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WORLD MARITIME UNIVERSITY

Dalian, China

**RESEARCH ON STANDARD OF REASONABLE
GENERAL AVERAGE ACT**

By

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The People's Republic of China

A research paper submitted to the World Maritime University in partial
Fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE

**(MARITIME SAFETY AND
ENVIRONMENTAL MANAGEMENT)**

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Declaration

I certify that all the materials in this research paper that are not my own work has been identified, and that no materials are included for which a degree has previously been conferred on me.

The contents of this research paper reflect my own personal views, and are not necessarily endorsed by the University.

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ABSTRACT

Title of Research Paper: **RESEARCH ON STANDARD OF REASONABLE
GENERAL AVERAGE ACT**

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General average means the extraordinary sacrifice or expenditure intentionally and reasonably made or incurred for the common safety for the purpose of preserving from peril the ship, goods or other property involved in a common maritime adventure. The legal grounds of general average are various according to different theories. The doctrine of equity is the most reasonable in my opinion.

General average regime aims to ensure fairly contribution, when the ship, cargo or other property onboard is in common danger. To give rise to a claim for general average contribution, five elements are essential. One of them is a reasonable general average act. So, the premise of proportionally contribution is that the general average act shall be reasonable. Currently, there are two standards in determining whether a general average act is reasonable, i.e. Subjective standard and objective standard. They both have advantages and disadvantages. It is necessary to explore a new standard to ensure that the master or other persons can take measures properly, effectively and quickly, and safeguard the interests of other parties as well.

Unification of subjective and objective standard may be a standard which can achieve the above aim. It consists of subjective aspect and objective aspect. Subjective aspect requires due diligence, objective aspect should be corresponding to

principle of proportionality. Some steps of FSA can be introduced to assess the reasonableness of general average act.

KEY WORDS: general average, unification of subjective and objective standard, due diligence, proportionality

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LIST OF ABBREVIATIONS

CBA	Cost and Benefit Analysis
FSA	Formal Safety Assessment
ISM	International Safety Management Code
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

CHAPTER 1

INTRODUCTION

General average is one of the most ancient systems in the maritime law field; it is also the unique system that can only be found in maritime law. The earliest and oldest general average as a legal system can date back to ancient Greek. In as early as 400 B.C, The principle that jettison goods in order to lighten load on board shall be contributed by all the parties concerning has been addressed in the Rhodian Maritime Code (Mukherjee, 2015, p.39). The principles of general average have been developed in the Rolls of Oleron which are most comprehensive and articulate and profoundly influenced the development of maritime law and legislation in Europe for several centuries to come, up to modern era(Mukherjee, 2015, p.42). Three regulations on general average can be found: jettison cargo in general average should be contributed by co-adventurers; loss or damage sustained by cutting away mast or anchor should be compensated in the common maritime peril; When jettisoning goods, even if the seaman's silver cup, as long as there are more than two, or even only one, but has not yet been used, should be involved in contribution. In the year of 1160, the word "avere" appeared in the Pisa Code of Italy, which is used to describe "general average". "Avere" means existing property, which is the basis of average contribution.

As a matter of fact, the idea of general average has been expressed or illuminated in

different languages and in various ways. However, the concept of general average was presented until the late of 16 century in the authoritative collected papers on maritime insurance in France. The definition of general average appears first in a legal mode in Ordonnance de la Marine (Si, 2007, p.305; Jiang, 2009, p.29), but the term of “general average” inherited its English name-“common average”. The name of general average is established in the Rotterdam Code in 1721, which is still application.

General average includes broad meaning and narrowed meaning. Broad general average is the general average regimes, a kind of damage burden system, comprising of general average act, general average damage, general average adjustment as well as general average contribution (Jiang, 2009, p.1). In a narrow sense, all loss which arises in consequence of extraordinary sacrifices made or expenses incurred for the preservation of the ship and cargo comes within the general average, and must be borne proportionately by all who are interested (Eder, Bennett, Beery, Foxton and Smith, 2011, p.279; Marine Insurance Act (1906)). When confronting common dangers or for common safety, the measures taken to protect the ship, cargo or other possessions are called as general average act.

The principles of general average, established by ancient Greek and Roman, involved into various specific rules, contents and practices in the 19th century. The most representative factions are common safety faction and common interest faction. The representative of the former is United Kingdom, the United States and France is the latter. Besides of some significant differences in principle, the specific practices vary more or less from country to country (Lowndes and Rudolf, 2008, p.8). To resolve these problems, it is badly needed to make a universal general average adjustment rules worldwide. The main shipping countries try to make it, but failed.

Some shipowners, underwriters and merchants attempted to establish the rules, which are applied in the shipping and trade agreements, finally the first general average adjustment rule came into being, and that is York-Antwerp Rules.

The most recent revision of the York-Antwerp Rules took place in 2016. The 2016 Rules, like the Rules of 1924,1950,1974,1994 and 2004, have no application unless they have been expressly incorporated by contract into policies of insurance, charterparties and bills of lading (Eder, Bennett, Beery, Foxton and Smith, 2011, p.478). The 2016 Rules will be widely adopted and to be incorporated into the majority of shipping documents in the near future.

These Rules, having been drawn up by international agreement, are not to be presumed to have the same effect as the English common law and should not be artificially construed in an endeavor to make them conform to it. They do not constitute a complete or self-contained code, and need to be supplemented by bringing to the gap provisions of the general law which are applicable to the contract (Pearson, 1958, p.91).

Rule Paramount as an additional rule appeared in the 1994 Rules, and then it is inherited in the 2004 and 2016 Rules. Rule Paramount reads: “in no case shall there be any allowance for sacrifice or expenditure unless reasonably made or incurred” . That is to say, only general average sacrifice or expenditure resulting from reasonable general average act can be compensated or contributed, which is an essential condition. At the same while, according to the Rule E, “the onus of proof is upon the party claiming in general average to show that the loss or expense claimed is properly allowable as general average.” (York-Antwerp Rules (2004)). Reasonability Rule is paramount, leading or commanding the lettered Rules and the

numbered Rules.

