A mode of distribution of valued things is just if, and only if, it is considered to be fair by every person as an autonomous being[2].

#### 3. Ethical Justification of War

Some pacifists appear to hold that it is not wrong to fight(or that some persons are permitted to fight), even though the pacifists herself may choose(or is obliged by some vocational commitment) not to fight. Critics of pacifism will argue that pacifism is morally wrong because they think that patriotism or justice requires fighting or at least supporting the war effort[5]. In its efforts to defend a just peace, just war theory has developed two sets of principled considerations that define the standards for moral decision making concerning both the decision to go to war and the right conduct of war: jus ad bellum and jus in bello respectively. In this moral tradition there exists a prima facie presumption against violence, and thus the use of force requires moral justification. The moral justifiability of using force is contingent upon meeting all of the following criteria: just cause, right authority, right intention, proportionality, reasonable hope of success, and last resort. Jus in bello pertains to the right conduct of force. From this perspective, the use of force must be proportional and consistent with noncombatant immunity – the principles of proportionality and discrimination respectively[6].

# **3.1.** The justification of war by teleological theory of ethics

Utilitarianism is, as stated above, one of the moral principles which represent teleological ethical system. The utility in the theory means the reasonable proportionality of consequences in which some act or behavior results. It has traditionally been thought that to wage war justly the precept of proportionality must be observed and military actions be avoided that incur loss and injury, on both sides, out of proportion to the military objectives they achieve.

Consequentialist pacifism usually is grounded in some sort of rule-utilitarianism. A utilitarian pacifist may argue that a rule against war or other sorts of violence will tend to promote the greatest happiness for the greatest number. According to the principle of proportionality, although violence is evil, if we may suffer greater other evil than the evil, the violence which eliminates relatively the previous smaller evil could be justified. A broader prohibition against violence other than war can extend the 'greatest happiness' concept to take into account the happiness of sentient beings other than humans<sup>[7]</sup>.

The precept of proportionality is appealed to in the international law of war such as Geneva Convention as an over-arching principle applying in a variety of contexts, by proscribing attacks which have effects on civilians 'excessive in relation to the concrete and direct military advantage anticipated'. Though it is hard that war produces happiness, pleasure, and intrinsic value, some war can diminish unhappiness, pleasure, and intrinsic disvalue, or prevent us from them. The principle of utility in war is supposed to focus the proportionality of the produced value or disvalue. To minimize disvalue would such as to maximize value mean that an act or rule which yielded + 100 and -500 for a given person would be better than one that yielded + 500 and - 1000 for the same person, other things bring equal (even though more happiness is produced by the second than by the first).

If the consequences of murdering a particular man in a particular set of circumstances were to bring about less unhappiness in the world than would be caused by the man himself were he to remain alive, it is not wrong to murder him. To do so is our duty, since the circumstances are such that our refraining from doing the act will result in more unhappiness(intrinsic disvalue) and less happiness (intrinsic value) than our doing it. By letting someone who may hurt others do what he wants, his victims are prevented from having the chance to enjoy his right to the pursuit of happiness. It may cause so much pain and unhappiness to the victims and their kin[2].

We need to preserve the people who would be intimidated or attacked by villains, or to protect a law-abiding good citizen by getting rid of something evil which may hinder democratic civil society. From the utilitarianism ethical system, it is sometimes right to do an act which is known to bring about unhappiness. But this is true only when the act in question will bring about less unhappiness than any possible alternative. In that sort of situation to do anything else - even to do nothing, that is, to let events take their course without trying to change them - would be deliberately to cause more unhappiness to people than is necessary. In time of war the situation of this unfortunate kind may occur.

## **3.2.** The justification of war by deontological theory of ethics

In calculating the proportionality of war, the problem is that what counts as disproportionality is far from clear. The use of overwhelming force where other tactics less costly in enemy lives could have secured victory will be regarded as a breach of the rules[8]. The problem raised against utilitarianism ethical system is that the principle of utility does not provide a sufficient ground for the obligations of justice. Since the idea of justice is a fundamental moral concept, no normative ethical system can be considered adequate that does not show the basis for our duty to be just.

To persons who adhere to the philosophy of consequentialism, prohibitions against war are for the most part contingent on some intention or purpose, while deontological prohibitions against war are usually absolute. The wrongness of some action depends on its being of the type. It is not wrong because acts of killing have further consequences which, when judged by some standard of value, are bad. A moral rule 'Do not kill' tells us that we are obligated to refrain from intentionally taking the life of another. But in deontological ethical system the justification of war not only would be no problem but also be fully possible.

As stated above, deontological ethical system is also referred to as duty-based ethics. While teleology is based on the results of an action and on whether an action produces greater happiness and less pain, deontology is based on man's absolute duty towards mankind and how it is given priority over results. It is an approach to ethics that addresses whether the motives behind certain actions are right or wrong instead of focusing on whether the results of the action are right or wrong. It is based on each individual's duty or obligation towards each other, all living things, and the environment based on moral beliefs and values. It teaches about always acting in good faith and adheres to the Golden Rule to treat others the way you want to be treated by them.

Deontological ethical system, as a formal ethical model, is the older of the two, with the best-recorded example of antiquity being divine command theory. This theory states that an action is good or evil depending on whether it corresponds to rules set by a deity. The most famous theory of deontological ethics is Kant's. Kant's categorical imperative is formulated as follows: "Act according to that maxim by which you can at the same time will that it should become a universal law" [7].

It is difficult to supply content to Kant's imperative. Thus, it is not clear that the Kantian imperative can be used to rule out war. Indeed, Kant is a defender of a version of the just war theory, in part because he believes that states have a duty to defend their citizens. Although Kant is not himself a pacifist, one might be able to ground pacifism in Kant's alternative version of the moral law: "Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only" [9].

