

A Discussion on Exceptions to Export Restrictions under GATT/WTO

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1 Introduction

1.1 Aim of the thesis

This thesis aims to elaborate on the issue of applying current possible exception clauses to alleged unlawful export restrictions, in accordance with present articles under GATT 1994 and available case laws. Meanwhile, a highly relevant case *China – Rare Earths* would be discussed in light of this.

In recent years, the proliferation of natural resource trade¹ has caused rising demand in supply of resource products, leading to “widespread anxiety over the security of access to natural resource.”² In context of this, export restrictions have been frequently imposed on resource products, most of which come from the developing world.³

Recently, known as *China – Rare Earths*, a case against China’s measures related to the exportation of rare earths was brought to WTO and a panel has been established by request of Japan, which is the complainant, and later joined by European Union, United States as well as other countries and areas⁴. It is another sign for the increasingly heated topic of export restrictions during recent decades subsequent to the high profile case *China – Raw Materials*, in

¹ According to the WTO Trade Report of 2010, “natural resources represent a significant and growing share of world trade and amounted to some 24 percent of total merchandise trade in 2008.” The volume of the trade has been steady while the value “has grown annually at 20 percent” over the past decade. See WTO (2010) p.40.

² Qin (2012) p.6

³ For example, according to the statistics, during 2003-2009, export duties were mainly imposed by developing and least developed countries. se Kim (2010) p.7

⁴ WTO (2012)a

which WTO's Appellate Body just ruled that China violated WTO rules and its accession protocol by imposing export restrictions on certain raw materials.⁵

Against this backdrop, it is thus vital for exporting countries to seek justifications provided in GATT/WTO when facing challenges to their export restrictions. In this thesis, difficulties in applying the exceptions would be identified. In addition, specific situations of *China – Rare Earths* are taken into consideration.

1.2 A big picture: natural resource trade

Export restrictions in *China – Rare Earths* are imposed on natural resource. Natural resources are both essential to the production process and actually or potentially exhaustible, which present particular challenges for the policy-makers. The exploitation must keep a balance between the current needs and that of future generations. Moreover, because of the unequal distribution of various natural resources, market prices may show great volatility.⁶ Both of the developed world and developing countries are prone to be negatively influenced by the price fluctuation, especially the developing countries that are highly dependent on the export of natural resources.⁷

From the perspective of historical development, GATT was never designed to be a forum for natural resource trade, or developing countries' participation. To the contrary, it "had always been an instrument for pursuing the trade objectives of the leading industrial states".⁸ In fact, developing countries hardly participated in negotiations until the Uruguay Round. Most of them were not members back then.⁹ While at the same time, the GATT was utilized "as a me-

⁵ ICTSD (2012)a p.1

⁶ WTO (2010) p.163

⁷ WTO (2010) p.163

⁸ See Rorden (2008) p.479. The primary focus of WTO/GATT rules was not for natural resources trade. Rules related to it are either problematic or not enough to cover all aspects of natural resources trade's policy realities. See WTO (2010) p.4.

⁹ Moore (2001)

chanism for facilitating an increase in the volume and value of trade among the industrial states in manufactures, semi-manufactures, and capital goods.”¹⁰ Natural resources trade, or primary commodities were not listed among them.

World trade report of 2010, drafted by WTO, featured the topic of “trade in natural resources”. It pointed out that, in the recent decades, commodity-importing countries have begun to concern about the rising resources prices, as well as the increasing restrictions imposed on raw materials export. This has become the focus of current discussion surrounding natural resources trade under the framework of GATT/WTO.¹¹ The fact is strongly supported by statistics.¹²

1.3 Connotation of “export restrictions” in this thesis

As early as 1920s and 1930s, price slump in commodity market led to a series of International Commodity Agreements (ICAs), which “aimed at stabilizing prices by controlling quantities produced and sold.”¹³ Export restrictions schemes were listed among its various creations. Nevertheless, it is noteworthy that they should be imposed on the basis of mutual interest and consent of producer and consumer.

After entering GATT era, 1960s and 1970s have seen a trend within the group of developing countries’ that, in terms of export restrictions provisions, state sovereignty over the natural resources should be emphasized.¹⁴ Thus, exporting countries should be free to decide their

¹⁰ Rorden (2008) p.487

¹¹ WTO (2010) p.164

¹² According to the WTO’s Trade Policy Reviews, “export taxes on natural resources appear twice as likely as export taxes in other sectors.” The situation remains the same in a larger scope. It is reported that, export restrictions on natural resource products accounted for a large share among all notified export restrictions, which was some 2,577 entries out of a total of 7,328. See WTO (2010) p.119.

¹³ WTO (2010), p.163

¹⁴ For example, according to a statement submitted by the delegation of India in a Multilateral Trade Negotiations Group Meeting, “two of the guiding principles” in export restrictions pro-

export policies on natural resources, and ensure domestic supply in the first place. However, in recent decades, discussions in the field of natural resources trade have centered around the worries of importing countries, that “rising resource prices and signs of increasing restrictions on the export of raw materials”¹⁵. Unfortunately, the issue of export restrictions did not manage to be brought into the negotiation of Uruguay Round.¹⁶

1.3.1 Definition

Although Article XI of GATT 1994 does not deal with export restrictions exclusively, it contains the most important rules on export restrictions in context of GATT/WTO.

From its text, expressions such as “duties, taxes” and “quotas”, “export licenses or other measures” can be found¹⁷. However, so far there has not been any WTO document giving an official definition on “export restrictions”.

It was once mentioned in a WTO discussion paper that, “there are various forms of export restrictions. These include export taxes, export bans, regulated exports, supervised exports.... Regulated exports include quotas and licensing requirements.”¹⁸ Similar illustrations can also be found in other authorities.¹⁹

Export duties are the main form of export restrictions which are not prohibited by WTO rules. Thus they become preferred and widely used instruments for exporting countries to impose

visions would be “the sovereignty of States over their natural resources and the need for developing countries to utilize their resources and the need for developing countries to utilize their development in the most optimal manner...”. “Supplies to domestic industries” should be prioritized. See GATT (1979) and Qin (2012) p.5.

¹⁵ WTO (2010), p.164

¹⁶ WTO (2010), p.164

¹⁷ Global and Regional Treaties 2010 (2010) p.1807

¹⁸ Piermartini (2004) p.3

¹⁹ Korinek and Kim (2011) p.256. See also Kim (2010) p.2.

export restriction policies. It is said that in 2004, about one third of WTO Members impose export duties on some products.²⁰

1.3.2 Implementation of export restrictions

According to the statistics of WTO, there were in total 7,328 entries of export restrictions notified to WTO.²¹ Countries often utilize export restrictions for strategic purposes. WTO once elaborated the issue as follows: “governments may use export taxes and restrictions for a variety of reasons, including economic diversification and domestic price stabilization, to counter escalating tariffs in importing countries and to manage environmental externalities.”²² Partly because of the empty space left by drafters, it is true that a number of social, economic objectives would become the motivation for policy makers to impose export restrictions. Moreover, among them, environmental related reason is the most frequently cited.²³

However, export restrictions are not considered as the most effective way to fulfill certain policy purposes, for example, “distributional and environmental policy objectives”.²⁴ Just like what WTO expressed in China’s Trade Policy Review (TPR), export restraints “may not be the best way” to achieve some of the country’s rationale, such as environmental protection, conservation of natural resources, especially those that were imposed on “some highly polluting or high-energy consuming products.”²⁵

²⁰ Piermartini (2004) p.2. See also Barfield (2008).

²¹ Export duties are not included in these entries. See WTO (2010) p.119.

²² WTO (2010) p.4

²³ Korinek and Kim (2011) p.264. In fact, as early as the GATT era, export restrictions have been identified as one sort of measures taken on environmental grounds that would have impact on international trade directly or indirectly. See GATT (1991) p.36.

²⁴ Karapina (2012) p.444

²⁵ WTO Secretariat (2010) p.44

1.3.3 Justifications for export restrictions

Considering the possible negative results export restrictions may lead to, their application is limited to certain situations where they are rendered as lawful measures. Apart from export duties which are originally not in violation of GATT 1994, other quantitative restrictions, such as export quotas, export bans, export licensing and so on can only be justified under certain circumstances.

One of the exceptions can be found in Art. XI. According to Art. XI:2(a), WTO-legal export restrictions can be “temporarily applied to prevent or relieve critical shortage of foodstuffs or other products essential to the exporting contracting parties.”²⁶

General exceptions provided in Art. XX can also be referred to as alternative justifications for export restrictions. Art. XX lists various policy objectives, for example, public order and environmental considerations, under which the measures in violation of GATT can be justified.

1.4 Scope of the thesis

1.4.1 Preclusion of Voluntary Export Restrictions (VER)

Voluntary Export Restraints (VER) is a form of export restriction in a wide scope. It is different from so-called Initiative Export Restraints (IER), which falls into our discussion scope, in that it features the exporting country imposing the restraints unilaterally, and modifying or eliminating it technically. It is usually resulted from the negotiation between exporting countries and importing countries, and due to the pressure from an importing country.²⁷ In essence, VERs is a kind of protectionism policy tools, proliferated under context of GATT, which

²⁶ Global and Regional Treaties 2010 (2010) p.1807

²⁷ Jones (1989) pp.125-126. A most leading example in this respect is the Automobile VER agreement concluded between U.S and Japan in 1981. According to the agreement, during a designated period, Japan had to limit its exports of passenger cars to U.S to a certain number. It was reinforced by U.S’ political pressure. See Berry, Levinson and Pakes (1999) p.400.

clearly restricts the use of trade restrictive measures, such as tariffs and quotas.²⁸ During the Uruguay Round negotiation, the VER was explicitly prohibited in Agreement on Safeguards, by providing: "...a Member shall not seek, take or maintain any voluntary export restraints, orderly market arrangements or any other similar measures on the export or the import side..." in Art. 11:1(b).²⁹

Analysis on export restrictions in this thesis is centered on Art. XI of GATT 1994. The purpose of the provision was to preclude countries from imposing export restrictive measures "in a discriminatory, quantitative manner, to the detriment of the targeted importing country".³⁰ However, as noted above, from its nature, VER is an alternative measure adopted by importing countries in purpose of protecting national industries, and takes the form of export restrictions imposed by exporting country initially. In this respect, application of this article to VER "would hold the victim of VER agreements (exporting country) guilty of the infraction, whereas in reality it is the imposing country that is responsible for causing it."³¹ The discussion on VER would go against the starting point of this thesis, which considers export restrictions as measures adopted by exporting countries pursuing their own policy objectives. VER is therefore not covered by this thesis.