What is reasonable general average act? “Reasonable” means that the least damage or expenses exchange the best result of protecting the ship, cargo or other property in return. The element of reasonableness of general average can be found in the cases of common law around 100 years ago. How to judge an act as a reasonable act? There are two main viewpoints, i.e. subjective standard and objective standard. What are the strengths and shortcomings on subjective standard and objective standard respectively? Can these standards ensure equity of general average adjustment? Are they feasible in practice? Are there any else better standards? The paramount goal of general average system is to empower the master or ship owners with more rights and freedom, so they can take actions or measures timely, effectively and decisively to eliminate common danger in case of emergency (Hu et al, 2009, p.366). Another significantly important aim is fair contribution, thus spread the risks of carriage of goods on sea. The best standard is that can achieve the goals. So far, there are few research papers or theses on standards of general average act. In this paper, I will discuss the theoretical basis of general average,. Then, I will explain the constitutive elements of general average act. Further, I will illuminate the history and importance of reasonability. Lastly, an analysis and compare on these two standards will be made, an effort to explore other better standards will be carried out; it is also the most important part. More creatively, the evaluation method will be presented.

CHAPTER 2

THEORETIC BASIS OF GENERAL AVERAGE

General average is caused just for the common safety or common interests of ship, goods and other property, consequently, the loss should be contributed proportionally by all the interest parties. It is regarded as the requirement of the principle of fairness in the maritime natural law (Bosporus, 1984, p.5). It is not only one of the oldest navigational practices but also has been observed by many countries. China is no exception. We can find it in Chinese maritime law, just as Article 193(1) reads: “General average means the extraordinary sacrifice or expenditure intentionally and reasonably made or incurred for the common safety for the purpose of preserving from peril the ship, goods or other property involved in a common maritime adventure.”, as well as Article 199(1) reads: “The contribution in general average shall be made in proportion to the contributory values of the respective beneficiaries.”(Chinese Maritime Law (1993)).

The suffers’ interest should be compensated for loss, and what is the legal basis of the right of claim, what is the character of that claim? It is a puzzling question for scholars and judges. The law traditions vary from country to country, so there are a couple of theories on legal foundation of general average. Some scholars try to interpret it from different angles, have presented different opinions (Zhang, 1986, pp.432-433; Qiu, 1998, pp.407-408).

(1) Bargain made on the spot

In the early times of navigation, the cargo owners travel along with the ships, the captains and the consignees can make bargain on the spot in case of emergency. According to the agreement, some of the cargo owners allow the master to jettison their goods for common safety for the purpose of preserving from peril the ship, goods or other property, in return, the master and other cargo owners agree to contribute the loss or damage of the suffer after their ships and goods are in safety. The best evidence is the case recorded in the Rolls of Oleron in the 12th century. However, the cargo owners no longer travel along with the ships today, the captains or shipowners do not bargain with the consignees or shippers before taking general average acts. They can take some measures according to the laws. Consequently, the bargain made on the spot does not exist any more, it is not applicable to interpret the nature of general average.

(2) Theory of contract

Theory of contract is the viewpoint of some scholars at common law, it is also supported by the cases in common law nations. Under this doctrine, when the cargo owners deliver the goods to the carrier, an implied contract bonding them comes into effect. When the ship and goods are in common danger, the cargo owners consent to jettison goods by carrier, if the ship and other goods are saved, the carrier and cargo owners will contribute the loss of cargo owners whose goods are jettisoned.

Today, nearly all the bills of lading or charterparties contain a provision on general average adjustment. In view of this, a number of scholars and judges hold this opinion that since there is a general average adjustment provision in the contract of affreightment, the liability of contributing the general average is a kind of obligation arising from contract without exception, regardless of its legal basis. Some cases

support it such as *Sameon Co. SA v. NV Petrofina SA* (Lowndes and Rudolf, 2008, p.16). The book of the Law of General Average and the York-Antwerp Rules said: “if the contract between the parties embraces the York-Antwerp Rules or other general average provisions, thus the claim should belong to the claim based on the contract” (Lowndes and Rudolf, 2008, p.17).

It is worth mentioning that, the celebrated Lord Denning expressed totally different idea regarding the case of *Evje*, “the claim of contribution of general average is not from the contract, but incurred in the process of performing the contract, in the voyage, by the sea peril.” (Bosporus, 1984, p.6)

(3) Theory of agency

Agency is that the agent can take civil legal acts with the third person on behalf of the principal in the scope of agency; the legal consequences are borne by the principal directly.

Theory of agency hold the viewpoint that when the ship and cargoes are in common danger or peril, the captain can be presumed as the agent of the ship owner and the cargo owners, he can dispose the ship and goods appropriately based on his position or rank. According to the basic principle of agency, the action of the captain is regarded as that of principal; the legal consequences should be borne by the principal--the shipowner and cargo owners.

Beside this, another similar point is that, even if the theory of agency cannot interpret the whole legal basis of general average, it will be a part of the legal foundation. A few cases in UK support this view, for example, the *Gratitudine* (1801) 3 C. Rob. 240 as well as the *Hamburg* (1864) 2 Moo. P.C. (N.S) 289 (Lowndes and Rudolf, 2008,

p.11).

(4) Theory of equity

The theory of equity roots from the equity law of Lex Rhodia. It is also called the theory of natural law. Its main viewpoint is that, the loss for the common interests or common safety is contributed by all the interested parties, it is based on the justice of law, no relating to the contract. Contribution is not the result of contract, but the simple and clear order of the natural law (Bosporus, 1984, p.6).

The theory is popular and supported by a number of cases and judges. In the case of *Milburn v. Jamaica Fruit Importing Co*, the Judge of Vaughan Williams said: “the obligations of contribution never stems from carriage contract, it is totally dependent of the transport contract. The equity principle of Lex Rhodia is its legal source, which is incorporated into the English internal law as a part of the admiralty law.”

This theory is also called the theory of the law, because the right of contribution arises from ancient Lex Rhodia, is assimilated by domestic laws of many countries little by little and a part of maritime law. It is easy to deduce that this right is based on the law or the law empowers the title of claim.

(5) Theory of unjust enrichment

According to the civil law, unjust enrichment is one of the causes of claim in personam. Unjust enrichment is that the beneficiary shall make restitution or compensation, when he gets interest from other person absence of legal reason (Xue et al, 2013, p.1384).