All human being has the autonomy of the will explained as the concept of freedom. If men have freedom of the will then they must be obligated to obey the categorical imperative. Thus whoever has freedom of the will should take responsibility for his behavior, unless he won't do. And as this can be universalized and applied to men with reason, anyone who violates moral law should be punished to preserve the life in community. Socrates states metaphorically: "it would be better for me that my lyre or a chorus I direct were out of tune and loud with discord, and that most men should not agree with me and contradict me, rather than that I, being one, should be out of tune with myself and contradict myself (482b-c)." If someone harms others, then he will not be able to live with himself as well as others. The potential internal discord stops him. It is an internal, spiritual mechanism of restraint[6]. In war many morally problematic incidents inevitably take place, which will never be investigated by criminal courts, and in which the actors are not even considered morally culpable. Upholding nonetheless a clear consciousness about responsibility is supremely important in such cases[10].

The obligation to act for the protection of a just peace is founded upon a right of selfdefense and an obligation to help others in need. St. Augustine argued, "They who have waged war in obedience to the divine command, or in conformity with His laws, have represented in their persons the public justice or the wisdom of government, and in this capacity have put to death wicked men; such persons have by no means violated the commandment".

#### 4. Conclusion

Some maximalist just war theorists codify a set of strict criteria for determining when war is justified. The problem with this position is that the criteria are too inflexible to deal with the war. There is some disagreement among philosophers at present whether the two sets of doctrines are necessarily inconsistent with each other, although their earlier proponents who hold these two theories had thought that they were,

Despite the difficulties raised in connection with the relation between justice and utility, utilitarian asserts that no limitation on human freedom is justified unless it serves a good purpose. Moral rules may be conceived as devices invented by men to ensure the carrying on of civilized life. They are not good as ends in themselves, but only as necessary means for realizing those conditions of social existence which make civilization possible. The reason for being of moral principles lies in their social function, and they can be justified, as long as they bring about more benefits to people than would occur in their absence.

As Michael Walzer pointed, people in the battlefield have killed unjustly, let us say, for the sake of justice itself, but justice itself requires that unjust killing be condemned[11]. Utility and justice are apt to be incompatible when applied to certain types of societies under certain condition. Such conflicts between utility and justice can occur because, as far as utility alone is concerned, it is always morally right to increase one person's happiness at the expense of another's, if the total net balance of pluses over minuses is greater than would be the case were the two persons treated equally. In contrast to this, it would seem that justice requires that no individual serve as a mere instrument or means to someone else's happiness. On this point the opposition between utility and justice appears to be fundamental.

Morality does indeed categorically prohibit attacks on civilians and the killing of prisoners by unjust combatants. Because it is common for unjust combatants to believe that they are just combatants, and because the killing of civilians or prisoners is permitted even to just combatants only very rarely, it is always morally perilous for any combatant to violate these prohibitions. If this is right, a person who wants to be guided in matters of war by respect for the rights of individuals will do best, by the standards of basic nonconventional morality, not to avail himself of the legal permission to participate in an unjust war but to obey in all but the most extreme circumstances the prohibitions of the killing of civilians and prisoners[12]. The use of force may be morally justified to restore a just peace, but it can never fall into total war, for then it contradicts its own justification, the protection of human dignity.

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# Is There an ARMS Race between South and NORTH KOREA?

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#### Abstract

Because South and North Korea have kept the military confrontation since the Korean War seriously, it has been strongly believed that an arms race should exist between these two countries. However, because of the lack of data on North Korea has constrained empirical studies, until now, few studies have consequently dealt with the arms race between South-North Korea. An empirical analysis of the arms race between the two Koreas has significant policy implications for the security of the Korean Peninsula as a whole. Using the VAR model and updated data, this study empirically analyzed the arms race between South and North Korea, based on Richardson's action-reaction model.

The empirical findings are as follows: while South Korea's military expenditure changes are affected by those of North Korea, partially supporting the classical Richardson model as a result, the reverse remains unverified. In fact, this investigation indicates that North Korean military expenditures seem to adhere to the random walk process, and empirically supports the argument that North Korea has pushed for military expansion based on its strategic needs, with South Korea escalating its armament program in direct response.

The fact that North Korea's real military expenditure follows the random walk process indicates that it cannot be predicted at all. There may be some interpretations in terms of the random walk process of North Korea's real military expenditure. First, it can be interpreted that North Korea's military preparedness has been determined without any strategic plan. The situation at the time may affect North Korea's decision on military preparedness. Secondly, considering that North Korea has developed nuclear and missile programs over a long period of time, it cannot be denied that North Korea has kept a long-term strategic plan for military preparedness. Then, it may be said that irrespective of the expansion of South Korea's military preparedness, North Korea has decided its policy toward military preparedness based on internal strategic goals such as its development and enhancement of asymmetric warfare capabilities.

Finally, North Korea has been reported to hide its defense expenditure in other budget categories in order not to reveal how much of its government budget is allocated for this cause. In this respect, more accurate data on North Korea's military expenditure needs to be collected to have better insight into the arms race between South and North Korea overall. Considering those questions of accuracy surrounding North Korean military expenditure data, the follow-up studies are warranted.

[Keywords] South-North Korean Arms Race, Richardson's Action-Reaction Model, Military Expenditure, VAR,

**Random Walk Process** 

#### 1. Introduction

L. F. Richardson's arms race model[1] explains that one country's military expenditure responds to the increase of the rival country's

military expenditure, and the rival country also reacts to such an increase in that country so that the arms race between two countries may become realized. Richardson's action-reaction model has been widely accepted as the important model to explain the competitive pattern of military expenditures between two hostile countries[2]. Because the arms race makes regional and global security environments unstable, and heightens the possibility of war, arms races between hostile countries become important concerns in regional and international communities. Then, to verify the existence of an arms race between two hostile countries, empirical studies have been done with respect to US-USSR, India-Pakistan, Greece-Turkey, and so on by way of Richardson's model.

Because South and North Korea have kept the military confrontation since the Korean War seriously, it has been strongly believed that an arms race should exist between these two countries. However, the lack of data on North Korea in this area has constrained empirical studies. Until now, few studies have consequently dealt with the arms race between South-North Korea.