1.4.2 Preclusion of certain justifications

Art. XI:2(b) of GATT 1994 stipulates that, export restrictions which are unlawful under GATT, can be justified if they are "necessary to the application of standards or regulations for

²⁸ Jones (1989) p.127. According to the author, VERs is utilized by trade officials as "an alternative to the traditional instruments of trade control." This caused the proliferation of VERs at the "pre-WTO era". Particularly, the use of VERs by United States and the European Community "has risen dramatically since the mid-1970s". see Gu (2011) p.778 and Rosendorff (1996) p.544.

²⁹ Gu (2011) p.779

³⁰ Jones (1989) p.132

³¹ Jones (1989) p.132

the classification, grading or marketing of commodities in international trade”³². However, the justification has never been cited in any GATT/WTO precedents, nor does it bear any relation to *China – Rare Earths*. Therefore it would be precluded from our discussion scope.

Echoing Art. XI of GATT 1994, Art. 12 under Agreement of Agriculture restricts the application of export restrictions in agricultural area, and provides exception for developing countries³³. Given that Art. 12 has a rather limited application scope, it would not be discussed hereinafter.

1.4.3 Preclusion of the accession protocol's impact

New members to WTO usually face harsher provisions on export restrictions. For example, China made such commitments in Art. 11.3 of Accession Protocol, promising that it would “eliminate all taxes and charges applied to exports unless specifically provided for in Annex 6 of this Protocol or applied in conformity with the provisions of Article VIII of the GATT 1994.”³⁴ In *China – Raw Materials*, after interpreting the language of this provision and its context, the Appellate Body held that, since Art. 11.3 of Accession Protocol did not refer to Art. XX of GATT 1994 expressly, China cannot make recourse to exceptions under Art. XX.³⁵

³² Global and Regional Treaties 2010 (2010) p.1807

³³ Relevant text of Art. 12 reads as follows:

“...2. The provisions of this Article shall not apply to any developing country Member, unless the measure is taken by a developing country Member which is a net-food exporter of the specific foodstuff concerned.” see Global and Regional Treaties 2010 (2010) p.1843

³⁴ WTO Secretariat (2001). Similar provisions can also be found in other new members’ accession protocols. According to one report on the official website of Ministry of Economy, Trade and Industry of Japan, these countries include Mongolia, Ukraine, Latvia, Albania, Saudi Arabia and so on. See Trade Policy Committee of the Industrial Structure Council of Japan (2012) pp.366-372

³⁵ Appellate Body Report, *China – Raw Materials*, para.307

Although the commitment made by new members in accession protocol would affect their rights to revoke exceptions in GATT/WTO to some extent, this thesis has no intention of addressing the relationship between member state's accession protocol and WTO agreement. The discussion on available exceptions to export restrictions below is based on the analysis of relevant provisions in GATT/WTO as such. Accession protocol's impact on the availability of exception provisions would thus be precluded.

1.5 Methodologies

Generally speaking, the thesis is carrying a case law approach. According to Art. 3.2 of Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU), dispute settlement system of WTO serves "to clarify the existing provisions...in accordance with customary rules of interpretation of public international law."³⁶ Practices play an important rule in GATT/WTO context. Thus, it is necessary to refer to GATT/WTO cases when illustrating the exact rights and obligations provided in provisions.

The aim of the thesis is to discuss provisions on exceptions to export restrictions in GATT 1994, and their application in to *China – Rare Earths*. In light of this, certain pertinent cases under GATT/WTO framework are examined to help interpret key elements of relevant provisions. Particularly, among these case, *China – Raw Materials* is most similar and relevant to *China – Rare Earths*, thus would be elaborated in detail. Apart from cases, historical background is also taken into consideration in order to provide a deep understanding.

China – Rare Earths is picked as the case for demonstrating the application of exceptions to export restrictions in context of natural resources trade, for it is a newly filed case in this hot debated area. In addition, since the case involves many developed countries' importing interests in rare earths market, it has drawn much attention worldwide. Discussion of *China – Rare Earths* would be restricted to scope indicated in this chapter, using analysis based on case law research. By way of illustrating standards indicated by legal texts, possibilities of utilizing available exception provisions on export restrictions would be evaluated. Meanwhile, unique

³⁶ Global and Regional Treaties 2010 (2010) p.1949

features of *China – Rare Earths* are also presented, and impact of these features would be revealed thereby.

1.6 Overview of the thesis

Followed by introduction of the thesis, *China – Rare Earths* is presented in the first place, including background introduction and basic facts. Chapter 3 and Chapter 4 focus on exceptions provided in Art. XI:2(a) and Art. XX respectively. Both chapters constitute several parts elaborating on crucial elements of these two provisions, supported by GATT/WTO precedents. At the end of every part, *China – Rare Earths* would be discussed in light of its unique situations. Finally, conclusion would be given.

2 New case concerning export restrictions: *China – Rare Earths*

2.1 Brief introduction to the case

In March 2012, three countries filed a new case related to China's various export restrictions on export of certain forms of rare earths, tungsten and molybdenum.³⁷ The so-called "*China – Rare Earths*" is still in progress, and has already caught much public attention. In terms of the complaints (e.g. the measures being challenged), the case seems much the same with the *China – Raw Materials*, of which the Appellate Body Report was adopted in January 2012.

Similarities can be found in *China – Raw Materials* and *China – Rare Earths*. Firstly, the challenged export restrictions are both imposed on natural resources. Secondly, both cases have implications in aspects of environmental protection and natural resource conservation. China failed the first case, and was denied by Appellate Body of its attempt to apply various justifications. However, considering the new changes occurred in China's legislation area, which put great emphasis on environmental considerations as well as conserving domestic rare earths resource, *China – Rare Earths* may have a different result. It is highly expected that *China – Rare Earths* would again intensify WTO practice and show flexibility on export restrictions.

China – Rare Earths reflects hot issues in international trade nowadays. It can be a good demonstration of how exceptions can be applied to export restrictions in natural resource trade area, and how environment considerations as well as other policy objectives reflected in these export restrictions should be dealt with. Considering there have not been so many cases address

³⁷ WTO (2012)a

ing the issue of export restrictions, especially those imposed on natural resources³⁸, much room is left for discussion in *China – Rare Earths*.

2.2 Basic facts

2.2.1 Rare earths in general

Among the three natural resources involved in *China – Rare Earths*, rare earths are of the most concern to importing countries. Rare earths are a group of 17 chemical elements in the periodic table of the elements, and basically divided into three different groups: light, middle and heavy based on their atomic weights and physicochemical properties.³⁹

Rare earths have a wide scope of application in industries. They are essential in the area of small sized technology application, for example, cell phone, laptop computer. At the same time, they can be utilized in the defense industry, including radar systems and reactive armor. Moreover, they are also crucial to the improvement of green technology, such as wind powered turbines and plug-in hybrid vehicles, etc.⁴⁰ Thus, rare earths have strategic meaning to countries in a way.

Pollution problem in rare earths industry is another fact worth mentioning. It is widely accepted that the exploitation process of rare earths can be quite contaminable *per se*. The production of every ton of rare earths would generate approximately 8.5 kilograms fluorine and

³⁸ See Karapinar (2012) pp.443-479. According to the author, up until now, there have been 5 cases concerning export restrictions, including 1 voluntary export restriction complaint, which has already been excluded from discussion scope of this thesis. (See 1.4.1)

³⁹ Information Office of the State Council of China (2012). Another version of the rare earth story can be found in Long (2010). According to the report, the rare earth elements are composed of 15 elements, and can be divided into two different groups: heavy and light.

⁴⁰ Hurst (2010) p.3. For example, EU is highly dependent on the “high tech” metals like rare earths. They render that these metals are crucial and necessary to their environmental technology’s development. See Commission of the European Communities (2008) p.2.

13 kilograms dust. Using concentrated sulfuric acid high temperature calcination techniques to produce approximately one ton calcined rare earths ore would generate 9,600 to 12,000 cubic meters of waste gas which contains dust concentrate, hydrofluoric acid, sulfur dioxide, and sulfuric acid, around 75 cubic meters of acidic wastewater, as well as about one ton of radioactive waste residue (water contained).⁴¹ These facts make environmental implication a salient character of rare earths issues.

2.2.2 China's export policies on rare earths

China's rare earth reserves take up about 23 percent for the world's total.⁴² However, at the same time, China provides approximately 97 percent of the world's total production,⁴³ which makes it the world's largest exporter of rare earths.⁴⁴ This fact leads to the world's close concern about China's export policies on rare earths.⁴⁵

According to the description in China's Trade Policy Review, generally speaking, China's export regime "is still characterized by various restrictions, notably prohibitions, licensing, quotas, taxes, and less than full rebates of VAT on exports." However, the Trade Policy Review also listed the officially stated objectives that the measures serve, such as protecting the

⁴¹ Chinese Society of Rare Earths (2009) and Hurst (2010) p.16

⁴² Information Office of the State Council of China (2012). However, according to Long (2010), China accounts for 36 percent of identified world reserves. Meanwhile, U.S.'s deposits together with China "comprise the largest percentage of economic rare earth resources." See Hurst (2010) p.4.