A great many of scholars think that the right of contribution of general average falls into the category of unjust enrichment. In other words, when the ship and goods are

in common peril, the captain saves other property at the cost of sacrifice of part of the goods. The benefits acquired of other interested parties are lack of legal grounds, and should belong to unjust enrichment, the parties concerning should return the original property or compensate the loss.

(6) Theory of interest community

When the ship is on the sea, the ship and other cargoes form into an interest community, each party should observe the spirits that a common danger causes common action; ensure sailing safety in the scope of interest. Each party should contribute the loss when running into common danger (Zhang, 1986, p.433). The famous maritime scholar Yang Liangyi mentioned that “the idea of general average arises from treating fairly the parties of interest community in the common adventure” (Yang, 2010, p.228).

(7) Theory of necessity

Necessity denotes that when a person is in emergency not caused by himself, he has no option but take this act, so as to avoid more loss or damage (Xue et al, 2013, p.953).

A few scholars in China think that, general average act is a typical necessity; the aim is to avoid more loss at the cost of less sacrifice. If there is a culprit, he will assume the liability. Otherwise, the damage will be contributed by interested parties.

In my view, general average regime stems from fairness and justice, is also the direct requirement of equity. The debt of general average is a special debt which is different from traditional debts at civil law.

CHAPTER 3

ELEMNETS OF GENERAL AVERAGE

There is a general average act when, and only when, any extraordinary sacrifice or expenditure is intentionally and reasonably made or incurred for the common safety of the purpose of preserving from peril the property involved in a common maritime adventure(York-Antwerp Rules(2004)). To give rise to a claim for general average contribution (Eder, Bennett, Beery, Foxton and Smith, 2011, p.478; Jiang, 2009, pp.57-90; Yang, 2010, p.229):

(1) There must be a common danger, during a common maritime adventure, which must be real and substantial, not merely apprehended by the master, however reasonably.

A common maritime adventure is that the ship, goods and other property form into a whole on the voyage (Si, 2007, p.305). General average is only applicable to carriage on sea or working on sea. There must be different property interests in the common voyage. It is noticeable that different property interests are not different ownerships. In the case of *Montgomery v. Indemnity Mutual Assurance Co*, the *Airlie Vessel* was in danger, the mast was cut away unavoidably, and the ship owner was also the cargo owner. The judge of appeal court supports that the

establishment of general average is not affected by the contribution of general average.

The danger must be real, the ship, goods and other property are threaten objectively, not subjectively. If the peril, though reasonably believed to exist, was in fact no existent, there could be no general average act. No general average act where master in convoy acted in blind obedience to naval orders without any knowledge of risks on which were based ((Eder, Bennett, Beery, Foxton and Smith, 2011, p.480). The peril must be substantial and not merely slight or nugatory. It must cause significant and real threat. Regular or common adverse weather, sea conditions do not belong to the scope of substantial risk. Someone thinks that, only the danger can cause total loss, which is the worst result, it belongs to substantial threat ((Lowndes and Rudolf, 2008, pp.90-91).

(2) There must be extraordinary sacrifice or expenses.

There must be loss, no damage, no general average. The loss is caused by intentionally evasive measures, not the sea peril. Sacrifice is found in York-Antwerp Rules and interchangeable with loss. Sacrifice comprises of the damage of ship, cargo and other property. Expense or expenditure consists of salary of crew, food, salvage, port charge and so on. It must be a real sacrifice, and nor a mere destruction and casting off of that which had become already lost and consequently of no value.

The sacrifice or expenditure must be extraordinary, uncommon or not regular. That is to say, the consumption and expenditure in the normal operation is not extraordinary, it does not belong to general average.

The sacrifice or expenditure must be the direct result of general average act. Just as the Rule C reads: “only such losses, damages or expenses which are the direct consequence of the general average act shall be allowed as general average” ((York-Antwerp Rules (2004)). Direct consequences denote those consequences which flow in an unbroken sequence from the act. In no case shall there be any allowance in general average for losses, damages, or expenses incurred in respect of damage to the environment or in consequence of the escape or release of pollutant substances from property involved in the common maritime adventure. Demurrage, loss market, and any loss or damage sustained or expense incurred by reason of delay, whether on the voyage or subsequently, and any indirect loss whatsoever, shall not be allowed as general average ((York-Antwerp Rules (2004)).

(3) The general average act must be intentional.

“Intentional” means that the master has been fully aware of or foresaw the losses or extra expenses caused by general average act, he still takes the act in order to get rid of the common danger. Who has the right to take general average act? In my opinion, the master, other seamen, shipowners and their agents, government authority concerned as well as the third person has the right to take measures. As long as it conforms to the elements of general average act, it should be regarded as general average act.

(4) There must be a saving of imperiled property through the sacrifice.

A saving of imperiled property is an essential condition of general average contribution. No property, no contribution. I would like to underline here that general average act can be set up without a saving of imperiled property (Zhao, 1999, pp.538-539).

(5) General average act must be reasonable.

The element of reasonable general average act is applicable to any claim of general average; regardless of the legal grounds of the claim are lettered rules or numbered rules. According to the 1994, 2004 and 2016 Rules, reasonability rule is the paramount rule. “Reasonably” denotes that the cost or loss of taking measures is the less, the better, the benefit of preserving the ship, goods or other property is the more, the better. A good instance is jettison goods. The low value and heavy weight cargo should be jettisoned first, rather than high value and light weight goods. Likewise, only the reasonably part of expenditure incurred by taking measures can be regarded as general average, the remains cannot be contributed by the interested parties.

Whether an act is reasonable or not, there are two evaluation standard as usual, i.e. subjective standard and objective standard. The standard of York-Antwerp Rules is inclined to objective standard. What is the origin of reasonableness? Why is it so important? What on earth are the subjective standard and objective standard? What are their strengths and weaknesses? In the following chapters, I will elaborate them in detail.