Using the OLS estimation method, Bae[3] reported that the arms race model might be applied to South Korea, but not to North Korea. However, if variables in the estimation equation follow I(1) process, that is, contain unit roots, it is not proper econometrically to use the OLS method for estimation without unit root and cointegration tests[4]. Becasue Bae's study did not pretest the variables in a regression for nonstationarity, his empirical findings need to be interpreted restrictively. Based on the time series model, Lee[5] found out that while North Korea's

military expenditures have been affected by those of South Korea, reversal has not occurred. Considering that according to Four Military Lines, North Korea has been eagerly developing its military capabilities since the 1960s, and South Korea has been defensively responding to such military developments in North Korea[6], Lee's findings seem to be very counter-intuitive.

As an empirical analysis of the arms race between the two Koreas has significant policy implications for the security of the Korean Peninsula as a whole, it is a worthwhile subject to pursue. To that end, using the VAR model based on the action-reaction model and updated data, this paper proposes to analyze empirically the arms race between the two Koreas. The paper is organized as follows. Section 2 analyzes the empirical model, based on Richardson's action-reaction model. Featuring the results of such preliminary data analysis, section 3 presents and discusses empirical findings. Finally, section 4 presents a brief overview and concluding remarks.

#### 2. The Model of Empirical Analysis

The Richardson model of arms races where for two hostile countries i = 1, 2, one country's military preparedness,  $m_i(t)$ , is affected by the other's military preparedness, can be presented by a pair of differential equations in continuous time as follows[7]:

(1) 
$$\frac{dm_1(t)}{dt} = a_1 + b_1m_2(t) - c_1m_1(t)$$
  $(b_1, c_1 > 0)$   
(2)  $\frac{dm_2(t)}{dt} = a_2 + b_2m_1(t) - c_2m_2(t)$   $(b_2, c_2 > 0)$ 

 $a_i$ ,  $b_i$ , and  $c_i$  represent exogenous grievance terms, reaction terms, and fatigue terms, respectively.

To investigate the arms race model empirically, it is necessary to transform equations (1) and (2) into a pair of difference equations in discrete time. Generally, additional elements such as adaptive adjustment and bureaucratic inertia, can be shown in the actual realization of the arms race model. That is to say, the arms race model here may be represented through a vector error correction model(VECM), with error correction terms as follows[8]:

$$(3) \quad \begin{bmatrix} \Delta m_{1t} \\ \Delta m_{2t} \end{bmatrix} = \sum_{s=1}^{p} \begin{bmatrix} \Phi_{11,s} & \Phi_{12,s} \\ \Phi_{21,s} & \Phi_{22,s} \end{bmatrix} \begin{bmatrix} \Delta m_{1t-s} \\ \Delta m_{2t-s} \end{bmatrix} + \begin{bmatrix} \Pi_{11} & \Pi_{12} \\ \Pi_{21} & \Pi_{22} \end{bmatrix} \begin{bmatrix} m_{1t-1} \\ m_{2t-1} \end{bmatrix} + \begin{bmatrix} \epsilon_{1t} \\ \epsilon_{2t} \end{bmatrix}$$
$$E(\epsilon_t) = 0, E(\epsilon_t \epsilon'_t) = \Sigma, E(\epsilon_t \epsilon'_s) = 0 \quad \forall t \neq s$$

 $\Delta$  denotes the operator of first-order differencing, that is,  $\Delta m_t = m_t - m_{t-1}$ .  $\epsilon_t$ means the vector of error terms,  $[\epsilon_{1t}, \epsilon_{2t}]'$ . It is assumed that the vector of error terms has the mean of 0, with the covariance vector  $\Sigma$ , and error terms being serially uncorrelated. So error terms are assumed to be white noise disturbances.

Regarding equation(3), it is necessary to find out whether variables of military preparedness  $m_t$  are stationary stochastic processes or have unit roots, i.e.,  $m_t \sim I(1)$ processes. When  $m_t$  have unit roots, the test of cointegration between two countries' military preparedness needs to be conducted to check the existence of long-term equilibrium relationship between the two variables. However, when  $m_t$  have unit roots, without the existence of a cointegrational relationship between  $m_{1t}$  and  $m_{2t}$ , an empirical analysis of the arms race model using equation (3) may cause two estimation problems in an econometric sense. First, if the VECM is used without any evidence of cointegration, a misspecification error happens. Secondly, while the first differencing variables  $\Delta m_t$ are stationary processes, explanatory variables  $m_{t-1}$  are non-stationary processes. Then, estimation results are meaningless because of the instability of the estimation equation[4].

In the case where  $m_t$  have unit roots but do not have the cointegrational relationship, it is necessary to use the VAR model without the error correction term, such as in equation (4), for the empirical analysis of the arms race model:

(4) 
$$\begin{bmatrix} \Delta m_{1t} \\ \Delta m_{2t} \end{bmatrix} = \sum_{s=1}^{p} \begin{bmatrix} \phi_{11,s} & \phi_{12,s} \\ \phi_{21,s} & \phi_{22,s} \end{bmatrix} \begin{bmatrix} \Delta m_{1t-s} \\ \Delta m_{2t-s} \end{bmatrix} + \begin{bmatrix} v_{1t} \\ v_{2t} \end{bmatrix}$$
$$E(v_t) = 0, E(v_t v_t') = \Pi, E(v_t v_s') = 0 \quad \forall t \neq s$$

Similar to the vector of error terms  $\epsilon_t$  in equation(3), the vector of error terms  $\nu_t$  has

#### 3. Data and Empirical Results

#### 3.1. Data and preliminary analysis

Yearly data for the period 1963 to 2012 regarding real military expenditures was used as variables for calculating the level of military preparedness. Considering that the South Korea-US military alliance has been a key element in South Korea's defense from North Korea's military threats, US military aid in the arms race between the two Koreas was factored into all equations. In that respect, this study uses the sum of South Korea's real military expenditures and US military aid as the mean of 0, the covariance vector  $\ \Pi,$  and error terms are serially uncorrelated.

the variable for South Korea's military preparedness in the empirical analysis[3]. Data on the real military expenditures of South and North Korea was collected from various issues of Defense White Paper, published by South Korea's Ministry of National Defense[9]. However, the official data for North Korea's real military expenditures has not been reported since 2005. WMEAT's data on North Korea's military expenditures, published by the US Department of State[10], was used for the years from 2005. Bae[11] reported the data on US military aid to South Korea, collected from various sources such as US DSAA, USAID, World Bank, and KOSTAT. The data generated by Bae was used for the data on US military aid to South. Unless specifically noted, the term of South Korea's real military expenditures used below denotes the sum of South Korea's real military expenditures and US military aid. All variables were transformed into natural logs before estimation. As the preliminary data analysis, ADF tests[12] were done to find out whether military expenditures of South and North Korea have unit roots, i.e., are I(1) processes. According to <Table 1>, real military expenditures of South and North Korea are I(1) processes at 1% level of significance.