⁴³ Long (2010), see also Korinek and Kim (2011) p.264.

⁴⁴ Meanwhile, China is considered to be the world's largest producer and consumer of rare earth products. See Information Office of the State Council of China (2012).

⁴⁵ For example, US now obtain almost rare earths elements exclusively from China. This brings the fear that this dependence would lead to supply security issues. See Long (2010). In fact, China's status as "a major producer, consumer and trader of many commodities that are strategically important for global supply chains" makes its export restrictions probable to "have substantial consequences for global welfare". See Karapinar (2011) p.390.

environment, conserving natural resources and ensuring stable domestic supply, and pointed out the ineffectiveness of the restriction measures.⁴⁶

Since the introduction of rare earths' export quota system, China has implemented a series of measures clamping down the rare earths export: VAT refund on exports was cancelled in 2005; the Ministry of Land and Resources began to stop issuing exploitation permit in 2006, meaning an increasing control on "exploitation, processing and export" of rare earths; 2009-2015 Rare Earths Industry Development Plan was released in 2009, pointing out that the export quota would be restricted in future years.⁴⁷

2.3 Measures in dispute

In *China-Rare Earths*, the 3 complaints accused China of imposing export restrictions on various forms of rare earths, which include export duties, export quotas, minimum export price requirements, export licensing requirements and additional requirements and procedures related to the administration of the quantitative restrictions.⁴⁸

China's export quota on rare earths was introduced in 2005. Between 2005 and 2011, the export of rare earths fell by over 50%.⁴⁹ The quota is allocated to domestic firms and joint ventures with foreign investors. Only joint ventures with export licensing are allowed to export rare earths to global market, which leads to another export restriction, i.e. export licensing. Both domestic companies and joint ventures need to get export licensing in order to engage in rare earths export. China has gradually reduced the number of licensed companies in recent years. During the last 6 years, total number of companies that received export licenses reduced from 59 to 31.⁵⁰ The two kinds of export restrictions are both issued by Ministry of Commerce in China. Considering they function much the same, and export quota is the one which is de-

⁴⁶ WTO Secretariat (2010) p.44

⁴⁷ Li (2011)

⁴⁸ WTO (2012)a

⁴⁹ Humphries (2012) p.19

⁵⁰ Morrison and Tang (2012) p.16

bated on from time to time, discussion in this thesis would mainly focus on export quota imposed on rare earths.

For a long time, China's export restrictions on rare earths have been accused of being used as a policy tool to favor domestic industries. European Union criticized China's export measures as "causing distortions in the market and placing foreign products that rely on rare earth elements in an extremely disadvantageous position."⁵¹ Additionally, it was pointed out that, China's export restriction policies have been put into place to encourage downstream industries that produce goods with higher value added to locate in China, and reserve rare earths resources for domestic manufacturing industry.⁵²

Similar wordings can be found in *China-Rare Earths*. In its request for consultations, Japan alleged that, "China imposes additional requirements and procedures in connection with the administration of the quantitative restrictions on various forms of rare earths, tungsten and molybdenum...that appear to treat foreign-invested entities differently from domestic entities."⁵³

⁵¹ Trade Policy Committee of the Industrial Structure Council of Japan (2012) pp.380-381

⁵² Korinek and Kim (2011) pp.271, Gu (2011) p.775

⁵³ Japan (2012)

3 An analysis on Art. XI of GATT 1994

3.1 Overview

3.1.1 General prohibition of quantitative restrictions

As can be seen from the title of Art. XI (i.e. “General Elimination of Quantitative Restrictions”⁵⁴) and the text of Art. XI:1, quantitative prohibitions and restrictions are in principle prohibited, no matter export or import. Further, Appellate Body in *China – Raw Materials* pointed out the prohibitions and restrictions cover those “that have a limiting effect on the quantity or amount of a product being imported or exported.”⁵⁵

According to Art. XI:1, export duties are the only lawful form of export restriction. It is in conformity with one basic principle of the GATT system, that “tariffs are the preferred and acceptable form of protection.”⁵⁶ However, unlike various binding import tariff commitments, there’s no general framework for negotiating export duties.⁵⁷ It is thus considered that, Art. XI:1 can be “read positively” as allowing members to impose restrictions by way of duties, taxes or other charges.⁵⁸

⁵⁴ Global and Regional Treaties 2010 (2010) p.1807

⁵⁵ Appellate Body Report, *China – Raw Materials*, para.320

⁵⁶ Appellate Body Report, *Turkey – Textiles*, para.9.63

⁵⁷ Export duty commitments can only be found in individual cases. For example, Australia made commitments of not imposing export duty on certain product in 1994. New WTO members were also required to make accession commitments on export duties, such as China. See Qin (2012) pp.6-7 and 1.4.3 above.

⁵⁸ Crosby (2008) p.3, Bouët and Laborde Debucquet (2012) p.210

Export duties have similar effect to other export restrictions. Given the fact that export restrictions other than export duties are generally prohibited, and there exists no binding and integrated framework for export duties at the same time, countries that intend to impose restrictions on export can easily turn to resort to export duties. In light of this, WTO rules on export restrictions are largely rendered to be imprudent and ineffective, and referred as an area “of under-regulation”.⁵⁹

3.1.2 Exception provisions

Art. XI: 2(a) constitutes one of the justifications to WTO-illegal export restriction. Sections below would focus on elaborating this exception. The issue would be spelled out in close connection with *China – Raw Materials*, because it was the first time for WTO’s adjudicative bodies to address the provision.⁶⁰ The reasoning in this case may have a strong impact on another highly similar case in process now, i.e. *China – Rare Earths*. Additionally, as indicated in the beginning of the thesis, the discussion would center around the provision’s implication of natural resource.

Art. XI:2(a) is also closely linked with certain subsections under Art. XX of GATT 1994. Firstly, from the text, both Art. XX(j) and Art. XI:2(a) address the exception applied under circumstances of products’ shortages⁶¹, which can be reflected in similar wordings in terms of

⁵⁹ Qin (2012) pp.4-5, Karapinar (2012) p.443

⁶⁰ ICTSD (2012)a p.2

⁶¹ Art. XI:2(a) stipulates that:

“...Export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party.” Global and Regional Treaties 2010 (2010) p.1807

Text of Art. XX(j) reads as follows:

“Article XX: General Exceptions

...

short supply, the essentialness as well as the temporariness⁶² of the measures in dispute. Secondly, it can be seen from the Panel Report of *China – Raw Materials*, that WTO adjudicators also tend to link the provision with Art. XX(g), in that both of them can be invoked by the exporting country on matters related to exhaustible natural resources.

3.2 Analysis on Art. XI:2(a)

Effective treaty interpretation was referred to as the “general rule of interpretation” by Appellate Body. According to the principle, the interpretation must give meaning and effect to all terms of a treaty, and should not cause the whole clauses or paragraphs of a treaty to be redundant.⁶³ In consideration of this, both being exceptions to quantitative restrictions, Art. XI:2(a) and Art. XX must set different conditions for application respectively, even though similar wordings can be found in the texts. These wordings must be empowered different connotations, or else it would cause either of the two articles superfluous.

The sections below would shed light on critical wordings in Art. XI:2(a), while referring to the recently resolved *China – Raw Materials*. In context of this, *China – Rare Earths* would be analyzed, and evaluated against the standards indicated by these wordings.

(j) essential to the acquisition or distribution of products in general or local short supply; *Provided* that any such measures shall be consistent with the principle that all contracting parties are entitled to an equitable share of the international supply of such products, and that any such measures, which are inconsistent with the other provisions of the Agreement shall be discontinued as soon as the conditions giving rise to them have ceased to exist. ...” See Global and Regional Treaties 2010 (2010) p.1818.

⁶² Certain sentences found in Art. XX(j), such as “...any such measures,...shall be discontinued as soon as the conditions giving rise to them have ceased to exist” seem to express the same meaning as “temporarily” in Art. XI:2(a). See Global and Regional Treaties 2010 (2010) p.1818.

⁶³ Appellate Body Report, *Japan – Alcoholic Beverages II*, pp.17-18 and Appellate Body Report, *US – Gasoline*, p.23

3.2.1 “essential to”

From the perspective of negotiation history, the wording of “essential to the exporting country” was altered by the Preparatory Committee “to indicate...that...for the purposes of this provision the importance of any product should be judged in relation to the particular country concerned.”⁶⁴ A case-by-case analysis is therefore favored when interpreting the essentiality of the measure at dispute.

In *China – Raw Materials*, the Appellate Body started the interpretation by researching into the literal meaning of “essential”, and pointed out the “essential” products under Art. XI:2(a) are not limited to foodstuffs. “Foodstuffs or otherwise absolutely indispensable or necessary products” should all be included.⁶⁵ The Panel stated, “the determination of whether a product is ‘essential’ to that Member should take into consideration the particular circumstances faced by that Member at the time when a Member applies a restriction or prohibition under Article XI:2(a)”.⁶⁶ Additionally, the Panel drew the conclusion that “a product that is an ‘input’ to an important product or industry” may fall into the scope of “essential” products.⁶⁷ By applying this standard, the Panel was persuaded by China’s presented evidence that the raw materials in issue take important place in China’s related products’ market.

