

# Rational Choice in Modern Administrative Law: With the Behavioral Economics Approach to the Two Major Cases in Korea\*

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## Abstract

*In modern regulatory state, the government has to deal with the so-called 'risk' issues. We are all surrounded by many different types of risks like climate change, bird flu, mad cow disease, genetically modified food, nuclear energy, etc., just name a few. The reason why modern administrative law is under a big challenge in dealing with those risk issues is that the government has to make policy choice under uncertainty. Compared to the traditional role of state like police administration and social benefit administration, the role of government in risk administration is much complicated and dynamic.*

*In this paper, I would like to address the issue of how people and governments in modern administrative state can reach rational choice in dealing with risk management. The idea of democracy is based upon the rational choice of each individual participating political process. However, if, for some reason, people cannot fully understand what is going on and what kind of options they have, then, it is not easy for them to make rational choice in expressing their political preferences. Which naturally brings about the difficulty of government in setting appropriate policy measures in modern administrative law. With the interdisciplinary contribution of psychology, economics, and law, we now know that there are several human behavioral biases that are affecting the process of rational choice of individuals in forming their political preferences. Availability heuristic, cascading effect, group polarization, framing effect, hindsight bias, etc. are the major examples of those behavioral biases.*

*In this paper, I will try to show how those behavioral biases are affecting the process of individuals' political preference formation, explain what should be the main concern of modern administrative law to minimize the adverse effects of those possible irrationality of people in building up social preference function, and provide my own view on those topics.*

KEY WORDS: Rational Choice, Administrative Law, Behavioral Bias, Uncertainty, Risk, Mad cow disease protest, Cheon-seong mountain tunneling case

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## I. The two cases in Korea

### 1. *Mad cow disease gale in 2008*

In early 2008, when the new president Lee Myung-bak government first began to negotiate with U.S. government on the import of U.S. beef, nobody expected that Korean society would fall into such a chaotic turmoil surrounding that issue. From April of 2008 to the end of that year, more than 1,000,000 people joined the protest against the import of U.S. beef into Korean territory. Their claim was that eating U.S. imported beef could put the people who ate the beef under the risk of being caught with mad cow disease.

The protest reached its peak after MBC (Mun-hwa Broadcasting Company), which is one of the major broadcasting companies in Korea, broadcasted an investigative program on human being mad cow disease. The film was full of images showing how dangerous it could be to eat mad cow diseased beef. Originally, the protest against beef had quite political aspect. It could have been regarded as designed by liberalist groups who were against the president Lee's government. However, after the MBC program was on air, the number of participants into the protest grew very rapidly including just young housewives and children. They were using pickets like "I don't want to die!"<sup>1)</sup>

As the possibility of human being mad cow disease had somewhat scientifically uncertain aspect, nobody could strongly persuade the people on the street to take it easy and go back home, even the president.

The country was falling into just a big chaotic turmoil of fear and anger.

After all, it turned out scientifically that the U.S. imported beef is officially safe from mad cow disease for human being, and as of now in 2012, many Korean people are enjoying the steaks made of beef imported

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1) About the story and image of the protest reported in the media, please confer following articles. Sang-hun Choe, Korean Leader Considers Ways to Rework Government, The New York Times, June 11. 2008, available at [http://www.nytimes.com/slideshow/2008/06/10/world/0610-KOREA\\_index.html?\\_r=0](http://www.nytimes.com/slideshow/2008/06/10/world/0610-KOREA_index.html?_r=0); <http://www.nytimes.com/2008/06/11/world/asia/11korea.html?pagewanted=all>.

from U.S.<sup>2)</sup>

## 2. Cheon-seong mountain tunneling case in 2004

In 2004, the Korean government tried to make a tunnel at Cheon-seong mountain for the newly constructed KTX (Korean Train Express) from Seoul to Busan. The research outcome done by the government shows that the tunneling of Chen-seong mountain is the shortest cut and the most cost effective route to connect from Daegu (until which KTX had already been built from Seoul) to Busan. Somewhat suddenly, a female monk named Jiyul who were living a monastic life in a temple at the Chen-seong mountain claimed against the building of KTX tunnel and began to stage hunger strike against the government.<sup>3)</sup>

Monk Jiyul and several environmental groups supporting her claimed that once the tunnel is made in that mountain area then it will destroy the habitat of the *Onychodactylus fisheri* Boulenger (Korean clawed salamander).