Table 1. A	DF test results	(t values).
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Variables	Level variable( $m_t$ )	First-differencing variable( $\Delta m_t$ )
$m_{1t}$	2.10370	-2.76492**
$m_{2t}$	0.40535	-3.38504**

Note: According to the AIC[13], lag 4 is used in the testing equation. Meanwhile \*\* denotes the statistical significance of 1% level. Critical values for the level of significance 1%, 5% and 10% are -2.61315, -1.94795 and -1.61953, respectively.

Because both countries' real military expenditures are I(1) processes, it is possible that these two variables may have a long-term equilibrium relationship. That is, two variables may be conintegrated. If South and North Korea's real military expenditures are conintegrated, the VECM needs to be used for the empirical analysis, instead of the VAR model[14]. The Johansen test[15] is done to

test the cointegrational relationship between South and North Korea's real military expenditures. <Table 2> shows the result of the Johansen test. Because the null hypothesis of no cointegrating vector is not rejected at 5% level of significance, it can be concluded that there is no long-run equilibrium relationship. Therefore, the VAR model is used to analyze the arms race between the two Koreas.

Null hypothesis(number of cointegrating vectors)	Test statistics( $\lambda_{trace}$ )	Critical values(5%)	
None	13.0709	15.4100	
At most 1	1.9615	3.8400	

 Table 2. Result of johansen's cointegration test.

Note: According to the AIC, lag 2 is used in the test, and the constant term is not included.

#### **3.2.** Empirical results

To use the VAR model in equation(4), the optimal lag of the model p needs to be determined. According to the AIC, the VAR model of 2 lags is used for the empirical analysis. Estimated results are shown in <Table 3>.

The lagged change of North Korea's real military expenditures  $\Delta m_{2t-1}$  is only significant at 1% level in the regression equation of South Korea's real military expenditure change, and the remaining variables, including the lagged values of South Korea's real military expenditure change  $\Delta m_{1t-1}$ ,

 $\Delta m_{1t-2}$  are insignificant. According to Richardson's action-reaction model, it can be interpreted that South Korea's military preparedness is influenced by the change of North Korea's military preparedness, but not by its changes in the past. However, any variable in the regression equation of North Korea's real military expenditure change is not significant at all. Furthermore, F test results show that the regression equation of South Korea is significant at 5% level, but not so for North Korea. Then, it may be concluded that while Richardson's model can be partially sup-

ported in the case of South Korea, the movement of North Korea's military preparedness does not support Richardson's model.

Dependent	Coefficients of explanatory variables				E ha ah	
variables	constant	$\Delta m_{1t-1}$	$\Delta m_{1t-2}$	$\Delta m_{2t-1}$	$\Delta m_{2t-2}$	F test
$\Delta m_{1t}$	0.03169	0.00164	0.23976	0.41445	-0.09511	F(4,42)=3.37126
	(1.56026)	(0.01084)	(1.80604)	(3.36734)**	(-0.68075)	p value=0.01773*
$\Delta m_{2t}$	0.02811	0.01037	0.08520	0.11174	-0.30593	F(4,42)=1.06982
	(1.15040)	(0.05682)	(0.53352)	(0.73232)	(-1.82035)	p value=0.38347

Table 3. Estimated results of the VAR model.

Note: Figures in () denote t values, \* and \*\* mean the statistical significance of 5% and 1% level respectively, and F(4,42) denotes F statistics on the null hypothesis that the coefficients except the constant term are 0.

Using F tests on coefficients in the regression equation, Granger causality[16] between South and North Korea's real military expenditures can be tested. Results in <Table 4> show that changes of North Korea's military expenditure cause those of South Korea's military expenditure at 1% level of significance. However, there is no Granger causality from South Korea to North Korea. Considering that all coefficients in North Korea's regression equation are insignificant, empirical results imply that the time series of North Korea's real military expenditure follows the random walk process. Because the change in the value of the variable from the current period to the next is completely random in the random walk model, this implies that the change of North Korea's real military expenditure could not be predicted.

Dependent variables	Null hypothesis ( $H_0$ )	F statistics	Significance	Granger causality	
$\Delta m_{1t}$	$\varphi_{11,1}=\varphi_{11,2}=0$	1.6337	0.20737		
	$\varphi_{12,1}=\varphi_{12,2}=0$	5.5934**	0.00702	$m_2 \Rightarrow m_1$	
$\Delta m_{2t}$	$\varphi_{21,1} = \varphi_{21,2} = 0$	0.1428	0.86733		
	$\phi_{22,1} = \phi_{22,2} = 0$	1.9392	0.15648	$m_1 \not\Rightarrow m_2$	

 Table 4. Results of granger causality test.

Note: \*\* denotes the statistical significance of 1% level.

#### 4. Conclusion

Using the VAR model, this study analyzed the arms race between South and North Korea, based on Richardson's action-reaction model. Estimated results show that Richardson's model is partially supported in the regression equation of South Korea. However, regarding North Korea, any variable in the model does not affect the change of North Korea's real military expenditure. These results imply that the arms race model is not supported in the case of North Korea, and North Korea's real military expenditure follows the random walk process.