CHAPTER 4

IMPORTANCE OF REASONABLENESS OF GENERAL AVERAGE

4.1 Meaning of reasonableness principle

Principle of reasonableness arises from common law. It means that act taken by administrative agency should be legal, but also suitable or reasonable. British courts stress that discretion is not arbitrary, and it should be performed reasonably. The standard of reasonableness is that if a common person does not think the power is not executed reasonably, it is unreasonable. The review of reasonableness on administrative act is procedural review in Britain before 1948. However, so far, procedural review and substantial review are needed. Principle of reasonableness is more and more specific; it is also closer to principle of proportionality.

4.2 Importance of reasonableness of general average act

The word “reasonable” or similar word appears first in York-Antwerp Rules (1924). However, we cannot make a conclusion that when York-Antwerp Rules are applied to general average cases, reasonableness of general average acts can be ignored before York-Antwerp Rules (1924). The case of *Anglo-Grecian Steam Trading co v. Benyon&Co* is the best example. The ship was in common danger, the master voluntarily grounded. The carriage contract said: “York-Antwerp Rules(1890) are applied.” The judgment reads: “plaintiff shall prove that measure of ground is

intentional and reasonable”.

Article 66(2) of British Marine Insurance Act (1906) reads: “Extraordinary sacrifices or expenses intentionally incurred for the preservation of the ship and cargo comes within the general average must be borne proportionately by all who are interested.” Lettered Rule A of York-Antwerp Rules (1924) refers to Article 66(2) of British Marine Insurance Act (1906), which reads: “there is a general average act when, and only when, any extraordinary sacrifice or expenditure is intentionally and reasonably made or incurred for the common safety for the purpose of preserving from peril the property involved in a common maritime adventure.”

The relationship between lettered rules and numbered rules is not clarified until 1950, leading to some problems in the adjustment of general average. Consequently, rule of interpretation is added in York-Antwerp Rules (1950), that “except as provided by the numbered rules, general average shall be adjusted according to the lettered rules”. In other words, when the lettered rules conflicts with numbered rules, the numbered rules are applied first. It causes the fact that some sacrifices or expenditure are regarded as general average according to numbered rules, though they are not unreasonable on the basis of lettered rules. The case of the Alpha is the best proof. The vessel of Alpha was aground. The main engine was used unreasonably to refloat, finally it malfunctioned, the actual total loss occurred. But the reasonable measure is refloating until the high tide comes. English courts judge the damage as general average in accordance with Rule VII of York-Antwerp Rules (1974), which reads: “damage caused to any machinery and boilers of a ship which is ashore and in a position of peril, in endeavoring to refloat, shall be allowed in general average when shown to have arisen from an actual intention to float the ship for the common safety at the risk of such damage; but where a ship is afloat no loss or damage caused

by working the propelling machinery and boilers shall in any circumstances be made good as general average.” The judgment is right according to literal meaning of the Rules; however, it breaks the real intention of lawmakers, and is also unacceptable.

In 1994, on the assembly of Committee Maritime International in Sydney, most delegates held that, the articles should be revised; the requirement of Rule A on reasonableness should be applicable to both lettered rules and numbered rules. Finally, Rule Paramount is established in York-Antwerp Rules (1994). Reasonableness Rule became an independent rule leading lettered rules and numbered rules. So, any claim of general average no matter according to lettered rules or numbered rules of York-Antwerp Rules (1994), (2004) or (2016) shall accept reasonableness test.

CHAPTER 5

STRENGTHS AND DRAWBACKS OF SUBJECTIVE STANDARD

OF GENERAL AVERAGE ACT

“Subjective standard” denotes that as long as the master or other people taking measures subjectively think the acts are reasonable at that given time and condition, the acts should be regarded as reasonable acts.

Everything has two sides—advantages and disadvantages. Subjective standard is no exception. There are several advantages on subjective standard:

5.1 Subjective standard is conducive to achieve the fundamental goal of general average regimes.

The aim of general average regimes is to endow the master or ship owner more freedom and power to take measures fast, decisively and effectively in emergency. According to subjective standard, whether an act is valid or not is totally decided by the master or the person taking measures. Subjective standard can get rid of the master’s emotional burden or pressure. When the ship, goods or other property are in common danger, the master or shipowner can take measures freely. Try to imagine, when facing common peril, if the master not only takes measures due diligence, but also considers the reasonability of the result of the acts, he must

hesitate to do it. The best chance will be missed, the consequence will be bad.

5.2 Subjective standard is helpful to safeguard the absolute power of the master.

It is known to us all that one of the purposes of International Safety Management Code(ISM) is to safeguard the shipmaster in the proper discharge of his responsibilities with regard to maritime safety and the protection of marine environment (International Safety Management Code (2002)). Part A 5.2 of International Safety Management Code (ISM) reads: “The company should ensure that the safety management system operating on board the ship contains a clear statement emphasizing the master’s authority. The company should establish in the safety management system that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the company’s assistance as may be necessary. ” (International Safety Management Code (2002)). Power or right is a kind of freedom. Now that the International Safety Management Code endows the master this right or authority, the master will have the freedom of choice, i.e. making decisions and what decisions are at the master’s disposal. Right and obligation are reciprocal, only if the master exercises due diligence, the result of acts he took should be acceptable.

5.3 Subjective standard is more aligned with the current shipping reality.

With the development of modern shipping, the role of master has been changing. Once he was the agent of the shipowner, he learned more information on the value of the goods. Recently, the seamen are more and more professional; the master does know a little about the value of the goods. This will cause that when the master decides to jettison goods, he considers the safety more, and might ignore the value of the goods, since he does not know the price of the goods.

Stability and reserve buoyancy are two important parameters measuring the safe operation of the ship at sea. The term stability refers to the tendency of a body or system to return to its original state after it has suffered a small disturbance. Reserve buoyancy may be defined as the volume of the enclosed spaces above the waterline (Zheng, 2015, pp.29-38). When loading and stowing cargo on board, the chief officer will calculate the initial stability, and the safety is his primary consideration. Usually, the high weight but low value cargo will be stowed at the bottom of the hold. The high value but the low weight will be loaded on deck or on the upside of the hold. If the watertight portion of the ship hull is breached and the outside water floods into the ship body, the draft will increase, the reserve buoyancy will reduce, the trim will change, a permanent angle of list will result, and the stability of the ship will be affected. In extreme circumstances, the ship could be lost. In order to keep the stability and reserve buoyancy, jettison cargo is often used. In my opinion, in emergency, deck cargo or the upside cargo will be abandoned first, because it is the easiest and most effective way to ensure the common safety. Moreover, the container ship is more and more popular, the crane is not equipped on board, it is impossible to move the cargo first, and then jettison the high weight but low value goods. Subjective standard will reduce the requirements of jettison goods, only if the master's decision is reasonable subjectively, general average act will be set up. More importantly, it is fairer to the master or seamen, just as a proverb says: "the law does not force person to do what is beyond his ability."