However, neither Appellate Body nor the Panel managed to give guiding opinions on interpretation of “essential”. Although “input to an important product” was included in the scope of “essential” products, the Panel seemed to address the issue in a narrow context of industrial production. In addition, the reading would be more instructive if quantitative and more specific standards could be established instead of abstract descriptions such as “indispensable” and “necessary”.⁶⁸

Like *China – Raw Materials*, rare earths may also be confirmed as essential products in *China-Rare Earths*. Apart from the similarities in properties, as mentioned above, rare earths have

⁶⁴ WTO (2012)b p.326

⁶⁵ Appellate Body Report, *China – Raw Materials*, para.326

⁶⁶ Panel Report, *China – Raw Materials*, paras.7.276

⁶⁷ Panel Report, *China – Raw Materials*, paras.7.282

⁶⁸ Appellate Body Report, *China – Raw Materials*, para.326

strategic meaning, and can be widely applied in high technology products. Following the reasoning in *China – Raw Materials*, if rare earths can be proved to be “input to an important product or industry”, it is highly probable for them to be recognized as essential products. As mentioned above in Chapter 2, rare earths are widely applied in various industries. For example, they can be used to make metal alloys in connection with cars manufacturing industry, as well as magnets widely used in a long list of electronic appliances. Considering their economic contributions made to GDP, it is fair to say manufacturing industries enjoy important status in China.⁶⁹

To sum up, judging from the texts and practices, rare earths account for a necessary part of China’s important industries, making them qualified for the standard of “essential”.

3.2.2 “critical shortage”

The Appellate Body of *China – Raw Materials* read “critical shortage” as crucial deficiencies, which “amount to a situation of decisive importance, or that reach a vitally important or decisive stage, or a turning point” by way of literal interpretation.⁷⁰ After comparing to “in short supply” adopted in Art. XX(j), the Appellate Body made clear that “critical shortage” of Art. XI:2(a) actually implied a narrower scope of application. The Appellate Body also put emphasis on the nexus between different terms, while stating that whether the shortage of certain product is “critical” or not should be “informed by” the essentiality of this product.⁷¹ Similarly, the Panel opined that, “critical” shows that “a shortage must be of ‘decisive importance’ or ‘grave’, or even rising to the level of a ‘crisis’ or ‘catastrophe’.” Meanwhile, the measures in dispute must be applied in a “temporary” manner, which at the same time “informs the notion of ‘critical shortage’.”⁷²

⁶⁹ It is reported that, China industries contributed more than 40% to GDP during 2004 and 2010. See Ministry of Industry and Information Technology (2012).

⁷⁰ Appellate Body Report, *China – Raw Materials*, para.324

⁷¹ Appellate Body Report, *China – Raw Materials*, para.328

⁷² Panel Report, *China – Raw Materials*, paras.7.296-7.297

As the respondent, China argued that “Article XI:2(a) would permit long-term measures to be imposed to address an inevitable depletion of a finite resource.” However, the Panel showed its disagreement to this opinion.⁷³ It also pointed out that, “if there is no possibility for an existing shortage ever to cease to exist, it will not be possible to ‘relieve or prevent’ it through an export restriction applied on a temporary basis.”⁷⁴ In this sense, it seems the Panel has ruled out the possibility of applying Art. XI:2(a) to export restrictions imposed on natural resource. However, the Appellate Body made a clarification, stating that a measure under Art. XI:2(a) could address the purpose of critical shortage and natural resource conservation at the same time. An example of natural disaster was given on this point.⁷⁵

This interpretation approach of the Panel has been criticized for its restrictiveness, for it referred to the exhaustibility of natural resources as the reason why their critical shortage could not be “relieved” or “prevented” anyway.⁷⁶ The Appellate Body also failed to take into consideration characteristics pertaining to natural resources and did not address the standard in context of natural resources trade clearly. For example, utilization and accessibility of natural resources are subject to exploitation conditions and technologies to a large extent. Therefore, although natural resources usually have limited life span and would be depleted to a certain point, it does not necessarily mean that the situation of “critical shortage” will only appear when certain natural resource come to an exhaustion and cannot be prevented or relieved anyhow. To the contrary, natural resources are quite possibly to reach the level of “critical shortage” if certain circumstances, for example, development of technologies or side effects caused by exploitation activities preclude countries from obtaining sufficient resources.

⁷³ Panel Report, *China – Raw Materials*, paras.7.305. To help explain the issue, the Panel drew a line between Art. XX(g) and Art. XI:2(a). This issue would be addressed in 4.7.

⁷⁴ Panel Report, *China – Raw Materials*, paras.7.297

⁷⁵ The Appellate Body addressed the example as following: “...Article XI:2(a) measures could be imposed, for example, if a natural disaster caused a ‘critical shortage’ of an exhaustible natural resource, which, at the same time, constituted a foodstuff or other essential product.” See Appellate Body Report, *China – Raw Materials*, para.337.

⁷⁶ Karapinar (2012), p.455

When it comes to *China – Rare Earths*, the core issue lies in whether or not shortage of rare earths materials has already reached the level of “critical”, and is able to be prevented or relieved by export restrictions. According to remarks above, the fact that natural resources are of limited life span would not naturally mean the critical shortage of natural resources cannot be “prevented” or “relieved”. So the issues now remains if shortage of rare earths in China is a “critical” one.

In line with the reasoning of *China – Raw Materials*, since rare earths are exhaustible natural resources, export restrictions related to them would cause an overlap between China’s intention of addressing critical shortage and conserving natural resources. Although this fact would not cause Art. XI:2(a) inapplicable directly, China still has to prove that concerning its important status in rare earths supply market, the shortage of rare earths in China is a “critical” one. According to China’s official statements, although China accounts for 23% of the world’s rare earths reserve, excessive exploitation during the last 50 years has caused the reserves declining, especially in major mining areas. The years of guaranteed rare earth supply have also been reducing.⁷⁷ In line with the reasoning of Appellate Body in *China – Raw Materials*, the essentialness of rare earth would inform how critical the shortage is.⁷⁸ Rare earths are critical raw materials and take an important place in value chain. Since its wide application in industrial area, a stable supply in rare earths is particularly vital to climate policy objectives and for technology innovation. What makes rare earths more unique is the fact that “no recycling or substitution processes for rare earths are currently commercially viable.”⁷⁹ Also, exploitation

⁷⁷ Information Office of the State Council of China (2012). According to this official paper, in Bao Tou, which is China’s most important rare earths mining area, only one-third of the original volume of rare earths resources is available. During 20 years, reserve-extraction ratio of ion-absorption rare earth mines in China’s southern provinces has reduced by 35%.

⁷⁸ Appellate Body Report, *China – Raw Materials*, para.328

⁷⁹ See European Commission (2011) p.12. To a large extent, rare earths are non-substitutable. The substitute materials are either not available or not performing well. See Parliamentary Office of Science and Technology (2011) p.4.

on new rare earths mine can be quite time consuming and risky.⁸⁰ All these facts should be taken into consideration when weighing the level of rare earths' shortage now in China.

Thus, in my opinion, China still have much space to argue if the standard of “critical shortage” can be read more in light of natural resources.

3.2.3 “temporarily”

To explain the term in context of the treaty, the Panel compared Art. XI:2(a) with Art. XX(g), which aims to justify natural resources conservation measures. By addressing that, the Panel concluded that, in order to distinguish their different reaches, restrictions or bans that can be justified under Art. XI:2(a) “must be of a limited duration and not indefinite”⁸¹ and “a fixed time-limit”⁸². Moreover, “temporarily” should be read in combination with “critical shortage.” Were certain measure “destined to be in place permanently”, it is difficult to say that the situation it is supposed to address is a “critical shortage”.⁸³

Appellate Body confirmed that there exists a requirement for limited duration of time when illustrating the definition of “temporarily”. However, in terms of whether the duration has to be fixed in advance, Appellate Body disagreed with Panel, opining that “the temporal scope of the measures” does not have to be fixed in advance.⁸⁴ According to the Report, neither the length of the measures nor the fact that they are applied in a fixed way counts in evaluating the “temporariness”. What matters most to Appellate Body seems to be whether or not the restrictions or bans are “applied in the interim, to provide relief in extraordinary conditions in order to bridge a passing need.”⁸⁵

⁸⁰ It is estimated that only 5% of exploration ventures yield a producing mine. See The Parliamentary Office of Science and Technology (2011) p.3.

⁸¹ Panel Report, *China – Raw Materials*, para.7.258

⁸² Panel Report, *China – Raw Materials*, para.7.255

⁸³ Panel Report, *China – Raw Materials*, para.7.351

⁸⁴ Appellate Body Report, *China – Raw Materials*, para.331

⁸⁵ Appellate Body Report, *China – Raw Materials*, paras.330

While the Panel showed its restrictiveness by denying long-term application of measures in case of natural resources,⁸⁶ the Appellate Body confirmed the length of the duration would not affect the qualification of the measure at stake. However, the Appellate Body did not specify the standard of evaluating “temporarily”, which was criticized for being lack of predictability.⁸⁷

The disputative export quota mechanism in *China – Rare Earths* was imposed by China on rare earths since 2005.⁸⁸ The export quota is subject to examination every year, similar to the export restriction on refractory-grade bauxite in *China – Raw Materials*.⁸⁹ Recalling the Appellate Report of *China – Raw Materials*, it has been confirmed that the measure’s length would not affect the evaluation, and natural resources can fit in the scope of essential products addressed in Art. XI:2(a). The focus point now becomes: Can export quotas on rare earths be considered as an interim measure, and thus will finally be withdrawn once there is no longer critical shortage in China’s rare earths supply?

The issue should be viewed against the backdrop of global supply market of rare earths. Although currently China is the biggest supplier of rare earths, this is not always the case. For several decades ago, it was the United States that took the first place in global supply market. China managed to acquire its leading position in 1990s, through its low-price strategy.⁹⁰ In fact, rare earths element is not that rare and rich in the earth’s crust. The operational mines can be found outside China located in United States, India and Australia.⁹¹ The reason why China is taking control is that it holds much of the expertise related to rare earths exploitation. Also,

⁸⁶ Panel Report, *China – Raw Materials*, para.7.298

⁸⁷ Karapinar (2012), pp.450-451. For example, the author pointed out that, by denying the Panel’s interpretation of fixed time limit in advance, the unpredictability of the export restrictions as such may be exacerbated.

⁸⁸ Parliamentary Office of Science and Technology (2011) p.2

⁸⁹ Appellate Body Report, *China – Raw Materials*, para.338. This fact was presented by China as an evidence of showing temporariness. However, the Panel didn’t attach much gravity to it.