When the stochastic process is the random walk process, the current change of the variable is unpredictable, totally depending on the error term. The fact that North Korea's real military expenditure follows the random walk process indicates that it cannot be predicted at all. There may be some interpretations in terms of the random walk process of North Korea's real military expenditure. First, it can be interpreted that North Korea's military preparedness has been determined without any strategic plan. The situation at the time may affect North Korea's decision on military preparedness. Secondly, considering that North Korea has developed nuclear and missile programs over a long period of time, it cannot be denied that North Korea has kept a long-term strategic plan for military preparedness. Then, it may be said that irrespective of the expansion of South Korea's military preparedness, North Korea has decided its policy toward military preparedness based on internal strategic goals such as its development and enhancement of asymmetric warfare capabilities.

Finally, it is true that data on North Korea's military expenditure is unreliable, for North Korea has been reported to hide its defense expenditure in other budget categories in order not to reveal how much of its government budget is allocated for this cause. In this respect, more accurate data on North Korea's military expenditure needs to be collected to have better insight into the arms race between South and North Korea overall.

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# A Review on the Meaning of DIGITAL EVIDENCE and Its Requirements

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#### Abstract

Due process, discovery of substantive truth, and the timeliness and efficiency of the procedures are the values of criminal litigation are still valid principles in the age of digital information. However, the way to implement these principles according to the properties of digital evidence remains as a challenge, and the field of digital evidence requires close cooperation between legal and technical sectors.

In particular, the level of production and distribution of digital technology and digital devices in Korea has maintained the highest level in the world. Nonetheless, it is a reality that if the defendant denies the crucial digital evidence obtained in accordance with the due process by a court issued by the judiciary in the trial process, the evidence is denied. As a result, most defendants do not recognize evidence as a counter-party to the state during the criminal trial for digital evidence that is directly or indirectly related to the assertion of the criminal's own crime, Discussion is needed.

In addition, even in the case of a recent series of events related to national security, the general law of criminal justice is applied to digital evidence as it is, so it is necessary to examine the exceptional rules for applying the special law on serious infringement of legal interests. In addition, the criminal evidence law for the serious crimes that occur in the digital information age is also implemented professionally and covertly. Therefore, the legislation that appropriately reflects the current situation and environment of digital information is necessary.

#### [Keywords] Digital Evidence, Admissibility, Hearsay Rule, Due Process, Criminal Evidence Rule

#### 1. Introduction

In the age of digital information, the everyday use of digital information enhances the possibility of collecting evidence and substantive truth in various criminal trials, and contributes to the rapid and efficient gathering of evidence. However, because of the possibility of distortion and transformation of information due to the variability of digital evidence, if it cannot be properly controlled, the idea of the criminal procedure law that the discovery of substantive truth and due procedure will fall down. This why we should pay attention to the identity or integrity of digital evidence, even though there are many legal issues to be considered according to the characteristics of digital evidence.

As hearsay rule from the general criminal evidence law is applied to the digital information, it is frequently witnessed that important evidence to prove the activity of crime is dismissed. From the perception of the problem at hand, legislative solution must be made.

In this study, digital information using digital evidence can be defined from the point of view of criminal evidence and defined as evidence-worthy information stored or transmitted in digital form. This paper discusses useful legal concepts and requirements of digital evidence, which can be discussed without considering the development of various types of media due to advanced technology, contents of information, and who the producer of the information is[1].

#### 2. Theoretical Background

#### 2.1. Definition of digital evidence

Electronic evidence is a term that refers to electronic information or electronic records from the point of view of evidence law. It is electronic evidence that evidence is in the form of electronic information(stored or transmitted electronically, ie, by electrical or magnetic means). The term special media such as electronic records is now used in Article 366 of the Criminal Act. In this case, special media such as electronic records refers to records stored in a certain storage medium by electronic or magnetic means[2]. It is not a physical entity in itself and cannot be viewed or read without the use of a separate display or output device. In addition, many people's doctors and activities are involved in the creation process. Moreover, there are many cases in which the additional input of information is automatically combined with the existing information and the new electronic record is produced by the program. The term is not being used independently while having an objective or fixed meaning, but is being used in a system in which an individual or a corporation constructs, processes, and outputs information in an electronic manner and installs and operates the system, and performs a predetermined authentication function[3]. The Digital Proof Collection and Analysis Regulation, which is the standard of the Supreme Prosecutors' Office, defines digital evidence as valuable information that is stored or transmitted in digital form related to crime.

Computer-related evidence, on the other hand, is evidence that the computer is using or storing hardware. However, since information can be stored or transmitted through communication media such as mobile phones, computer evidence is not a suitable term for digital evidence[4]. As the age of smart devices and ICT has arrived, the functions and roles of computer-related information have become blurred.

#### 2.2. Characteristics of digital evidence

#### 2.2.1. Non-readability and invisibility

Digital information cannot be recognized its existence and contents by human ability of perception. Therefore, in order to investigate digital evidence in court, it is necessary to restore the digital information to analogue information suitable for human perception[5]. In other words, digital data is a potential evidence that it can function as an evidentiary evidence only after a change process. In the case of analogue evidence, the method of evidence investigation is necessary in the case of written evidence, but in the case of digital evidence, a procedure called 'analogization' is needed before the procedure of presentation and reading. Of course, this analogization is not usually done in court, but outside the court, and because it is impossible to directly perceive or read by ordinary people, conversion procedures are required for participation and visualization of experts inevitably[6].

#### 2.2.2. Mutual independence between digital media and digital evidence

Digital evidence is information that is stored on or transmitted through digital media. In other words, digital evidence is basically information that is not dependent on the form of digital media, but is evidence of information independent or neutral from other media. This information, if the values are the same, has the same value no matter what types of media has the information in[7]. Because of the mutual independence of the evidence(information) and the media, the user can process, store and transmit the digital information regardless of the digital media[8].

#### **2.2.3.** Importance of the original copy

As digital evidence is invisible, it is important to see only the digital devices that store or transmit information, and what in-

formation is originally contained or transmitted. Moreover, since digital devices are elaborate and sophisticated, they require expert level of manipulation, but the possibility of artificial deletion or tampering by malicious experts is much greater than analog evidence[9].