5.4 Subjective standard is helpful to take the subjective initiative of human beings (seafarers) in the process of accident prevention and common danger avoidance.

According to the data of accidents at sea, human factor is the main risk or hazard. The ship machine malfunction, collision, stranding and fire accounted for more than

85% of the causes of general average, and more than 70% of these accidents are caused by human factors (Wang and Xu, 1996, p.4). The human is a hazard, a system component whose unsafe acts are implicated in the majority of the catastrophic breakdowns. But there is another perspective, one that has been relatively little studied in its own right and that is the human as a hero, a system element whose adaptations and compensations have brought troubled systems back from the brink of disaster on a significant number of occasions (Baumler, 2015). Furthermore, at common law, it is a hard question to decide reasonable general average act, which is proportional to common danger. It considerably depends on the master's judge in good faith, which is not overruled easily (Jiang, 2009, p.69). Subjective standard is more humanistic, respects the nature of the human beings, will encourage the master or seamen to take the measures decisively and enhance human-ship system reliability by their adaptive skills, creativity, intelligence, ability to work in unknown and uncertain dynamic environments, etc. (Baumler, 2015).

On the other hand, some disadvantages of subjective standard cannot be ignored.

5.5 The most fatal shortcoming is that the subjective mental state of the master or other person taking measures is difficult to identify.

So far, there is no way to measure the real mental world of human beings. Subjectivity is relation to human factor; subjectivity is the emotion and spirits of human beings. Objectivity is pertaining to the truth, which is not disturbed by human factor as usual. Based on this reality, a theory of agnosticism of the mental world was established. We can never understand the real mental world, because psychology cannot be measured in quantity. To some extent, it is not operable in general average case. So, it is impossible to be applied alone.

5.6 Sometimes, it is unfair to other interested parties.

The application of subjective standard largely depend on the judge of the master or the person concerning. In another words, the opinion of the master is decisive. It is a risky method, because the result is decided by one person, who is also an interested party. What is even worse, the mental state is intangible and immeasurable. The moral character of the master is the only factor we can believe and trust. Property is natural, people need to property desire with the development of human society and growth, the moral character is unreliable when property or benefit is involved. In fact, subjective standard presents a lower threshold of application of the general average regimes. Subjective standard has a widespread application, even though it is helpful to promote the development of shipping as a whole, it perhaps causes unfairnesss in particular case. When an act is unreasonably in truth, but it is regarded as reasonable general average act according to subjective standard, the loss or expense is still contributed proportionally. It is unjustified to the contributors and this is the enemy of the value of general average--equity.

CHAPTER 6

ADVANTAGES AND DISADVANTAGES OF OBJECTIVE STANDARD OF GENERAL AVERAGE

Objective standard denotes that judging an act reasonable or not should according to the circumstances at that moment, even if the master thinks the act is reasonable before taking measures, it is still unreasonable if the objective conditions prove it unreasonable. Obviously, some remarkable strong points are listed as following:

6.1 Objective standard is easy to operate in practice.

The conditions at that moment when the ship, cargo and other property were in common danger are relative certain, the cost of the measures taken is easily measured by money; the benefit can be quantitatively analyzed. Only when a branch of science succeeds in applying mathematics, is it really perfect. Objective standard is a kind of method on economic analysis in some degree. For example, a ship was aground shallow water, it is impossible to get off aground itself, so some tugs are needed to help it. According to the conditions of the ship, draft, sea subsoil as well as the power of main engine of the tug, one tug with 1000kw is sufficient. If three tugs (3000kw) are rent, the expense of the other two is unreasonable, it will not be contributed. It is easy to find that objective standard is feasible in practice.

6.2 Objective standard is helpful to guarantee the relative justice of contribution.

The legal basis of general average act arises from the idea of justice. Justice is the first virtue of social institutions, as truth is of systems of thought. A theory however elegant and economical must be rejected or revised if it is untrue; likewise laws and institutions no matter how efficient and well-arranged must be reformed or abolished if they are unjust. Each person possesses an inviolability founded on justice that even the welfare of society as a whole cannot override (Rawls, 1971, p.3).

Practice is the only criterion for testing the reasonability of general average act. Whether an act or measure is reasonable or not, the result is the best standard. Consequence is one of the most important indexes of objective standard. Despite how perfect an act is in theory, the result is bad, it is hard to say the act is reasonable. Just because objective standard provides a tangible and trustful method to measure the measures, it is fair, at least in form. Subjective standard can protect the interest of other parties and realize the legal value of the general average system.

It is hard to ignore that there are some disadvantages.

6.3 Objective standard is adverse to achieve the final aim of general average regimes.

Shipping is an adventure field, when a ship is on sea, the peril is omnipresent. By virtue of this, it is necessary to set up a system to spread the risks and promote the development of shipping. General average system is just this system which can spread the risks on sea. From my view point, it is the final goal. The general average regimes shall empower the master more authorities and freedom. Only can he take measures he thinks reasonable and he is not afraid of the result too much, he could do it decisively and deliberately, the effect will be satisfactory. Otherwise,

the master hesitates to take measures, the result is imagined. Objective standard is a higher standard; the general average regime has a narrow application. In a way, it is adverse to spread the risks on sea and encourage the shipping.

6.4 Objective standard leads to unharmonious relationships between the elements of general average act.

As we mentioned above, common peril is real, substantial, but not imminent. Whether there is common peril or not, so much of that depends on the reasonable and faithful judge of the master, according to the common law. In the case of *Bowring v. Thebaud*, the judgment reads: “if a general average act is reasonable, what common danger is responded to ...it is a difficult question...we can leave it to the judge of the master.” It is easy to find that, under this condition, the existence of common danger is decided by the master. However, if objective standard is applied, the reasonability of general average act is beyond the master’s control. It is illogical, try to imagine, one has the right to do something, he also does it carefully and deliberately, but the result is not accepted. That right amounts to null or is deprived.