⁹⁰ Trade Policy Committee of the Industrial Structure Council of Japan (2012) p.380

⁹¹ Trade Policy Committee of the Industrial Structure Council of Japan (2012) p.380

environmental side effects and exploitation consent problem can be big problems in other countries.⁹²

It is warned that rare earths reserves in China would be exhausted in twenty to thirty years if the exploitation cannot be controlled.⁹³ As put above, to a large extent, the shortage of rare earths now in China is caused by exploitations activities which are not fully developed worldwide, no matter out of the reason of environmental protection or difficulties in technology. To put it another way, this shortage can be solved, and the export restriction imposed on rare earths now can be proved to be a buffering measure, in order to “bridge a passing need” before rare earths resource exploitation activities in global level can achieve a breakthrough. The measure does not have to be implemented throughout the “life span” of rare earths. That said, much evidence is yet needed to prove the measure is actually in place to “prevent” and “relieve” the critical shortage.

“Temporarily” can be the most difficult standard among the three for China to satisfy. The disputable point lies in whether or not China can prove that, firstly, current short supply is due to deliberate control of potential productive countries; secondly, final alleviation of current short supply is dependent on further exploitation of global rare earths reserves, which is feasible in foreseeable future.

3.3 Conclusion

Art. XI provides the obligations for member states to eliminate export quantitative restrictions, which can be derogated under situations stipulated in Art. XI:2(a). Wordings such as “essential to”, “critical shortage” and “temporarily applied” are decisive standards for evaluating the measure.

In *China – Raw Materials*, the Appellate Body followed an integrated approach to interpret Art. XI:2(a), emphasizing the nexus between these three terms. It held the view that criticality is informed by the essentiality of the particular product, while the criticality would inform the

⁹² Parliamentary Office of Science and Technology (2011) p.3

⁹³ Korinek and Kim (2011) pp.271

export measure's temporariness at the same time.⁹⁴ Thus it can be concluded, a measure at stake will be examined in light of a comprehensive consideration, instead of the three testing standard separately.

As shown in this case, WTO is now adopting a prudent way in applying this provision to export restriction concerning natural resource product. For example, standards of "critical shortage" and "temporarily" were interpreted in a restrictive way, thus making it difficult for exporting countries to justify export restrictions imposed on natural resources products. Adjudicative bodies seem to hold the opinion that the exhaustiveness of natural resources is by nature contradictive to connotation of "critical shortage" and an "interim measure". Basically speaking, the interpretation made by adjudicative bodies set a high standard for exporting countries to make recourse to in context of natural resources cases. Due to this attitude, it is even thought "global trading patterns in essential raw materials in the coming decade" would probably be affected.⁹⁵ Considering the similarity between rare earths and raw materials, *China – Rare Earths* may encounter same difficulties when trying to refer to Art. XI:2(a).

⁹⁴ Appellate Body Report, *China – Raw Materials*, para.328

⁹⁵ ICTSD (2012) p.2. Particularly, the article also pointed out that it may affect the heated area of rare earths materials, which has been confirmed in that *China – Rare Earths* has already officially brought against China.

4 General exceptions clause of GATT 1994: Art. XX

4.1 Overview

Appellate Body spelled out the primary function of Art. XX in *US – Gasoline*. It pointed out that, “the ability of any WTO Member to take measures to control air pollution or, more generally, to protect the environment” should not be disputable.⁹⁶ The “importance of coordinating policies on trade and the environment” has been acknowledged, and reflected in certain provisions of Art. XX, which “contains provisions designed to permit important state interests — including the protection of human health, as well as the conservation of exhaustible natural resources”.⁹⁷ Moreover, “WTO Members have a large measure of autonomy to determine their own policies on the environment (including its relationship with trade), their environmental objectives and the environmental legislation they enact and implement”.⁹⁸ This shows that there exists flexibility in taking trade restrictive measures.⁹⁹

However, from the beginning, Art. XX has been controversial “because of the divergence of national practices in areas listed” in the subsections.¹⁰⁰ The problem also lies in the fact that, member states’ regulatory autonomy of pursuing non-trade goals should be respected.¹⁰¹ Now it has been confirmed in WTO practice that, the autonomy should only be circumscribed “by

⁹⁶ Appellate Body Report, *US – Gasoline*, p.29

⁹⁷ Appellate Body Report, *US – Gasoline*, p.29

⁹⁸ Appellate Body Report, *US – Gasoline*, p.30

⁹⁹ Gary P., Sampson (2005) p.82

¹⁰⁰ Sharp (2010) p.1136

¹⁰¹ Kapterian (2010) p.90

the need to respect the requirements of the General Agreement and the other covered agreements.”¹⁰²

With regard to *China – Rare Earths*, Art. XX(g), (b), (i) and (j) among the 10 subsections can be resorted to. As early as the GATT era, export restrictions, along with export embargoes and charges have been identified as one sort of measures taken on environmental grounds that would have impact on international trade directly or indirectly.¹⁰³ Meanwhile, sector of minerals and metals was recognized as of particular interest to developing countries, “in which trade may be affected as a result of environmental policy measures.”¹⁰⁴ Both Art. XX(g) and (b) can be utilized to address environmental concerns¹⁰⁵. Art. XX(i) is relevant since natural resource issue is at stake in this case, while (j) can be referred to address short supply issues in rare earths market. In light of this, evaluation of the export restriction on rare earth needs identifying the national interest and public purpose in a prudent way.

4.2 Art. XX (g)

4.2.1 Application scope

As can be seen from the text, this provision aims to justify the WTO-illegal measures “relating to the conservation of exhaustible natural resources”. In light of this, in *China – Rare Earths*, rare earths fall into the scope with no doubt.

¹⁰² Appellate Body Report, *US – Gasoline*, p.30

¹⁰³ GATT(1991) p.36

¹⁰⁴ GATT(1991) p.37

¹⁰⁵ Art. XX(g) and (b) reads as follows:

“(b) necessary to protect human, animal or plant life or health; ...

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption; ...” see *Global and Regional Treaties 2010* (2010) p.1818

One more thing is worth noting. There exists another option in terms of choosing “exhaustible natural resources”. The Panel confirmed in *US – Gasoline* that clean air could be considered an exhaustible natural resource. It held that, clean air was a resource and it was natural and could be depleted at the same time.¹⁰⁶ Following this reasoning, water can also be recognized as exhaustible natural resources in the same way.

Production of rare earths is a rather hazardous process, and known for its pollution to land, water and air.¹⁰⁷ In this sense, China can also justify its export restriction on rare earths by claiming clean air and water are the exhaustible natural resources they intend to conserve.

4.2.2 Link between purposes and measures

Textually, the phrase “relating to” describes the interrelation between the measure under Art. XX(g) and the purpose it serves. Apart from this, the term of “made in conjunction with restrictions on domestic production or consumption” constitutes another requirement.

Wordings similar to “relating to” can be found in other subsections of Art. XX, for example, “necessary to” and “essential to”.¹⁰⁸ In light of this, to probe into the specific meaning of the terms requires viewing Art. XX as a whole in the first place, under which different wordings should reflect different meanings.¹⁰⁹ In the 1987 *Herring and Salmon* case, the Panel for the first time concluded that to qualify “relating to”, the measures “had to be primarily aimed at” the objective addressed in Art. XX(g).¹¹⁰ This approach was confirmed in a list of cases since then.¹¹¹ In *US – Shrimp*, Appellate Body evaluated the relationship between the measure at

¹⁰⁶ Panel Report, *US – Gasoline*, para.6.37

¹⁰⁷ Parliamentary Office of Science and Technology (2011) p.3

¹⁰⁸ See Art. XX(b) and (j) respectively. Global and Regional Treaties 2010 (2010) p.1818

¹⁰⁹ Appellate Body expressed the same opinion in *US – Gasoline*. Appellate Body Report, *US – Gasoline*, pp.17-18

¹¹⁰ Panel Report, *Herring and Salmon*, para.4.6

¹¹¹ For example, *United States – Restrictions on Imports of Tuna*, *United States – Taxes on Automobiles*, as well as *US – Gasoline*. See Appellate Body Report, *US – Gasoline*, p.18.

stake and the policy goal “it purports to serve”¹¹² as “a close and real” one¹¹³, then held that the standard of “relate to” was thus qualified.

On the other hand, the term of “in conjunction with” indicates the correlation between domestic measures and the measure at dispute. In *US – Gasoline*, the Appellate Body pointed out that, it is sufficient to read the phrase of “in conjunction with” “quite plainly” as “together with” or “jointly with”,¹¹⁴ while emphasizing “the clause is a requirement of even-handedness in the imposition of restrictions”¹¹⁵, thus no bias towards domestic products is showed. It also held that the word “effective” does not imply “an empirical ‘effects test’”. Before drawing this conclusion, the Appellate Body notably considered the particularity of the case related to conservation of exhaustible natural resources by stating that, in such cases, it would take long time before the effects can be finally observed.¹¹⁶ In recent *China – Raw Materials*, the Appellate Body referred to the analysis in precedents, and appraised the export restrictions imposed by China according to above two standards. It pointed out that the Panel “erred in interpreting the phrase ‘made effective in conjunction with’...to require a separate showing that the purpose of the challenged measure must be to make effective restrictions on domestic production or consumption,”¹¹⁷ and reversed this interpretation thereunder.

As analyzed in 4.3.1, in *China – Rare Earths*, both rare earths as such and clean air or water can be referred to as exhaustible natural resources. Accordingly, application of “link” standard would be analyzed below in context of these two categories respectively.