The hunger strike of monk Jiyul drew people's attention on that issue and fired cross-national debate on the validity of tunneling the mountain. As the period of Jiyul's hunger strike gets longer and the disagreeing opinions against the tunneling grew bigger, the government temporarily stopped the construction and vowed to do again the environment impact assessment (EIS).

It was estimated that per each day of stopping the construction, the

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2) After the gale of mad cow disease passed by, the producers of the MBC investigative program "PD Sucheop(meaning 'diary' or 'memo' in Korean)" were indicted on charges of defamation. However, the Supreme Court of Korea ruled that they are not guilty on the basis of the freedom of speech principle. See Supreme Court [S. Ct.], 2010Do17237, Sep. 2, 2011 (S. Kor.).

3) About the detailed story on the protest, please confer following media articles. Sun-young Lee, *Nun Jiyul hunger strike at 100-day mark*, THE KOREA HERALD, Feb 2, 2005, available at <http://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=108&oid=044&aid=0000049055>; Hyun-jung Bae, *Environmentalist monk wins 10 won in court case*, THE KOREA HERALD, Sep. 4, 2009, available at <http://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=104&oid=044&aid=0000084940>; *In the Wake of Jiyul's Hunger Strike*, THE HANKYOREH, Aug 26, 2004, available at <http://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=001&oid=028&aid=0000075270>

construction cost would rise with the rate of about KRW 7,000,000,000 (which approximately equals to US \$ 7,000,000) everyday.

After all, it took months and months to finish the new EIS and lawsuits raised in relation to the dispute and finally to finish the construction of KTX from Seoul to Busan through the Cheon-seong mountain tunnel.<sup>4)</sup>

As of now in 2012, many Korean people are happy to use KTX from Seoul to Busan with shortened time. And, somewhat ironically, some scientific research report says that compared to the time when the tunnel was not built, the number of Korean clawed salamander in that area was raised.<sup>5)</sup>

## II. Rational Choice in Modern Administrative Law

### 1. Introduction

In modern administrative state, finding out the proper role of state is not as simple as it used to be in the police state. During the era of police state, the proper role of government was relatively simple. The governments were well to do if they could keep the peaceful state of the society. The public administrative goal was mostly evident and simple. They were required to arrest burglars and to protect the territory of state from foreign invasion. Of course, due to the scarcity of resources, the governments could not fulfill every requirement from people, but still in that case, the administrative goals and the administrative means to achieve those goals were quite evident and simply correlated with each other.

Compared to that, the proper role of modern administrative state is

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4) The Supreme Court finally dismissed the petitions from environment group to stop the construction of the tunnel in the following decision. *See* Supreme Court [S. Ct.], 2004Ma1148 & 2004Ma1149 (consol.), Jun. 2, 2006 (S. Kor.). One interesting legal issue raised in those cases were whether the salamander itself can have standing to raise suit against the government. The court ruled that the salamander itself do not have the legal ability to have standing to raise a lawsuit.

5) Young-woong Park, *About the debate on Cheonseongsan Dorongnyong lawsuit*, NEWSSEN, Jun. 21. 2011, available at [http://article.joinsmsn.com/news/article/article.asp?total\\_id=5673142](http://article.joinsmsn.com/news/article/article.asp?total_id=5673142).

much more complex and it is not easy to find the right answer in modern administrative actions. Much of that is because modern administrative states have to deal with so-called 'Risk' issues. The main point in dealing with the risk issues is that government has to make choice under uncertainty.<sup>6)</sup> The two cases in Korea described above can be also categorized as risk issues in modern society.<sup>7)</sup>

What is important is that however uncertain it maybe, the governments cannot totally run away from making a decision on those risk issues. Moreover, the governments have to do their best to make a rational choice in policy decision-making choices.

## 2. *Rational choice theory in public law*

The analysis of rational choice in market economy is relatively simple compared to that in public law area.<sup>8)</sup>

People generally have no difficulty in taking the assumption that market players are seeking the maximization of their self-interest in market decisions like consumption and production.

This utility maximization or welfare maximization assumption has difficulty in being equally applied to public law decisions. Much of the people who naturally accepted the self-interest maximization assumption in market decisions hesitate in accepting the assumption that the public agents would also try to maximize their own self-interest in public decisions.<sup>9)</sup>

Quite a lot of people believe or expect that public agents are public interest minded people rather than private interest seekers. This difference

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6) About the brief overview of risk in modern society, see CASS R. SUNSTEIN, *RISK AND REASON - SAFETY, LAW, AND THE ENVIRONMENT* -, Cambridge University Press (2002).