6.3 Objective standard is not totally objective; some subjective factors are inevitably involved in the process of judgment.

In other words, objective standard cannot exist without subjective factors. Regardless, we cannot revert to the conditions of the accident occurred. What we can do is evaluation after accident. General average adjustment is a professional job. The maritime scholar and experts will be invited to participate in the adjustment of general average. Their judgment is both subjective and objective. On one hand, they make an analysis according to the experience and knowledge learned, to some extent, it involves subjective elements; on the other hand, they make

judgments in accordance with the standards of the average person or rational man standard, or in accordance with International Convention on Standards of Training, Certification and Watchkeeping for Seafarers(STCW), a competent master may take what actions at the time, whether the measures can satisfy the needs of protecting the ship, goods or other property or not. These are objective. We dare say that, it is unscientific to stick to objective standard and to ignore subjective standard.

CHAPTER 7

NEW STANDARD—UNIFICATION OF SUBJECTIVE AND OBJECTIVE STANDARD

In the above two chapters, the author has analyzed the strengths and drawbacks of subjective standard and objective standard. A conclusion can be made easily, that no standard is perfect. It is essential to establish a new standard which can adopt the strong points and overcome the weak points. Subjective aspect and objective are equally important; neither should be overemphasized at the expense of another. Hereby, my viewpoint is a new standard—unification of subjective and objective standard. In the following passages, I will explain the new standard in detail .

Unification of subjective and objective standard consists of two parts; they are subjective aspect and objective aspect. These parts are essential, without any one, the standard is no existence.

7.1 Subjective aspect

As far as general average is concerned, when facing common danger, the master is under an obligation to take measures to protect the ship, goods or other property. From the subjective aspect, this obligation is not an absolute obligation, but an obligation to exercise due diligence¹.

¹NOTE: it is not applicable under Rotterdam Rules. Because the carrier shall exercise due diligence to provide a

The requirement of “due diligence” covers the period from the beginning of the voyage to the ending of the voyage. According to the Hague Rules, the carrier is required to exercise due diligence to provide a seaworthy ship “before and at the beginning of the voyage.”(International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading (1924)). Therefore, taking measures during this period that falls into the requirements of “due diligence” will not be regarded as general average act.

The term of “due diligence” is first used in the US Harter Act in 1893, adopted by the draftsmen of the Hague Rules. Here, the term of “due diligence” is interpreted as being roughly equivalent to “carefully and properly”. The definitive interpretation of the concept of due diligence is provided by the case of *The Muncaster Castle* in which a consignment of ox tongue had been shipped from Sydney under a bill of lading which incorporated the Hague Rules (Wilson, 2010, p.189). During the voyage, the cargo was damaged by water entering the hold via the inspection covers on the storm valves. Some months ago, a load line survey of the vessel had been carried out in Glasgow by a reputable firm of ship repairers, during which the storm valves had been inspected under the supervision of a Lloyd’s surveyor. After the inspection, the task of renewing the inspection covers on the storm valves had been delegated to a fitter employed by the ship repairers. Owing to negligence on his part in tightening the nuts holding the covers, they loosened during the following voyage allowing water to enter the hold and damage the goods ((Wilson, 2010, p.189). The House of Lords held that the carrier liable for breach of the obligation to exercise due diligence. In the case, we can make a bold inference, the obligation

seaworthy ship throughout the voyage, the measures which fall into the scope of “exercise due diligence” will not be regarded as general average act. Only those measures which are out of the scope of “exercise due diligence” can be recognized as general average act.

of “due diligence” demands due diligence in the work of repair by whomsoever it may be done. This viewpoint is also applicable to general average act. The master should exercise due diligence and do whatever he can do (in his opinion) to cope with common danger. It comprises of three aspects: the master should take measures carefully and properly; he should do whatever he can do (from his perspective); when some measures are good acts of coping with common danger, but they are beyond the master’s reach, the master also exercises due diligence. When confronting with common perils, the opportunity cost is large. Because the master can only choose one scheme in most of accidents. Once this scheme is chosen, another scheme has to be abandoned. The scheme is not always the best one in fact, only if the master chooses the optimum one from his angle.

7.2 Objective aspect

From the objective aspect, an act is a general average act, when it conforms to the principle of proportionality.

7.2.1 The meaning of “Proportionality”

“Proportionality” stems from the word “proportion”, which denotes the suitable correlativity between two parts. The meaning of “proportional” can be found in the Oxford Advanced Dictionary: “corresponding in size, amount or degree to something”. Proportion is a concept showing the relationship.

However, in the legal language, the meaning of “principle of proportionality” is specific and explicit. Black’s Law Dictionary presents two definitions from the international law and criminal law respectively. “proportionality, international law, the principle that the use of the force should be in proportion to the threat or grievance provoking the use of force; proportionality review, criminal law, an

appellate court's analysis of whether a death sentence is arbitrary or capricious by comparing the case in which it was imposed with similar cases in which the death penalty was approved or disapproved.”(Garner, 1999, p.1235). While, Longman law dictionary interprets it as “a legal principle to test the enforcement of law which whether is essential to realize the goal and proportional with the special aim.”(Colson, 2003, p.248)

It is essential to explain principle of proportionality from different angles to understand the term deeply and profoundly.

From a philosophical perspective, principle of proportionality is the reflection of philosophical ideas in the field of law. Law is usually the expression of the ideas or tendency from politics and philosophy (Xu, 2001, p.201). Moderate, proper act or balance of interest is regarded as one of the basic moral principles in ancient Greek. Likewise, moderation as well as proportionate idea is regarded as private or public morality.

The idea of proportionality arises from Europe, but its philosophical connotation happens to have the same view with “golden mean” in Chinese philosophy. The core of golden mean is no excess and no insufficiency. It is persuasive to interpret the principle of proportionality with “golden mean”. Actually, principle of proportionality reflects the concept of limit, which not only rejects shortage of acts, but also prohibits excessive measures, rather than tries to find a balance point between them. Suitability of the principle of proportionality requires that the measures should be taken to achieve the goals effectively. Necessity of the principle of proportionality requires that the excessive measures should not be taken. When there are some options, the best choice is the measure that can achieve the goal,

but the burden or damage is the least. As a kind of philosophy, golden mean is abstract, but the principle of proportionality is specific.