Firstly, whether export quota system of rare earths is “primarily aimed at” conserving China’s rare earths resource, and whether the measure takes effective “in conjunction with” domestic restrictions should be examined. Based on Panel Report of *China – Raw Materials*, it is expected that the export restriction on rare earths would receive a thorough evaluation, in terms

¹¹² Appellate Body, *US – Shrimp*, para.137

¹¹³ Appellate Body, *US – Shrimp*, para.141

¹¹⁴ Appellate Body, *US – Gasoline*, p.20

¹¹⁵ Appellate Body, *US – Gasoline*, p.21

¹¹⁶ Appellate Body, *US – Gasoline*, p.21

¹¹⁷ Appellate Body Report, *China – Raw Materials*, para.361

of the text, design, architecture and context.¹¹⁸ Since export quota is just a numerical system and does not contain much information like laws and regulations, recourse should be made more to its design and context. As early as 1991, China began to exercise control in export of rare earths resources.¹¹⁹ In 2005, China introduced the export quota on rare earths,¹²⁰ and has been accused of introducing export quota to deal with the decline price of rare earths, which was caused by vast outflow of rare earths resources in 1990s.¹²¹ Relevant statistics can be obtained from Table 1 below. It can be seen that China's production quota on rare earths has been keeping a relatively steady level throughout the last six years, which seems to show the measure at dispute is not helping conserve rare earths somehow. However, China's policies over rare earths industry are now going through a shift. Resource conservation is more and more cited by Chinese government in public circumstances.¹²² It seems that, since the export restriction was introduced in rare earths, the measure has gradually transferred from being used to control market price at the first beginning to a more comprehensive objective now, of which natural resources conservation takes up an important place. Obviously, the alleged new policy objective need time to take effect. In this sense, at least from the current situation, it remains to see whether or not there exists a "close and real" link between export quota on rare earths and conservation purpose.

¹¹⁸ Appellate Body Report, *China – Raw Materials*, para.7.418

¹¹⁹ Information Office of the State Council of China (2012)

¹²⁰ Information Office of the State Council of China (2012)

¹²¹ For example, in the United States, prices for imported Chinese rare earths rose drastically from 3,111 dollars in 2002 to 76,239 dollars in 2011. See Morrison and Tang (2012) p.5.

¹²² "Policies of China's rare earth industry" was issued in June 2012. It is the first time for Chinese to illustrate in the official paper about its policies on the whole industry systematically. The white paper listed the severe problems caused by exploitation of rare earth resources, such as excessive exploitation, damage to the ecological environment, divergence between price and value. More importantly, it presented a series of the industry's "Fundamental Principles", among which "adhering to environmental protection and resource conservation" ranks the first place. See Information Office of the State Council of China (2012).

Table 1. China's Rare Earth Production and Exports, 2006-2011¹²³

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---------|---------|---------|---------|---------|---------------------------------|
| Official Chinese production quota | 86,520 | 87,020 | 87,620 | 82,320 | 89,200 | 93,800 |
| USGS ¹²⁴ reported production | 119,000 | 120,000 | 120,000 | 129,000 | 130,000 | 112,500 (estimated by IMCOA) |
| Chinese export quota | 61,560 | 60,173 | 47,449 | 50,145 | 30,259 | 30,246 |

Source: China Ministry of Land and Resources. U.S. Geological Survey. Ministry of Commerce of China.

Note: USGS production data exceeded Chinese quotas, some of which is attributed to illegal mining.

When applying the standard of “in conjunction with” to *China – Rare Earths*, it is necessary to recall the Appellate Body’s remarks in *US – Gasoline*, that “even-handedness” should be attached great importance.¹²⁵ It is alleged that, control on domestic mining, processing and other procedures related to rare earths were implemented together with export control since 1991. China also began to exercise total-amount control over domestic exploitation activities on rare earths in 2006.¹²⁶ Table 1 indicates the China’s export quota on rare earths during its 6 years’ implementation, in comparison to quota imposed on domestic production. From the

¹²³ Humphries (2012) p.19

¹²⁴ USGS stands for “U.S. Geological Survey”.

¹²⁵ Appellate Body Report, *US – Gasoline*, p.21

¹²⁶ Information Office of the State Council of China (2012)

statistics, it can be clearly seen that production remains a steady level compared to the fierce cut in rare earths export amount, especially in 2010 which was a striking 40%. Thus, it is difficult to see how the export restriction is imposed in an even-handedness way.

Whereas the export quota cannot be justified under the purpose of conserving rare earths, aim of conserving clean air and water should be examined under “relating to” as well as “in conjunction with”. Like natural resources conservation, environmental protection is now frequently listed as one of the major concerns of China’s rare earths policy on official occasions. Nevertheless, conserving clean air and water seems indicating an over specified goal within the wide scope of environmental protection, thus making it difficult to establish its close connection with export quota on rare earths. To put another way, conserving clean air and water is remote from “primary” purpose of the measure at dispute, and the standard of “relating to” is therefore not fulfilled.

In conclusion, even though rare earths export quota fit into the application scope of Art. XX(g), and can be argued from the perspective of conserving natural resources as well as clean air or water, the measure failed the link test contained in this provision. The purpose of conserving natural resources cannot be proved because the measure does not treat domestic market and export market in an even way required by “in conjunction with”, while conserving clean air or water is too specified for the measure to address.

4.3 Art. XX (b)

4.3.1 Application scope

To fall into the scope of Art. XX(b), the measures at stake must aim to “protect human, animal or plant life or health” in the first place.¹²⁷ When evaluating the standard, the Panel of *EC – Tariff* examined the design, architecture and structure of the alleged illegal regulations by re-

¹²⁷ This approach has been confirmed in several cases, such as *EC – Tariff Preferences*, *US – Gasoline* and *EC – Asbestos*.

ferring to the approach adopted by *Japan – Alcoholic Beverages II*.¹²⁸ While in *EC – Asbestos*, before drawing the conclusion that the measure was qualified under Art. XX(b), the Panel studied the scientific evidences closely to identify the risk for public health.¹²⁹ Thus, it is expected that the alleged policy objective of the measures at stake would be appraised in a very comprehensive way.

Harms caused by rare earths exploitation to environment have been touched upon in sections above. These problems can be even severer in China, for most of the production companies are small or medium sized enterprises, adopting out-dated technologies.¹³⁰ Therefore, there does exist a risk to public health and ecological environment which is caused by rare earths exploitation activities, and the purpose of protecting “human, animal or plant life or health” can be preliminary established. Whether or not the export quota on rare earths addresses this purpose and serves as a necessary measure at the same time will be appraised under the standard below.

4.3.2 Link between purposes and measures

As indicated by the wordings “necessary to”, invoking Art. XX(b) as a justification requires the necessity test. In *Korea-Various Measures on Beef*, Appellate Body illustrated the “necessary” standard as follows: “...the term ‘necessary’ refers...to a range of degrees of necessity. At one end of this continuum lies ‘necessary’ understood as ‘indispensable’; at the other end, is ‘necessary’ taken to mean as ‘making a contribution to’. We consider that a ‘necessary’ measure is...located significantly closer to the pole of ‘indispensable’ than to the opposite pole of simply ‘making a contribution to’.”¹³¹ This method was later referred to in *EC – Tariff*

¹²⁸ The Appellate Body made the assertion that “the aim of the measure...can most often be discerned from the design, the architecture, and the revealing structure of a measure.” Appellate Body Report, *Japan – Alcoholic Beverages II*, p.29

¹²⁹ Panel Report, *EC – Asbestos*, pp.337-440

¹³⁰ Chinese Society of Rare Earths (2009)

¹³¹ Appellate Body Report, *Korea – Beef*, para.161

Preferences when the Panel addressed the standard of “necessary” under Art. XX(b).¹³² In *China – Raw Materials*, the Panel adopted the approach when appraising the necessity of the measure at stake. By citing *Brazil – Retreaded Tyres*, it also made clear that, to confirm the preliminary conclusion, alternatives suggested by the complainants should be tested. However, the feasibility and practicality of the alternative must be taken into account.¹³³

In accordance with case laws, the measure in *China – Rare Earths* should be evaluated in aspect of its contribution to the justified purpose. At this point, by recalling the Appellate Body ruling in *Brazil – Retreaded Tyres*, the contribution made by certain measure can be evaluated on whether it “is apt to produce a material contribution to the achievement of its objective”, because “certain complex public health or environmental problems maybe tackled only with a comprehensive policy comprising a multiplicity of interacting measures.”¹³⁴

Nowadays, protecting human or plant life or health from pollution of rare earths exploitation activities is an imminent task for China. Apart from the harm to surrounding environment caused by rare earths exploitation mentioned above, the mining process of light rare earths is accompanied by the possible danger caused by radioactive elements, which threatens the surrounding environment and people’s health.¹³⁵ A large number of cases on pollution due to rare earths’ mining have been heavily reported in China, especially in the main mining area of northwest and middle China.¹³⁶ To sum up, the environmental and health problems incurred

¹³² Panel Report, *EC – Tariff Preferences*, paras.7.211

¹³³ Panel Report, *China – Raw Materials*, paras.7.489-7.493

¹³⁴ Appellate Body Report, *Brazil – Retreaded Tyres*, para.151

¹³⁵ Information Office of the State Council of China (2012)

¹³⁶ In Baotou, which is China’s primary rare earths’ production city, mass of rare earths’ by-products have been disposed and piled to form a “rare earths lake” of 170 million ton. A large population of people had to move due to the polluted water and environment caused by mining activities. Meanwhile, being another main mining area located in middle China, Ganzhou has also suffered a lot from the lagging way of exploitation. The destroyed land has reached as large as 97.34 square kilometers, and local government had spent 192.8 million RMB in tack-

by rare earths exploitation is a quite complex one, which need coping with in a comprehensive way. In the domestic level, changes have occurred in legislative area of rare earths in recent years. In purpose of developing China rare earths industry in a more environmental friendly way, various domestic policies have been in place. “China reformed its rare earths quota system, introducing additional environmental protection requirements as a prerequisite for receiving export permits.”¹³⁷ Policies of raising resource tax rate are now being implemented, and resources tax of rare earths in China was raised by nearly 20 times since April 2011. The correspondent tax revenue has been increased by 68% in 2012 compared to last year.¹³⁸ Policies on promoting more severe environmental standards within rare earths industry have also been implemented.¹³⁹ Particularly, enforcement of new standards is reinforced by other government sectors’ cooperation. In 2012, enterprises that could not meet new standards have been denied export qualifications by Ministry of Commerce.¹⁴⁰

Out of the same objective of above-said domestic measures, export quota imposed on rare earths can be considered as the countermeasure of China from international perspectives. In *China – Rare Earths*, most direct impact of export quota would be a sharp decrease in rare earths’ export volume and drastic increase in the product’s price in global market. This rise in rare earths price can be viewed as reflecting high environmental cost in rare earths production,

ling issues on disposed mining hills from 2005 until 2012. see Xinhua Net (2010) and Wang (2012). The two cases are just tip of the iceberg.