7) About the excessive reaction of people against risk (especially when it is unknown) in modern society, see CASS R. SUNSTEIN, *LAWS OF FEAR - BEYOND THE PRECAUTIONARY PRINCIPLE* -, Cambridge University Press (2005).

8) About the issue of rationality in public law, see JERRY L. MASHAW, GREED, CHAOS, AND GOVERNANCE - USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW -, Yale University Press (1997) chap. 3.

9) About the reasoning of the validity of self-interest seeking agent assumption in public area, see GEOFFREY BRENNAN AND JAMES M. BUCHANAN, *THE REASON OF RULES - CONSTITUTIONAL POLITICAL ECONOMY* -, Cambridge University Press (1985).

of perspectives on people behaving in public sphere leads to the different categorical theory on public law. One is public interest theory of public law and the other is public choice theory of public law.

The public interest theory of public law explains that the reason why we need public law in the form of regulation is to correct market failure. The public choice theory of public law criticizes the public interest theory that there is no logical underpinning in its explanation that the existence of market failure naturally brings about the government regulations to cure the market failure.<sup>10)</sup>

### 3. *Social preference function*

As we have seen above, in public law area, it is not easy to find out what is rational choice of public policy. It is mainly because modern societies are composed of so many people with so many and diverse preferences. In this condition, to find out the rational public choice outcome, it is necessary to have a social preference function with which to correlate each different set of people's preference to a single communal preference.<sup>11)</sup>

As a certain society's total amount of resources can be technically calculated (even though it may take a very complex process and a huge number of hours), once a coherent and consistent social preference function is found, then the rational public choice outcome can be theoretically found.

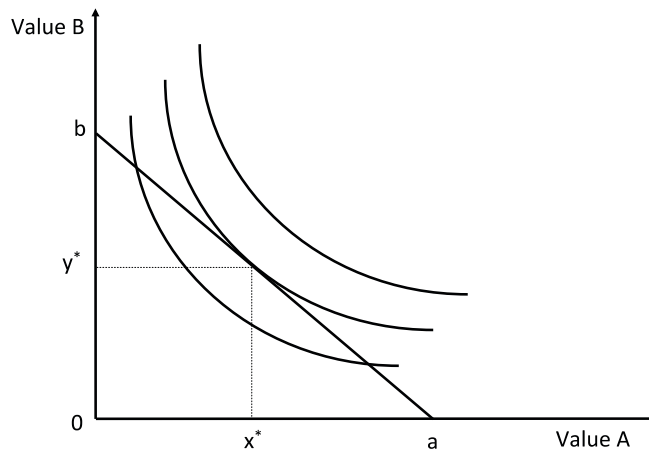
The democratic process based upon majority rule is also one example of a social preference function most commonly taken in modern democratic society. As we all know, it is a way to make communal decisions from each people's different preferences. To build up a more sophisticated way of communal decision-making, human beings have historically tried to develop better political process and democratic process.<sup>12)</sup>

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10) About the critical understanding of public law from the public choice theory perspective, see DANIEL A. FARBER AND PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE - A CRITICAL INTRODUCTION* -, The University of Chicago Press (1991).

11) On the issue of finding out the social preference function by collecting social choice from individual values, see KENNETH J. ARROW, *SOCIAL CHOICE AND INDIVIDUAL VALUES*, Yale University Press (1951).

12) On the issue of understanding democracy from economics perspective, see ANTHONY DOWNS, *AN ECONOMIC THEORY OF DEMOCRACY*, ADDISON-WESLEY (1957), MANCUR OLSON, *THE LOGIC*



Picture 1<sup>13)</sup>

However, the Nobel laureate Kenneth Arrow has mathematically proved that no social preference function can be established without having a dictator once it fulfills other minimum requirements (Rationality, Pareto principle, Independence from irrelevant factors, Universal applicability) for social preference function to function as a social preference function. (Arrow's Impossibility Theorem)<sup>14)</sup>

This means that there is no coherent and consistent social preference function with which to draw a society's preference from each individual's different sets of preferences.

Actually, this is quite a disappointing result. After Arrow's Impossibility Theorem first showed up in the academic world, many social scientists tried to show that the theorem was wrong. However, the more they tried to prove the fallacy of the theorem, the more it was found out that the theorem was logically perfect.