This is because it is very easy for the digital evidence to be stolen, altered and deleted, but it is difficult to find out, and whether the digital evidence submitted to the court is tampered with or not[10]. In the end, it leads to the question of whether the authenticity or integrity requirement, which is a prerequisite for the recognition of evidence of digital evidence, is met.

#### 2.2.4. Replicability of the information

Since digital evidence has mutual independence with digital media, it can be repeated in the same form anytime and anywhere, keeping the same contents regardless of type of the media. In addition, digital information processes information with discrete values that are clearly distinguished from each other, so that there is no deterioration in the reproduction or transmission process. Because of this characteristic, digital information maintains the same value even if the duplication and transmission process are repeated, so that there is no difference between the originally generated original and the final duplicate. In other words, digital evidence does not deteriorate even in the repeated copy process if the values are the same, unlike the analog data[11].

This makes it difficult to distinguish between original and copy in digital evidence. This raises the question of how the best evidence rule should be applied to the digital evidence in the evidence law and whether it should be recognized at a certain level, such as evidence and proof of replies submitted in lieu of the original one[5].

#### 2.2.5. Large quantity of information

The large quantity of digital information as a characteristic has two meanings. One is the aspect of the generation of digital information and the other is the aspect of the storage of digital information[5]. The breakthrough of digital storage media allows very small digital media to store and transmit huge amounts of information[4]. In the case of a server shared by public as well as a personal computer, not only a specific person's data related to a crime is stored or transmitted even if it is a storage medium or a system, but data of a large number of persons unrelated to crime are transmitted or stored, It is quite common to be witnessed[12].

Therefore, since a large amount of data is accumulated, processed, and transmitted on a large scale, a system having a strong performance is required to seize and analyze the stored physical storage media, and the information stored by the specialist must be analyzed. In addition to this, due to this massive nature, there is a specific problem of the subject of the seizure search in relation to the scope of collecting evidence[5]. This digital evidence can store vast amounts of information on very small storage media on a personal computer, which are not only related to crime in the confiscation of storage media, but also personal and private life irrelevant to the crime

#### 2.2.6. Connectivity of the network

The digital environment is often connected to each other as well as the way in which each device or device moves independently. Therefore, in order to collect evidence-worthy digital data, it may be necessary to access system resources through a transnational network[12]. At this time, there arises a problem of jurisdiction, jurisdiction of the court or national sovereignty in relation to the collection of digital evidence[5].

Such digital evidence can be transmitted through various networks including the Internet. In addition, as the number of Internet services and clouding services increases, the number of cases where digital evidence is stored on a server managed by a third party is increasing. As a result, there may be a specific problem of the seizure place, a problem of land jurisdiction, and a limitation problem of law enforcement in the country[13].

#### 3. Requirements of Admissibility in Digital Evidence

#### 3.1. Pre-requirements of admissibility

In the criminal case law, it is the case, Lorraine v. Markel American Insurance C., which is regarded as the first comprehensive analytical opinion on the admissibility of digital evidence in the law of criminal evidence[14].

In this case, the judges present the following as a preliminary matter to consider in judging the admissibility of digital evidence through a judgment: relevancy, authentication, hearsay rule, original document rule, probative value and unfair prejudice of evidence, confusion, and waste of time. In fact, this preliminary question is not a peculiar issue which is specific to the domain of digital evidence but a traditional consideration for the analysis of the evidence capacity of common evidence. Thus, the US courts' fundamental attitude to digital evidence solves this problem through the concept of existing evidence, rather than recognizing new legislation or exceptions to grant that evidence[15].

#### 3.2. Standard for judgement on admissibility of digital evidence

Unlike the case of digital evidence and the legislative solution in the Anglo-Saxon countries, the law on criminal evidence in Korea still lacks legislation on hearsay rules and exceptions for digital evidence. The common criteria for judging the evidences of digital evidence should first be verified as evidence of the statements made by the statement, and verified whether they were submitted for the purpose of verifying the authenticity of the statements and contents. In addition, in the case of frequently occurring e-mails or text messages, it is first necessary to examine the application of the exceptional clause of Articles 313 to 315 of the Criminal Procedure Act after confirming that it is professional evidence. In addition, the Internet or SNS posting should also be verified by the statement of the author of Article 313 or by the statement of the person that the case is proved to be true.

#### 4. Conclusion

Digital evidence is processed and generated by inputting the data that the person wants to express by a program written by a person and processed mechanically without passing through a process of thinking or a statement of a person. The former is evidence of non-representation, while the latter is evidence. In the former case, there is no room for special laws to apply. In the latter case, if the truth of the content is true, then the special law applies, but if the existence itself is evidence, the hearsay rule is not applied.

The Supreme Court follows the same principle. In other words, if a defendant or a defendant uses a computer disk or other similar information storage medium to store the stored textual information or its output as evidence, it is in fact a statement or statement made by a defendant or a defendant In the light of the fact that there is a possibility of manipulation in the process of storing and outputting after seizure and basically the opportunity of opposition newspaper is not guaranteed in the process of seizure after it is seized, professional law applies to the truth of the contents, As the case may be used as evidence only when the authenticity of the establishment has been proved by the statement of the author or the statement in accordance with Article 313, Paragraph 1 of the Criminal Procedure Act. However, in the case where the existence of the character information as such is not the truthfulness of the contents of the character information stored in the information storage medium.

Normally, in case of hearsay evidence, it does not include the evidence which is processed mechanically without going through the processes of human perception, memory, expression, and narration. For example, computer log records, Internet Web history, and electronic recordings recorded electronically by electronic passes are evidence documents and not professional evidence. In addition, even if digital evidence contains a person's statement, it is not a professional evidence in the case of a doctrine or indication, not a statement of facts. For example, legal declarations such as subscription and acceptance of a contract, or actual indications such as a referral of a crime instruction or an incident handled by an official are not hearsay evidence[14].

In the end, in the case of digital evidence, in order to acknowledge its evidence ability, it is necessary not only to satisfy the prerequisites such as originality, identity with the original, and integrity, but also to the extent that the abovementioned special law is applied[13].