¹³⁷ ICTSD (2012) p.2

¹³⁸ Meng (2012)

¹³⁹ Ministry of Environmental Protection (2011). The standards entered into force since October 2011. The mandatory industry exit mechanism provided in it requires enterprises that cannot fulfill the standards within 2 years must exit rare earths industry. Actually, in 2010, the Ministry of Industry and Information Technology issued the draft for ‘Qualifications to Access to Rare Earths Industry’, which was the first official document setting access conditions for the whole industry. “Environment protection” was listed as one of the qualifications to get access into rare earths industry. See Li (2011)

¹⁴⁰ Ministry of Commerce (2011)

which is also a frequently cited public policy when other exporting countries impose export duties.¹⁴¹ Accordingly, export quota on rare earths is a constitutive part of China's integrated measure concerning environmental and health protection related to rare earths, and should be considered as a measure "apt to" make a contribution to the achievement of the justified objective.

However, whether export quota at stake is an "indispensable" one needs further evaluation. To put another way, is there no other alternative of less restrictiveness can be utilized to achieve the same effect? It is believed that, export quota is highly relevant to the international trade relations, and prone to be challenged due to its restrictiveness.¹⁴² In light of this, two factors reflected in *China – Rare Earths* should be taken into consideration. Firstly, the value at stake is a "vital and important" one. As stated above, protection of environment and public health in this case is an urgent task and should be highly valued. According to *EC – Asbestos*, the more vital the value is, the easier to prove the measure is a necessary one.¹⁴³ Secondly, environmental externality caused by rare earths exploitation can be addressed in domestic measures, such as environmental standards attached to exploitation permit and resources tax. Export quota on rare earths is thus not irreplaceable in this sense.

In conclusion, evaluation of the "necessary" standard can be a quite difficult one. On one hand, export quota constitutes one important part of China's oversea strategies in tackling deteriorative environment problem caused by rare earths exploitation. From another, the policy is rather disputative due to its restrictiveness. It remains unclear how the Panel would weigh the two factors.

¹⁴¹ Korinek and Kim (2011) p.264

¹⁴² Song and Zhang (2012)

¹⁴³ Appellate Body Report, *EC – Asbestos*, para.172

4.4 Art. XX (i)

4.4.1 Application scope

The application scope reflected in this provision reads as follows: “...restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry during periods when the domestic price of such materials is held below the world price as part of a governmental stabilization plan; ...”¹⁴⁴

There is no precedent under GATT/WTO jurisprudence concerning this article. However, inferred from the text, two requirements should be fulfilled for the measure to fall into the scope in the first place. Firstly, the “restrictions on exports of domestic materials” should be utilized in order to “ensure essential quantities of such materials to a domestic processing industry”. Second, the measure should be imposed “during periods when the domestic price” is “held below the world price as part of a governmental stabilization plan.”

In *China – Rare Earths*, as mineral natural resource, rare earths qualify for “domestic material” in the first place. Then the issue whether there exists intention of ensuring essential quantities of rare earths to China’s processing industry follows. As the world’s biggest developing countries, China’s rapid economic growth relies heavily on its prosperous processing and manufacturing industries. For example, production of mobile phones, magnets and metal alloys are all among China’s profitable industrial areas.¹⁴⁵ Apart from this, China is now planning to promote the use of green energy. According to the “twelfth five-year plan” issued by Chinese government, by 2015, use of non-fossil energy should constitute up to 11.4% primary energy’s utilization.¹⁴⁶ In context of this, rare earths are of great importance to China’s domestic economy, because of its wide application in all these areas. In fact, according to statistics, China supplies approximately 95% of global demand and consumes about 60% of the global

¹⁴⁴ Global and Regional Treaties 2010 (2010) p.1818

¹⁴⁵ Hurst (2010) p.5

¹⁴⁶ State Council of China (2012)

supply at the same time.¹⁴⁷ Thus in this sense, China is reasonable to utilize export quota as measure of ensuring domestic supplies in rare earths.

Secondly, the timing requirement of “when the domestic price of such materials is held below the world price” needs considering. The export quota still has to be examined in terms of its application period. In 1990s, China’s mass volumes of export at low prices caused the prices of rare earths worldwide to plunge.¹⁴⁸ Between 2002 and 2005, it was reported average rare earth prices in China dropped to about 5.50 dollars per kilogram, which was a historic low.¹⁴⁹ Export quota was introduced in 2005. In context of the timing of its occurrence, it falls into the scope of strategies dealing with unreasonable prices of rare earths in the world market.

Finally, attention must be paid to the term of “governmental stabilization plan”. Textually, the wording implies that the price differences should be attributed to government’s conscious manipulation instead of invisible hand of market economy. According to local media, deputy minister of Ministry of Industry and Information Technology in China recently alleged that Chinese government never interfered with market prices of rare earths, and differences between domestic and global prices might due to different qualities of rare earths product.¹⁵⁰ In this manner, China seems to deny the existence of “a governmental stabilization plan”.

Thus export quota failed to satisfy the requirement provided in Art. XX(i) because its implementation does not constitute part of “government stabilization plan”, and application of Art. XX(i) is precluded accordingly. However, since the article has never been interpreted officially, the thesis would move on to the next two issues contained in the provision for discussion purpose.

¹⁴⁷ Korinek and Kim (2011) pp.271

¹⁴⁸ Hurst (2010) p.11

¹⁴⁹ Morrison and Tang (2012) p.10

¹⁵⁰ Li (2012)

4.4.2 Link between purposes and measures

Art. XX(i) adopted “involving” as the “link” wording. The dictionary meaning of “involve” is to “have or include (something) as a necessary or integral part or result.”¹⁵¹ Compared to other similar terms in subsections of Art. XX, such as “necessary to”, “essential to” and “related to”, “involving” implies a relatively lower standard. This difference should inform the article’s interpretation.¹⁵²

Thus in *China – Rare Earths*, it would suffice to prove that the purpose of ensuring supply rare earths to domestic processing industry in China is one necessary part of the intention of designing export quota on rare earths. In accordance with case laws, “necessary” can be interpreted as “indispensable” and cannot be replaced by alternatives. As illustrated in 3.2.1, rare earths are considered as “essential” products, and are input to various important industries in China, especially manufacturing industries. It can be inferred that the sufficient domestic supply in rare earths is decisive to development of processing industry in China. From Table 1 above, obvious gap between yearly production quota and export quota can be detected, and it is argued that the gap is actually reserved for domestic use.¹⁵³ Moreover, in light of current rare earths policies that put great emphasis on natural resources conservation in China, a cut on export volumes seem to be an irreplaceable choice to ensure supply to domestic processing industry when the whole production quota is held in a stable level and is possible to decrease in the near future.

To sum up, purpose of imposing export quota on rare earths contains a necessary part of ensuring domestic supply to processing industry in China, and the link requirement is thus fulfilled.

¹⁵¹ Oxford dictionary (2012)

¹⁵² Appellate Body Report, *US – Gasoline*, p.18

¹⁵³ Trade Policy Committee of the Industrial Structure Council of Japan (2012) p.379

4.4.3 Requirement on non-discrimination

Additional requirement can be found in the ending of Art. XX(i): “...Provided that such restrictions shall not operate to increase the exports of or the protection afforded to such domestic industry, and shall not depart from the provisions of this Agreement relating to non-discrimination.” As indicated in this sentence, the standard of non-discrimination under Art. XX(i) would be the same as that established by non-discrimination clause of GATT1994, i.e. Art. I and Art. III.¹⁵⁴

In *China – Rare Earths*, since the issue of competition between China and importing countries in domestic market is not relevant to this case, the only related non-discrimination provision should be Art. I which provides Most Favored National Treatment. The discussion related to discrimination between importing countries in this case would be spelled out in 4.6. To avoid repetition it would not be discussed here any more.

4.5 Art. XX (j)

4.5.1 Application scope

There has been no case brought under this subsection. However, negotiation history of this article could be tracked to help clarify its application scope. In 1950s, a Working Party under GATT issued opinion on the issue of quantitative restrictions.¹⁵⁵ Notwithstanding the report mentioned “short supply” several times, it didn’t manage to give a clear explanation on it. Ever since then, neither “shortages” nor “essential” has been brought out and elaborated on.

Given that specific elaboration on the text as such cannot be found in GATT/WTO’s official documents or relevant precedents, in accordance with Vienna Convention on Law of Trea-

¹⁵⁴ Wordings similar to “afforded to such domestic industry” can also be found in Art. III:1.