What is left is to try to build up the second best type of social preference

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OF COLLECTIVE ACTION - PUBLIC GOODS AND THE THEORY OF GROUPS -, Harvard University Press (1965).

13) This picture and related explanations are from Seong-Wook Heo, *Public Law Theory and Public Policy(I) - A Theoretical Foundation of Public Choice Theory as an Analytical Tool for Public Law Theory*, KOREAN JOURNAL OF LAW AND ECONOMICS Vol. 6 no. 2, at 139 (2009).

14) ARROW, *supra* note 11.

function with sacrifice of one or two of the conditions provided above for the social preference function to be consistent and coherent.

#### 4. *Cost benefit analysis vs. Precautionary principle*<sup>15)</sup>

As we have discussed above, different from the market equilibrium analysis in consumer choice theory, it is not easy to define what rational choice means in administrative law.

Now we turn to the story of cost benefit analysis.

Cost benefit analysis (CBA) can be a good anchoring point to discuss that topic.

In market analysis, it is naturally agreed upon to have the self-interest maximization assumption of market players. On the other hand, in analyzing the public law topics, people tend to hesitate to take the self-interest assumption of public players. Many people try to set something apart from just monetary value as a public goal that should be the target to be achieved in public arena.

However, it cannot be denied that much of the public goals to be achieved in modern society have the property to be calculated and compared in terms of utility or welfare.

Actually, in modern administrative state, CBA is becoming quite prevalent in evaluating the validity of government regulations. In Korea too, the Basic Framing Act on Administrative Regulation (BFAAR) requires every administrative agencies to do Regulation Impact Assessment (RIA) including CBA when they introduce new or stricter regulations.

But, the story in real life is not as simple as that statutory provision.

Let's go back to the two cases in Korea presented in the introduction.

In both cases, the result of CBA and the public people's response were not the same.

In the U.S. beef case, the government CBA analysis showed that importing beef from U.S. in cheap price would heighten Korean people's welfare level. In that sense, they thought that they are making a rational

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15) About the description of debate between precautionary principle and cost-benefit analysis and the trial to have a more sophisticated understanding of precautionary principle in modern risk society, see SUNSTEIN, *supra* note 7.



choice in public policy by allowing the import of beef from U.S. But people who participated the protest against the government thought in a different way. Of course, the politics of mad cow disease protest in 2008 is far more complex than just an issue of CBA, but that dramatic event can be understood somewhat more easily through the frame of CBA vs. Precautionary principle in risk issues.

In Cheon-seong mountain tunneling case too, the CBA result of government showed that tunneling through the mountain is the most benefit-cost efficient way of building the KTX route. But monk Jiyul and environment group's ideas were different from that.

The arguments of people who are not agreeing with government CBA analysis can be understood in two different reasoning. The first is that the high risk of being taken with human mad cow disease is so dangerous that its cost side should be more intensively counted. In that case there is no guarantee that benefit exceeds cost. The second is that because the value of cost side like protecting scarce animals in nature is incalculable and incommensurable compared to the monetary benefit side, CBA should not be applied in that kind of policy decisions.

They argue that in dealing with risk issues the government should not just follow CBA in their decision-making, and the state is required to do whatever measures to prevent the happening of risk.

This tension between CBA and Precautionary principle is another battlefield where different thoughts on public rational choice are fighting each other.

##### *5. Rational choice in democratic process*

As Francis Fukuyama once pointed out, the political system of liberal democracy can be thought of as the most developed shape of social preference function until now, even though it may not be the end of history.<sup>16)</sup>

Including quite many varied versions of voting, the majority voting is still the most commonly taken form of collective decision-making process.

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16) FRANCIS FUKUYAMA, *THE END OF HISTORY AND THE LAST MAN*, Avon Books (1992).

However, as Condorcet has easily shown, the majority voting system is not a perfect one at all. When more than one of the voting participants has multi-peaked preference, the cycling of voting outcome would happen, and no final decision can be made.

Then, what is the rational choice in democratic process?

We can think about the two different main ideas on this topic. Pluralism is one and Republicanism is the other.

The pluralists claim that because each individual person is as rational in his or her public decisions as in market decisions, there is no need for the state to intervene into individuals' decision-making processes. The collective result of each individual's rational choice itself is regarded as the rational choice of the community.

On the other hand, the republicans take note at the possibility that each individual's political decision might be defected by irrationality or the possibility that each individual's rational choice might not necessarily lead to the rational choice of the public. In this sense, they argue that the rational choice of a society comes not from the pluralistic process but from the deliberation process by the representatives of the society who have the virtue to be sincerely worried about the better future of the community.