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### A Study on Improvement of Immigration Control for NATIONAL SECURITY in ROK -Focusing on Providing Foreigner's Fingerprint and Face Recognition Information-

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#### Abstract

With the advancement of globalization, countries are struggling with crimes by foreigners in their own countries. Republic of Korea(ROK) is no exception, and it has already reached the age of 2 million foreigners staying in ROK, and crime by foreigners is also increasing. In particular, not only conventional military and political security but also comprehensive security have attracted attention, and crimes such as drugs and international crimes by individuals or organizations have become a threat to national security. In this respect, it is the strengthening of immigration control by foreigners that can block crime for national security. There is a current Immigration Control Act with a statute to examine the identity of such foreigners. Since the current immigration control law resurrected the fingerprint seal system for foreigners abolished in 2003, there is a conflict between the criticism of unfair discrimination against foreigners and the effective method of restricting crime by foreigners staying abroad.

In this article, we will review the brief description of the fingerprint and face information collection system in the present Immigration Control Act and the purpose of the legislation. Based on this, we examined why the system that was abolished in the past revived, focusing on expected benefits and considerations.

Although many things can be considered in the first place, the most important thing is to prevent illegal immigration by re-entry of persons who have committed crimes in the past or identity laundering by illegal immigrants as well as efficient immigration examination, thereby reducing the risk of crime by foreigners It is expected. In addition, it is possible to prevent cases of settlement and further crimes by quickly identifying the identity of foreign criminals, and even if foreigners are injured, it can be solved quickly.

In this case, violation of the principle of excessive prohibition and infringement of personal information selfdetermination right of information subject may be a problem, but the biometric information system is not sufficient for the purpose of legitimacy of purpose, adequacy of method, balance of legitimate interests, And that it does not infringe on the right of self-determination of personal information of information subjects.

[Keywords] Visa, Immigration Status, Immigration Act, Fingerprint and Face Information Collection System, National Security

1. Introduction

With the advancement of globalization, countries are struggling with crimes by foreigners in their own countries. Republic of Korea(ROK) is no exception, and it has already reached the age of 2 million foreigners staying in ROK[1], and crime by foreigners is also increasing. In particular, not only conventional military and political security but also comprehensive security have attracted attention, and crimes such as drugs and international crimes by individuals or organizations have become a threat to national security. In this respect, it is the strengthening of immigration control by foreigners that can block crime for national security. Government statistics show that the number of crimes committed by foreigners in the last five years has increased rapidly from 25,507 in 2011 to 35,443 in 2015. The problem of crime by foreigners is that it is more difficult to prevent or arrest additional crimes if the offenders are caught after the crime rather than the occurrence itself. There is the "Immigration Act" as a statute that can be considered in relation to the identification of such foreigners. Since the current Immigration Act revived the fingerprint seal system for foreigners who were abolished in 2003, there is a conflict between the criticism of unfair discrimination against foreigners and the idea of effective prevention of crimes by foreigners staying in ROK. The following will briefly describe the foreign fingerprint recognition and face recognition system in the current Immigration Act.

#### 2. Introduction of Fingerprint and Face Information Collection System in Immigration Act

#### 2.1. Introduction of fingerprint and face information collection system in Immigration act

It is the second amendment of the Immigration Control Act on December 31, 1977 that the fingerprint intrusion system was first introduced in ROK. As a result of domestic political participation by foreigners criticizing the restricting system due to the influence of domestic politics at the time, this law was amended. The main content was not only prohibition of political activities of foreigners but also introducing foreign fingerprinting system[2]. At the time, the legislative intent of the fingerprinting system was to maintain balance with the citizens' fingerprinting system of the "RESIDENT REGISTRATION ACT" and to prevent and prevent foreigners' crime[2]. Since the Immigration Control Act stipulated in the Article 37 that foreigners aged 14 and over staying in Korea for more than one year are required to be registered at the time of alien registration[2], foreigners who are over 20 years old The fingerprinting of those who did it was abolished[3]. The main reason for this is that, if mandatory fingerprinting is mandatory for foreign residents based on age and length of stay, their human rights would be seriously violated[4]. In addition, the face information collection system was introduced for the first time in the immigration control law for the purpose similar to fingerprint reading, and this is also required to be collected by the relevant authorities at the time of entry and registration of foreigners. This face information collection system was introduced for identity verification and crime prevention in the absence of fingerprint information.

#### 2.2. Subjects and methods of providing biometric information

The Immigration Act requires that fingerprints and facial information[5] be provided at the time of entry under Article 12-2 and at the time of alien registration under Article 38.

# 2.2.1. Providing biometric information at the time of entry

A foreigner who intends to enter the Republic of Korea shall provide information on the fingerprints and faces of both index fingers through the information equipment specified by the officials of the relevant agencies when he is examined at the immigration office. However, if the fingerprint of the forefinger can not be provided due to damage or other reasons, the fingerprint should be provided in the order of thumb, middle finger, weak hand, and little finger[6]. i )the person under 17 years of age, ii) the person who comes to perform the duties of a foreign government or international organization and their accompanying family, iii )the promotion of friendship and cultural exchange with foreign countries, Except for persons prescribed by the Presidential Decree that it is necessary to exempt the provision of information on fingerprints and faces in consideration of promoting economic activities or the interests of the Republic of Korea.

# 2.2.2. Providing biometric information at the time of alien registration

In order to stay in the ROK for more than 90 days from the date of entry into the ROK,

a foreigner must register with the head of the office or business director who has jurisdiction over his place of stay within 90 days from the date of entry[7]. Those who are 17 years of age or older who are required to register as aliens, those who have been investigated in violation of this Act or in violation of other laws, (iii)Those who are not sure of their identity, (iv)The Minister of Justice shall be admitted by the Minister of Justice for the safety or profit of the foreigner or any person deemed particularly necessary for the safety or profit of the foreigner concerned.

#### 2.3. Counter measure against the person who provided the biometric information

Those who refuse to provide information at the time of entry pursuant to Article 12-2 of the Immigration Act may not be permitted to enter the country by the officials concerned. Those who refuse to provide information at the time of alien registration pursuant to Article 38, Can be.