From an economic perspective, all the reasonable things can be explained and construed by economic analysis. Economic analysis a method of identifying the most efficient act or regime mode by comparing the balance between cost and income (Qian, 2003, p.11). Principle of proportionality is no exception.

According to the theory of Coase, if the transaction cost is zero, free trade is always efficient, regardless of the choice of regulations and distribution of resources (Qian, 2003, pp.11-12; Fang, 2000, p.47). However, the transaction cost is positive in practice, the most suitable law is the law that reduces the cost to minimum. Although transaction cost in the theory of Coase is not applicable to the cost (the reflection of interest balance) in the principle of proportionality, the sense is identical. The regime that minimizes the cost is optimum. Principle of proportionality is accordance with the view of Kaldor-Hicks on “efficiency”. The main point is that wealth maximation approach. In a simple way, income is more than cost, it is regarded as efficiency. In general average regime, when sacrifice or expenditure is less than benefit and the balance is maximum, general average act is efficient.

From a legal perspective, the main effect of the law is interest balance, then promoting social welfare. The essence of principle of proportionality is to balance conflicting interest. Consequently, the effect of principle of proportionality is remarkable in that aspect.

The emergence of principle of proportionality is relation to the idea of Jurisprudence of Interest. Principle of proportionality stresses the balance between the state’s

interest and individual interest. Personal interest cannot be extremely damaged by state's interest. While, the theory of Jurisprudence of Interest argues that, the aim of the law is to keep interest balance between state and person, to realize the coalition of altruism and egoism (Zhang, 1998, p.35). Every order of the law decides a kind of conflicting interest; law arises from contrary interests, the paramount mission of law is to balance interests.

Society is a large interest community, which consists of individual interest, group interest and social interest. These interests usually clash and conflict with each other, how to moderate and mediate them is the main task of the law. It is vital to establish proper standards to assess the importance and resolve this conflict (Bodenheimer, 1999, p.398). Principle of proportionality is just an instrument to coordinate conflicting interests.

In domestic law, the function of principle of proportionality is imposing restrictions on legislative power, especially administrative authority. When public interest opposes to individual interest, individual interest or right should be restricted, but this restriction should be limited and minimized corresponding to public interest. Principle of proportionality confines the scope of intervening of public power to individual person, realizes optimal legal interest balance, protects and respects fundamental human rights. The restrictions to administrative power directly reflect the balance between public interest and personal basic rights. Principle of proportionality implies the paramount principle of law, which is justice and fairness.

7.2.2 Application of principle of proportionality

In internal laws, principle of proportionality in Germany is perfect. It arises from Germany police regime in 19th century in practice and in theory. Principle of

proportionality evolved from judgments and cases. It is praised as crown principle (Mayer, 2002, pp.67-76). Principle of proportionality is applied to constitution, administrative law, criminal law and even international law. The broad concept on principle of proportionality consists of three sub-principles. They are principle of suitability, principle of necessity and true proportionality principle.

Principle of suitability

Suitability of principle denotes that the measures taken by lawmakers or administrative subjects shall achieve or help to achieve goals, as well as the measures are right or effective. Principle of suitability outweighs the relationship between aims and means. If the aim is not legal and rightful, the means will lose the value of consideration owing to illegal aim. An instance with strong persuasion is that, under Nazi regime, even if the means can realize administrative aim, it still breaks principle of suitability because of illegal aim. A rightful aim or goal is the premise of principle of suitability. Principle of suitability is a goal-oriented requirement (Xie, 1994, p.123). Actually, legal aim and means are essential before application of principle of proportionality. For example, fighting terrorism is legal, but inquisition by torture for attacking down terrorists is unlawful, the means will be unlawful as a result of breach of human rights.

Principle of proportionality emphasizes that excess is prohibited, some people think that excess does not obey to principle of suitability, shortage does. As a matter of fact, shortage does meet the requirements of suitability principle. We take hunting lion as an example. If the lion is shot, but not dead or escape, it belongs to shortage of means. While, if the lion is shot and dead, but the hunter makes up some shots, it belongs to excessive means.

Principle of necessity

Principle of necessity denotes that if there are various optional measures to gain the aim, zero damage means or the least damage means shall be chosen. Principle of necessity is subsequent principle of necessity, making choice and compare between different means under the same goal. When making a choice, two factors should be considered, the least damage and the identical effect. The same effect is that different means can play same role. Consequently, if there are several measures that can achieve the same goal and the same effect, the legislature and the administrative agency have optional right. Judicial authority should respect this right.

Narrow meaning proportionality principle

Narrow meaning proportionality principle is also called as true proportionality principle. It means that the damage caused by measures should be less than the benefit. The means and the pursuant aim should not be out of proportion. If the side effect of the means is excessive, the aim should be abandoned. Otherwise, if the goal is significantly important, the means is easy to pass the test.

True proportionality principle requires that means is in proportion with pursuant aim. In fact, it is a process of interest balance. It is a vital tool of outweighing value. True proportionality principle is not a kind of precise law, but an abstract concept. However, it is not without a consistent standard, at least three elements shall be considered in practice, i.e. human right cannot be damaged; public interest is important; the means should be appropriate (Xie, 1994, p.126). True proportionality principle is flexible, but various vital factors considered have set up limitations in practice.

Concerning three sub-principles of proportionality principle, suitability principle and necessity principle belong to administrative legal hierarchy; however, true proportionality principle falls into the categories of constitution. The review based on true proportionality principle is the most abstract and sensitive, because it involves the review to the aim of legislation and administrative acts, the aim may be political. The sub-principles are hierarchical, classifying into concrete principle and abstract principle.

In a word, principle of proportionality requires that public power shall make a reasonable balance between private rights and public interests. If private rights have to be restricted for the public interests, the least drastic means should be chosen. The loss or damage caused by means should be less than the public interests protected. Principle of proportionality, as emperor term of public law, has a widespread application and is also a useful tool. In addition, principle of proportionality is not universal, limitations of application are conflicting rights (powers) and discretion.