This difference of view on democracy is also affecting how to cope with the uncertainty issues in modern administrative law.

The pluralists would argue that whatever it might be, what the public desires through democratic political process should be respected as the rational choice of that community. On the other hand, the republicans would argue that because the respect of political process in democracy is not the respect for the blunders of the public but the respect for the sincere virtues for the prosperity of the community, the government should not just follow the public's opinion presented through majority voting or protest.

It is not easy to directly link this difference of views on democracy to the difference of attitude towards the 2008 mad cow disease protest and the Cheon-seong mountain hunger strike, but through the lenses of pluralism and republicanism, we can better understand the structure of tensions between different groups who have different ideas on what is the rational choice for our society.

## 6. Behavioral biases in people's choice

Until now, we have discussed the rational choice of modern administrative law from several different angles. During the discussions, it was implicitly supposed that each people are making their rational choice at least individually. What matters was whether each individual's rational choice could be collected to rational choice of the community.

Would that be true in real life?

As Cass Sunstein often cited in many books and papers, the result of some empirical study shows that people have tendency to behave differently from the result of classical rational choice theory.<sup>17) 18)</sup>

Here are some of them. In each section of the theories, I will firstly overview the contents of the theories briefly and then try to apply those theories to the two cases in Korea.

### 1) Availability heuristic

People tend to be affected much more strongly from things available around them.

For example, when a person is exposed to the news of bird flu from media continuously, he or she will think that the risk of bird flu is much more higher than other risks less available.

Likewise, it can be easily found that in thinking about risks, people rely on certain heuristics, or rule of thumbs, which help them to simplify their inquiry.<sup>19)</sup> In thinking about what to do in risk situations, people commonly use the availability heuristic. People assess the magnitude of risks by asking whether examples of those risks easily come to mind.<sup>20)</sup>

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17) The basic introduction of those behavioral biases and their application to legal analysis are at CASS R. SUNSTEIN, *WHY SOCIETIES NEED DISSENT*, Harvard University Press (2003). The behavioral economics approach to risk is also tried in his later book *LAWS OF FEAR* in chapter two: Behind the precautionary principle.

18) The original research on this topic was done by DANIEL KAHNEMAN, PAUL SLOVIC, AND AMOS TVERSKY at *JUDGMENT UNDER UNCERTAINTY: HEURISTIC AND BIASES*, Cambridge University Press (1982).

19) SUNSTEIN, *supra* note 7, at 37.

20) *Id.*

The first factor affecting the availability heuristic is 'familiarity'.

For example, "a class whose instances are easily retrieved will appear more numerous than a class of equal frequency whose instances are less retrievable."<sup>21)</sup>

According to a simple study of Daniel Kahneman, Paul Slovic, and Amos Tversky, people respond that more names of men were in the list when the names of men were more famous than the names of women even in the case when the list was composed of equal number of male and female celebrities.<sup>22)</sup>

This study is showing how familiarity can affect the availability of instances. A risk that is familiar, like that associated with smoking, will be seen as more serious than a risk that is less familiar, like that associated with sunbathing.<sup>23)</sup>

In addition to familiarity, 'salience' is also affecting the availability heuristic.

According to Kahneman, Slovic and Tversky's example, the impact of seeing a house burning to people is probably greater when the fire is in front of their eyes than when they just read the news of fire in the local newspaper. In the same logic, recent events will have a greater impact than earlier ones.<sup>24)</sup>

The 2008 mad cow disease protest is one major example of availability heuristic.

As mentioned above, Korean people got so much upset about the possibility of being taken by mad cow disease right after the MBC program was broadcasted. When the Korean people were exposed to the salient images of mad cow disease like a sick cow that cannot stand up or an interview of a dying girl supposed to be taken by human mad cow disease, they came to think that eating U.S. imported beef was a really dangerous thing.

The familiar and salient images of mad cow disease made Korean

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21) KAHNEMAN, SLOVIC, AND TVERSKY, *supra*, note 18, at 11, recited from SUNSTEIN, *supra* note 7, at 36.

22) SUNSTEIN, *supra* note 7, at 36-37.

23) *Id.* at 37.

24) *Id.*

people to rely on availability heuristic in their decision-making.