#### 3. Review of Current Biometric Information Collection

The current Immigration Control Act, which focuses on the collection of biometric information at the time of immigration and registration of foreigners, has been a major controversy since it revived the system that was abolished. In addition, there is criticism about the fact that Koreans, who had a great support and praise when Korean residents in Japan opposed the fingerprint seal system in the past, introduced a similar system. If so, why does the government require fingerprinting and face recognition information for foreigners, and how will the system be valid?

#### 3.1. Expected profit

First, due to the development of science and technology, the ability of stigmatization and modulation is evolving day by day. As a result of visual judgment like the current one at the time of immigration examination, it is difficult to effectively prevent a person who attempts illegal entry with his passport[8]. In addition, if biometric information is additionally used to identify the applicant, efficient immigration inspection will be possible. In addition, it is expected that it will be possible to prevent the illegal entry of illegal immigrants by re-entry of illegal immigrants or illegal entry of persons who have committed crimes in the past, thereby reducing the risk of crime by foreigners.

Second, in the case of foreign criminals, it is possible to prevent cases of settlement and further crime through rapid identification of foreigners, and even if a foreigner is injured, it will be possible to resolve the case quickly.

Third, the newly introduced identity verification system is not introduced only in terms of the control of the state, but it avoids the hassle of the existing character - based identity verification system, There is also a purpose to aim for a small government.

#### 3.2. Considerations

First, the Immigration Act is controversial because it has expanded from the resurrection of biometric information about foreigners to the arrival of the object and requirements. In other words, it should be considered whether there has been a change in the situation so that it is justified to expand and strengthen the abolished system in only a few years in order to promote the convenience of foreign residents and improve the national image. In the case of illegal immigrants, the legal exposure to crime is greater than that of foreigners who legally stay in Japan because of legitimate economic activities. In many cases, It is desirable to enforce the system.

Second, according to the current law, foreigners over 17 years old should be permitted to collect biometric information without exception in entry and foreigner registration, which raises the question of whether the Constitution does not infringe on self-determination of personal information. The Constitutional Court held that the right of self-determination of self-determination in the case of unconstitutional identification of the Resident Registration Act was "the right of the information subject to decide on himself or herself to whom, There may be a question whether the biometric information collection system here is an unconstitutional system that infringes the right to self-determination of personal information contrary to the principle of prohibition of overbinding in the Constitution.

The law restricting the basic rights of the people must: i) the legitimacy of the purpose, ii) the appropriateness of the method, iii) the balance of the legitimate interests, and iv) the minimum of the restrictions. In relation to the biometric information provision system, the legitimacy is considered to be satisfied due to the fundamental legislative purpose of i )effective management of foreign nationals and the social defense due to the deterrence of crimes by foreigners staying there. Compared with the situation in Korea where all people 17 years old or older are fingerprinted, the method is appropriate because the fingerprint seal is required to provide both index finger and facial information at the time of entry of foreigners[9]. iii)Next, foreigners must provide biometric information without regard to specific crimes unless they fall within the scope of exceptional cases. The relevant authorities shall maintain and manage them in accordance with the "Personal Information Protection Act" and use them for criminal investigation purposes It may be a question of whether it violates the principle of minimum damage. However, identification of a criminal or a victim of a crime or accident by a foreigner is performed in such a way that the relevant authorities collect and store the fingerprint information in advance, so that collecting only specific fingerprint information such as criminals will not provide comprehensive biometric information This requirement is also met because it can not achieve the collective level of legislative purpose. iv )Finally, even if the authorities collect and manage the biometric information of foreigners, it is unlikely that most foreigners will be substantially harmed if the balance of legitimate interests is violated. However, according to this law, This is because the benefits that can be gained from the information are greater than the disadvantages of the information subjects[10]. As a result, the biometric information collection system under this Act is considered to be a system that does not violate the principle of overbinding and does not infringe self-determination in the Constitution[11].

Third, according to the present Immigration Act, the collection of biometric information for foreigners is divided according to Article 12, Article 2 and Article 38. As a result, even though the biometric information was provided at the time of entry, In addition, it may be questioned whether the requirement to provide biometric information is excessive regulation for foreigners[12]. The necessity of legitimate collection of biometric information is recognized in that the purpose of this system is to promote social defense through the efficient management of foreigners and convenience of foreigners. However, despite the fact that biometric information is registered at the time of entry(in the case of 17 years or older staying in ROK for more than 90 days), the provision of additional biometric information at the time of foreign registration can provide foreigners with the perception that all foreigners are regarded as potential criminals. It can be a countervailing measure[13]. Therefore, it is reasonable to revise this law to collect biometric information at the time of entry.

#### 4. Epilogue

In a country lacking resources such as ROK, it will be forced to concentrate on the high value-added industry through the activation of human exchange, which inevitably leads not only to expansion of overseas advancement of Koreans but also expansion of foreigners staving. Therefore, administrative authoritarian immigration systems and should be avoided. It should be noted that it is the role of the state to protect not only the net profit from the expansion of human exchanges but also criminal acts that transcend borders and criminal acts that could hinder sound market economy. In this sense, the collection of biometric information for the purpose of effective defense of the foreigner and social protection of foreigners and active protection of foreigners is preferable for the basic purpose. The only problem is that all the foreign institutions are regarded as potential criminals by collecting and storing extremely sensitive biometric information collectively by the national authorities. If we recall the responsibility of the state to protect the lives and property of the people, You have to accept it unless you do it. According to the current Immigration Act, duplication of biometric information should be unified through institutional improvement, as mentioned above, considering the convenience of foreigners, unnecessary administrative burden, and international status as a member state of human rights. In addition, institutional loopholes still exist in the collection of biological information and its computational management. There is a concern that an innocent person may be harmed by the malfunction of the network, leakage of collected personal information, and illegal use of personal information. Especially, because it is sensitive biometric information of foreigners, it is necessary to provide more detailed institutional supplementation because it can provide diplomatic dispute in case of a situation.

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