7.2.3 Why and how is principle of proportionality applicable to general average act?

When the ship, goods and other property are in common danger, the master or other people takes acts for common safety or common interests, and then incurs sacrifice and expenditure. Common benefit conflicts with personal interest. At the same time, the master has overriding power to deal with common peril. It is essential to regulate and supervise this power, so as to ensure fair contribution of general average. So, principle of proportionality is a good option to regulate general average act.

There are three sub-principles that compose principle of proportionality. The

requirements on reasonable general average act should contain three aspects, suitability, necessity and true proportionality.

At the beginning, general average act should correspond to the degree of common peril. The goal or aim of general average act is common safety or common benefit and it is justice. The measures should be legal and justifiable. For example, a large amount of fuel oil was pumped into sea intentionally in order to make the ship refloat. It is hard to say the act is legal; the sacrifice cannot be regarded as general average.

The acts should be suitable, both excessive measures and insufficient measures are not acceptable. For example, jettisoning 100 tons cargo is sufficient to refloat the ship, but the master has jettisoned 150 tons, the balance 50 tons cargo should not be recognized as general average sacrifice. In contrast, the master has jettisoned 80 tons cargo, the aim frustrated. A competent master should jettison 100 tons at that moment, in my opinion, the act of jettisoning 80 tons cargo is unsuitable, does not belong to general average.

Next, necessity principle requires that when there are some measures to choose, the least damage means should be taken. For example, a vessel is aground; there are three ways to make it refloat. They are: jettison 100 tons high value cargo, pumping out 50 tons ballast water and jettison 5 tons low value cargo, as well as jettison 100 tons low value cargo. Obviously, the second way is the best option.

Last but not least, even more important, the loss or damage incurred by measures should be less than the benefit. For example, when a ship, cargo and other property is in common peril, if no measures or even some measures are taken, total loss will

happen. The master took measures fully and completely, total loss still occurred. The cost incurred by measures is not regarded as general average. Because it is impossible to realize the aim, any measure is fruitless. The loss is more than the benefit. When the side effect caused by measures is too much, the aim should be abandoned. Hereby, I would like to say it is an extreme example. In practice, in most cases, the master still should take measures actively.

7.2.4 Assessment Methods

As mentioned above, the main view of Kaldor-Hicks on “efficiency” is wealth maximation approach. Cost-benefit analysis a good assessment method that is applicable to general average act². From an economical perspective, if the balance between cost and benefit reaches maximum, a general average act is efficient. The general average act is reasonable. The sacrifice or expenditure incurred by the general average is reasonable. It will be borne by the interested parties proportionally. The contribution is fair to all the parties concerning. “Efficiency” (concept of Economics) is the premise of “fairness” (concept of Law) in general average regime.

Formal Safety Assessment (FSA) is an effective and useful assessment tool in maritime field. Formal Safety Assessment (FSA) is a structured and systematic methodology, aimed at enhancing maritime safety, including protection of life, health, the marine environment and property, by using risk analysis and cost-benefit assessment((Revised Guidelines for Formal Safety Assessment (FSA) for Use In The IMO Rule-making Process), 2013; Li, 2016, p.1). The object of FSA is typed risks or dangers on sea. Similarly, specific risk (common safety) is the object of general

²Note: in many cases, when ships, goods or other property are in common peril, the crew or other persons are also in danger. Life is priceless, which is hard to measure by money. Moreover, general average excludes casualty or injury of life. So, hereby, cost-benefit analysis is applicable to property analysis.

average act. Protection of property is their common goal. FSA is proactive; the assessment of general average act is also proactive. Although assessment is carried out after accident, actually, whether the measures are effective or not at that moment corresponding to common danger is the main point of assessment. To some degree, this assessment is proactive. Consequently, it is feasible to introduce FSA to assess the reasonableness of general average act.

FSA should comprise the following steps: identification of hazards; risk analysis; risk control options; cost-benefit assessment and recommendations for decision-making. As far as reasonable assessment is concerned, risk analysis, risk control options (measures) and cost-benefit assessment three steps can be applicable. For example, a ship is aground, the ship, cargo and other property are in common danger. Risk analysis is a detailed investigation of aground, then founding out the causes of the accident. It is the cornerstone of making reasonable measures. Risk control options (measures) aim at identifying some measures to address the existing danger-aground. This step also identifies the suitability of the measures. Cost-benefit assessment is a critical step, aiming at evaluating the measures according to principle of proportionality. This step should compare the measures with each other, and then find out the most efficient measure by cost-benefit assessment, which is also a reasonable general average act. Given the length, plus lack of detailed figures, the process of assessment will not be explained in detail.

CHAPTER 8

CONCLUSION

General average regime is a unique legal system belonging to maritime law; it is also the most ancient regime. The evolution of general average has last several thousand years, and is still full of vital force. The legal basis of general average is doctrine of equity or fairness. General average contribution comprises of five elements: There must be a common danger, during a common maritime adventure, which must be real and substantial, not merely apprehended by the master, however reasonably; There must be extraordinary sacrifice or expenses; The general average act must be intentional; There must be a saving of imperiled property through the sacrifice; General average act must be reasonable. The element of “reasonableness” is significantly important, becoming Rule Paramount of York-Antwerp Rules (1994). Currently, there are two standards of reasonable general average act. They are subjective standard and objective standard. It is not hard to find that they both have some advantages and disadvantages. The final goals of general average regime are that on one hand, the master can take measures quickly, freely and effectively when facing common danger on sea; on the other hand, the sacrifice and expenditure can be contributed fairly by interested parties. The above standards cannot achieve the goals simultaneously. A new standard—unification of subjective and objective standard is urgently needed, which

takes into account both subjective and objective aspects. The requirement of subjective aspect is exercising due diligence. Namely, the master or other parties should take measures so far as he can. Objective aspect is that the measures should be proportional to the degree of common peril. That is to say, the act should be corresponding to principle of proportionality. The three sub-principles of proportionality should be met. Cost-benefit analysis is applicable to assess general average act. When a general average act is efficient in Economics, it is also fair or justifiable in Law.

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