## 2) *Cascading effect and Group polarization*

Certainly, human beings are not sheep.<sup>25)</sup> But in real life, human beings have tendency to follow other people's opinion astonishingly often. This tendency to follow other people gets stronger when they are faced with hard questions rather than easy questions.

Moreover, in uncertainty situations, when quite a number of people already shared their views in some way, then it is very easy for a newcomer to just follow. Cascading happens. We can find out many examples of cascading event in human history. Some of them were good cascading, some others of them were quite tragically bad cascading.

Cascades can involve judgment about either facts or values. They happen within legislatures, political parties, religious organizations, and the judicial system as well as within diverse groups of citizens in our society.<sup>26)</sup>

Cascades are neither good nor bad by themselves. We can find many historical incidents of cascades through which people came to reach sound collective conclusion on social movement. The apartheid in South Africa fell in part because of a cascade. The downfall of Communism and the civil rights movement in the U.S. also showed similar dynamic.<sup>27)</sup> These are good examples of cascades. The problem is that people can converge on erroneous or insufficiently justified outcomes through exactly the same process.<sup>28)</sup> And this problem is quite a serious one.

Much of risk issues in modern administrative law are related to cascading effect in public decision-making process. In mad cow disease too, as the scientific evidence of human mad cow disease was still uncertain, people didn't have objective criteria to decide the issue. In that situation, once quite a big number of people got together to share same idea that eating U.S. imported beef might put people under the risk of human mad cow disease, many other people naturally joined the stream of cascading

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25) SUNSTEIN, *WHY SOCIETIES NEED DISSENT*, *supra* note 17, at 54.

26) *Id.*

27) *Id.* at 55.

28) *Id.*

into the protest against government.

Cascading happens both in informational aspect and in reputational aspect.

When people lack the exact information to make decision under uncertainty situations, they are well rational to just follow the majority opinion already made. In collective wisdom perspective, if each individual in the group do their best to make rational choice based upon the full information they have, then the collective outcome might be close to the best one. However, participants in the cascade might fail to see that the blind really are leading the blind – that the decisions of most of their predecessors, themselves following others, carry little independent information.<sup>29)</sup>

What is important is how to reduce the risk of bad cascades. It is suggested that the more people with professional knowledge on the issue are included in the group and the more the social culture of dissenting opinion to be freely expressed is cultivated, the risk of bad cascading is lessened.

It is an issue with debate still going on in Korea, whether the mad cow disease gale was an example of bad cascade. As mentioned in chapter I, the producers of MBC program were finally found not guilty at the Supreme Court. The Court ruled that even if some factual contents of the program were found to be false, it is not a defamation to the public officers doing the job of negotiating with U.S. on beef import, because the program was about an issue with public and social meaning and the producers have a wider range of freedom of speech as media journalists.<sup>30)</sup>

However, that does not directly mean that the mad cow disease gale was a good cascade or the import of U.S. beef was a bad movement that should have been stopped by the brave dissenting opinion of PD sucheop.

Group polarization is also a kind of human bias easily found in group-thinking process. Group polarization means that people tend to reach more polarized conclusion when they deliberate in groups than by themselves. This tendency gets stronger when the group is composed of people with similar political preferences. This tendency gets weaker when one or more

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29) *Id.* at 60.

30) Supreme Court [S. Ct], 2010Do17237, Sept. 2, 2011 (S. Kor.).

of the people in the group have scientifically exact answers on issues being discussed, or when they can freely express their ideas.

A person who simply didn't like imported beef may turn to become an extreme antagonist against U.S. beef after participating the protest gathered with quite polarized people against U.S.

### 3) *Probability neglect*

As Sunstein mentions, the availability heuristic and the social cascading can produce an inaccurate assessment of probability. However, sometimes people will attempt little assessment of probability at all, especially when strong emotions are involved.<sup>31)</sup>

In such cases, large-scale variation of probability matters little – even when that variation should matter a lot. This happens both in hope side as well as fear side. The behavior of people's buying lottery is an example of the hope side probability neglect. However, the fear side probability neglect is the main relevance to risk issues.<sup>32)</sup>

This probability neglect can be easily connected to the precautionary principle in risk management. When people fall into the trap of probability neglect in salient risk, they focus on one emotionally gripping outcome among a large set of possibilities, and this will bring about the excessive public concern about certain very low-probability risks.<sup>33)</sup>

Quite a lot of examples of probability neglect can be found in modern risk issues.

In the issue of the risk of dying in airplane crashes, the risk of genetically modified food, the risk of climate change etc., people easily tend to be neglect about the real probability of the risk's being realized.

Both in the mad cow disease case and in the Cheon-seong mountain case, people in Korea showed the tendency of probability neglect. Even though the scientific probability of human being mad cow disease was very low or almost close to zero, the people in the protest were defying the import of U.S. beef at all. They were not rationally calculating the probability of mad cow disease; they were not doing the rational benefit

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31) SUNSTEIN, LAWS OF FEAR, *supra* note 7, at 39.

32) *Id.*

33) *Id.*

cost analysis on the import of U.S. beef; they were simply and emotionally rejecting the small – however small it might be – possibility of the risk. The citizen group in the Cheon-seong mountain case was acting almost in the same way. The people in the group were not rationally calculating the probability of the effect of tunneling to the wildlife in that area. They were not even accepting the result of the EIA (Environmental Impact Assessment).

The thing is that this probability neglect attitude of people still can have much influence on public decision-making through diverse political activities.

One main issue in modern administrative law is how to deal with this probability neglect but quite influential political voice of people.

#### 4) *Framing effect*

Framing effect means that people generally cannot escape the frame through which a problem was given. The existence of this framing effect tendency was first experimented by psychologists Amos Tversky and Daniel Kahneman in 1981.<sup>34)</sup>

The experiment was done by asking questions about a disease prevention strategy to quite a large group of people. The first question was given to the participants offered with next two options around 600 people affected by a hypothetical deadly disease.

- Option A saves 200 people's lives.
- Option B has a 33% chance of saving all 600 people and 1 66% chance of saving no one.

As we all know very well, these two options have the same expected value of saving 200 people, but option B is more risky. About this question, 72% participants chose option A, whereas only 28% people chose option B. The other question, actually the same as the previous one, was framed a little bit differently and asked to other group of people.

- If option C is taken, then 400 people die

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34) For more detailed academic explanation on framing effect in jury decision-making, see Edward J. McCaffery, Daniel J. Kahneman, and Matthew L. Spitzer, *Framing the Jury: Cognitive Perspective on Pain and Suffering Awards*, BEHAVIORAL LAW & ECONOMICS (Edited by Cass R. Sunstein), Cambridge University Press (2000), chap. 10.



- If option D is taken, then there is a 33% chance that no people will die and 66% chance that all 600 people will die

About this question, 78% chose option D that is equivalent to option B, whereas only 22% chose option C that is equivalent to option A. This experiment shows that according to the frame of question, people's selection of choice differs quite dramatically. If this is true in real life, we cannot help but raise a serious question to ourselves what is the rational choice in public choice. If people's choice or preference is indeterminate according to the frame under which the issue is raised, then how do we get our society's rational choice that must be based upon individuals' preferences?

It needs some more empirical research to find out how the framing effect affected the process of social consensus making in the two Korean cases. However, I can roughly suspect that the people in the mad cow disease protest received questions about the risk of eating U.S. imported beef or the benefit of importing U.S. beef in a different context or in a different frame, their answers might have been very different from what was shown in the street.

##### 5) *Hindsight bias*

Hindsight bias is the psychological inclination to think events already occurred as being more predictable than they were before they took place.<sup>35)</sup>

This hindsight bias can also affect the risk measurement and risk policy.

In evaluating a certain policy measure related to risk, it is important to measure the possibility of the risk events. Because risks are all around us in many different shapes and it is impossible to take precautionary measures against all those risks, we need to decide which risk to be first dealt with and which risk to be dealt with later. In making that decision, it is crucial to consider the possibility of each risk's occurrence.

However, if the possibility of each risk's occurrence is calculated differently between before and after the risk events, then there should be some problem in evaluating the validity of risk management policy. We can

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35) For more detailed academic explanation on hindsight bias, see Jeffrey J. Rachlinski, *A Positive Psychological Theory of Judging in Hindsight*, BEHAVIORAL LAW & ECONOMICS, *supra* note 34, chap. 3.

see the 2011 Japan nuclear power plant accident as an example of hindsight bias. Before the accident occurred, not many people expected that such a big blow of tsunami would hit Fukushima area and let the sea water pour into the power plant. The professional knowledge was that the power plant wall was well built highly enough to protect the power plant against whatever possible natural blow. But once the tsunami strong enough to damage the power plant hit the plant and nuclear accident happened, many people not just in Japan but also many other people in worldwide fell into despair and began to blame Japanese government and the Tokyo Electric Power Company for not taking enough precautionary measures against the accident. In that situation, as people already witnessed the occurrence of the nuclear accident, they tend to think more highly of the possibility of the accident than before it took place. This is a major example of hindsight bias.

As we have seen above, the hindsight bias is a real factor affecting people's decision-making processes. And this is another reason why classical rational choice theory cannot fully explain people's behavior in reality.

For the modern administrative law to be more developed and sophisticated, it should be able to encompass these kinds of newly researched topics too.

### **III. For the Sophistication of Modern Administrative Law**

#### *1. Introduction*

Compared to the traditional private law area, the modern administrative laws in each country are quite dynamic and are under a bigger challenge because it has to deal with many issues newly raised in modern society. The topics discussed above are the basic conceptual tools to understand and enforce the rational choice in modern administrative law and policy.

The administrative law system should be also more sophisticated to encompass the interdisciplinary studies results. For the sophistication of modern administrative law, public law scholars should be more open-

minded and should be able to view administrative legal system outside from the traditional Dogmatiks.

Followings are several topics to think about in relation to the sophistication of modern administrative law.

## *2. Democracy vs. technocracy*

One issue we are always faced with when studying administrative law is how to coordinate the roles of democracy and technocracy in public decision-making process.

In dealing with risk problems, when the public demands expressed through democratic process differ from the scientific CBA result done by technocrats, what should be the rational choice of the society? This was the story in the two cases in Korea in the introduction.

It is not that easy to find out the right answer to this question. The answer may differ country by country, and it will also depend upon the historical development level of democracy in each country. If a country's democratic process is relatively well functioning and each people's rational choices are successfully collected as community's rational choice, then it would be better much of public decisions to be made through democratic process rather than technocratic process. However, if a country's democratic process is failing because of reasons found through public choice theory analysis like interest group theory, etc., then, we can expect that the professional knowledge of technocrats would protect the society from falling into the bad cascading.

## *3. Information sharing and citizen participation*

There is no need to stress out the importance of information sharing in rational choice not just in individual level but also in public policy making level.

Many country's administrative processes already have introduced the procedure for the information distribution in the society. But, considering the findings of behavioral irrationality of people, more information sharing system should be researched and established for the sophistication of administrative law. In addition to that, citizen participation into

administration chances should be enlarged. While participating the administrative process, people can get more exact information on administrative issues. This will firstly help those individual people who participated into the process of deliberation to make more rational choice. Furthermore, when our society comes to have enough people who have enough information to make more rational choice, then they will help again our society not to fall into the collective behavioral biases like cascading, group polarization, hindsight bias, etc.

In relation to that, when information is adequately shared by society's constituents, then that will also help soft law rather than hard law to do more functioning to lead our society to more collective rational choice.

#### *4. Interdisciplinary study of administrative law*

It is a little bit cautious but I can roughly say that the atmosphere of interdisciplinary study of public law including administrative law is quite a common academic way of studying in many advanced countries like U.S., but many countries including Korea still have a long way to go.

As I discussed all through this paper, to do the logical studying of rational choice in administrative law, it is very essential to have basic understanding of economic reasoning, positive politics theory, and psychological studying including the field of behavioral economics. The traditional legal study of Dogmatiks and theoretical interpretive study of law will maintain their status as the foundation of legal study heuristics, but that's not enough.

For modern administrative law to adequately cope with the newly presented risk issues in modern society, it is very essential that it should be able to accept and utilize the academic research outcome of interdisciplinary studying.

## **IV. Conclusion**

For the sophisticated study of modern administrative law, it is essential to be interested in the topic of rational choice in public law. The way to find out the proper administrative measures against modern risk issues is the

way to try to find out the mechanism to reach to the communal rational choice based upon individual's rational choice.

In this paper, I began my discussion with the two major cases in Korea in which the rational choices of the public were very much debated. I tried to show the difference between the rational choice of individuals in market and the rational choice of public sphere, and then share the basic understanding that the trial to find out a way to reach to the communal rational choice is the trial to find out the social preference function of that society. The insight of the Arrow's impossibility theorem is quite meaningful to modern administrative law in building up a better mechanism to get public rational choice in risk issues. The debate between precautionary principle and CBA is also one important chapter in thinking about rational choice in administrative law. The understanding of different views on democracy between pluralism and republicanism, the different roles of democracy and technocracy is also very essential part of the study. And, the research achievement of behavioral economics is also giving us great insights to help us better understand the reality of group decision-making processes.