¹⁵⁵ GATT (1950). The Working Party was set up by request of Czechoslovakia, claiming that the United States’ Marshall Plan violated Art. XI. It was the only time that “CONTRACTING PARTY or subsequent WTO member” attempted to refer to Art. XX(j) as a justification for its measures in dispute. see Sharp (2010) p.260

ties¹⁵⁶, negotiation history of the article proper worth being taken into account. Original text of Art. XX (j) first emerged in the report of Preparatory Committee to International Trade Organization in 1946. It illustrated that, during a post-war transitional period, quantitative restrictions should be allowed to use in order “to achieve the equitable distribution of products in short supply...” together with other two situations.¹⁵⁷ In 1947, the suggestion was made into a general exception to GATT obligations. It was incorporated in Art. XX and titled “Part II(a)”. Notwithstanding the “sunset provision”¹⁵⁸ attached to Art. XX, this subsection was able to be extended during the following years. In 1957, Part II(a) finally became Art. XX(j) through the Protocol Amending the Preamble and Parts II and III of the General Agreement.¹⁵⁹

To sum it up, the text of this subsection derives from the worries during post-war period on products’ short supply. In case general or local short supply may occur thereafter, the subsection is kept over the years to justify the quantitative restrictions taken under such situations. Read with “products” jointly, the situation of “short supply” seems can be applied in a wide range, including foodstuffs, raw materials, and so on.

In light of this, as it has been proved in 3.2.1, rare earths are essential products in “critical shortage” now in China, thus no doubt qualified for the wider standard of “shortage” addressed in Art. XX(j).

¹⁵⁶ According to Art. 32, the preparatory work of the treaty may be considered as supplementary means of interpretation under certain circumstances. Global and Regional Treaties 2010 (2010) p.30

¹⁵⁷ The other two situations included: “...the orderly maintenance of war-time price control by countries undergoing shortages as a result of the war, and the orderly liquidation of temporary surpluses of government-owned stocks and of industries...” However, these two situations were removed in a review session in 1955. See WTO (2012)b pp.592-593.

¹⁵⁸ It was provided in Part II of Art. XX that, “Measures instituted or maintained under part II of this Article which are inconsistent with the other provisions of this Agreement shall be removed as soon as the conditions giving rise to them have ceased, and in any event not later than January 1, 1951...” See WTO (2012)b p.593.

¹⁵⁹ WTO (2012)b p.593

4.5.2 Link between purposes and measures

Under this standard, the measure at stake should be an “essential” one to the acquisition or distribution of the products in shortage. As illustrated in 4.4.2, in *China – Rare Earths*, export quota is an indispensable measure to ensure the domestic supply of rare earths in China, which also indicates the essentialness of the measure. Accordingly, export quota on rare earths satisfies the standard of “essential to”.

4.5.3 General principle: equitable access

It is required under this subsection that “such measures shall be consistent with the principle that all contracting parties are entitled to an equitable share of the international supply of such products.” Textually, the standard implies that, equitable access to the product in short supply should be ensured among all member states. It can also be further inferred that, fairness should be kept between all importing countries and between importing countries and the exporting country *per se* as well. To put another way, the implementation of the disputed measure cannot lead to differential accesses to the product in shortage.

As mentioned above, export quota in *China – Rare Earths* caused the gap between production quota and export quota, which is accused of being reserved for domestic use. In addition, it is widely recognized that the fierce cut down on export volume due to export quota leads to drastic increase in price of rare earths in global market since 2005. In light of this, rare earths export quota imposed by China has not only restricted importing countries’ access to the product, but also restricted them from obtaining rare earths at prices similar to domestic purchasers.

In conclusion, export quota on rare earths fails to prove itself to be a measure implemented under the principle of equitable access, thus cannot be justified under Art. XX(j). However, I would proceed with discussing for completeness purpose.

4.5.4 Timing requirement

Last standard contained in this subsection is about duration of the measure. According to the text, the measure “shall be discontinued as soon as the conditions giving rise to them have ceased to exist.”

By nature, this sentence expresses similar meaning to “temporarily” provided in Art. XI:2(a), in that it also indicates the requirement of a limited duration in implementing the measure at dispute. However, no additional criteria such as “prevent or relieve” is attached. Compared to Art. XI:2(a), “ceased to exist” seems to imply a broader scope of reasons that lead to an end of product shortage, and effort of the exporting country is not a mandatory prerequisite when applying this provision. Effect of the measure is not emphasized either.

When applying this provision to export quota imposed on natural resources product, conditions that cause the shortage of rare earths should be clarified in the first place. To justify its export quota, China can refer to incomplete exploitation of rare earths resources worldwide, and accordingly, allege that the export quota would remain to exist until the proliferation of exploitation activities in other countries lead to final alleviation of the shortage.

4.6 Chapeau¹⁶⁰

It has been confirmed in a list of precedents that chapeau of Art. XX constitutes the second test once the measure in dispute can be justified under certain subsections in Article XX. Appellate Body elaborated on this two-tier test in *US – Gasoline* by stating that, “the measure at issue must not only come under one or another of the particular exceptions...it must also satisfy the requirements imposed by the opening clause of Article XX.”¹⁶¹

¹⁶⁰ Chapeau of Art. XX reads as follows:

“Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: ...” see *Global and Regional Treaties 2010* (2010) p.1818

¹⁶¹ Appellate Body Report, *US – Gasoline*, p.22

The chapeau was elaborated in a series of WTO cases, for example, *US – Gasoline*, *US – Shrimp*, *EC – Tariff*, *Brazil – Treaded Tyres*, etc. Its purpose was considered as preventing the abuse of exceptions in Article XX, which was confirmed by the negotiation history.¹⁶²

4.6.1 “arbitrary or unjustifiable discrimination”

“Arbitrary or unjustifiable discrimination” is one of the two different violations under chapeau. Three elements in determining the discrimination were confirmed as follows: “First, the application of the measure must result in discrimination...Second, the discrimination must be arbitrary or unjustifiable in character...Third, this discrimination must occur between countries where the same conditions prevail.”¹⁶³ In aspect of defining the term “arbitrary or unjustifiable discrimination”, the Appellate Body of *US – Gasoline* made recourse to treaty interpretation provisions in Vienna Convention on the Law of Treaties, and drew the conclusion that this standard “must be different from” that stipulated in Art. III: 4.¹⁶⁴

In accordance with case laws, firstly, whether there exists discrimination in applying export quota to rare earths should be examined. By recalling *US – Shrimp*, it is confirmed that “such discrimination could occur not only between different exporting Members, but also between exporting Members and the importing Members concerned.” Accordingly, discrimination which would lead to different treatment between exporting countries and importing country as such in importing country’s domestic market would also fall into the scope of chapeau. However, it does not mean that discrimination between importing members and exporting member *per se* satisfies the discrimination provided in chapeau in the same way. This is because the discrimination scope established in *US – Shrimp* and *US – Gasoline* was meant to include the

¹⁶² Appellate Body Report, *US – Gasoline*, p.22 and Appellate Body Report, *US – Shrimp*, para.157.

¹⁶³ Appellate Body Report, *US – Shrimp*, para.150

¹⁶⁴ WTO Analytical Index (2012) p.311

connotation of national treatment,¹⁶⁵ which is of no relevance in *China – Rare Earths*. Therefore, it would suffice to examine if there exists discrimination between all export destinations for China rare earths.

Top 5 export destinations of China's rare earths are: Japan (66%), the United States (7%), France (6%), Germany (5%) and Hong Kong (4%).¹⁶⁶ Although the five countries and areas take up different shares, export quota allocation is decided annually and imposed in a general and objective way, with no designation for specific destinations.

Thus, the export quota on rare earths is not a measure falling into discrimination scope prohibited by chapeau.

4.6.2 “a disguised restriction on international trade”

In *US – Gasoline*, the Appellate Body interpreted the term in light of “arbitrary or unjustifiable discrimination”, and held that a measure of “disguised restriction” should be read as “arbitrary or justifiable discrimination” with the disguise of a justified form under Art. XX. Accordingly, the conclusion that there exists no formal discrimination in applying export quota to rare earths should be reevaluated to confirm that there is no discrimination *de facto* in *China – Rare Earths* either.

In 2011, China for the first time allocated quotas to qualified companies, particularly, the quotas were further split into light and medium-heavy rare earths. And according to the first-round announced quotas, light rare earths take up over 87% of the total volume.¹⁶⁷ However, compared to the general allocation in the past, this new classification on export quota reflects no hidden discrimination. Both light and medium-heavy rare earths have their scopes of applica-

¹⁶⁵ Appellate Body Report, *US – Gasoline*, p.24. In the appeal, the United States proceeded on the assumption that the discrimination standards set in chapeau “were relevant to a case of national treatment where the Panel had found a violation of Article III:4.” The assumption was confirmed by the Appellate Body.

¹⁶⁶ Morrison and Tang (2012) p.6

¹⁶⁷ Morrison and Tang (2012) p.18

tion respectively¹⁶⁸ and required worldwide to a similar extent. Therefore, export quota on rare earths does not constitute discrimination *de facto*.

In conclusion, export quota in *China – Rare Earths* can be justified under requirement implied in chapeau of Art. XX.

4.7 Final clarifications: connection with Art. XI:2(a)

Due to similar wordings and functions, certain subsections under Art. XX and Art. XI:2(a) seem overlap each other in a way. In *China – Raw Materials*, the adjudicative bodies remarked¹⁶⁹ this interrelation and made clarifications. After elaborating all possible justifications under Art. XX, these clarifications deserve to be mentioned.

The Panel drew a line between Art. XX(g) and Art. XI:2(a) when addressing the term “temporarily” in Art. XI:2(a). The Appellate Body confirmed this opinion, and restated their different functions, which is, “Art. XI:2(a) addresses measures taken to prevent or relieve ‘critical shortages’ of foodstuffs or other essential products” while Art. XX(g) targeted “measures relating to the conservation of exhaustible natural resources”.¹⁷⁰ According to the Appellate Body, the two articles should be resorted to under different circumstances. Nevertheless, it does not preclude the possibility that the measure in dispute can qualify the two articles simultaneously, thus addressing two different purposes.¹⁷¹

Relation between Art. XX(j) and Art. XI:2(a) is also touched upon in *China – Raw Materials*. In comparison to “products in...short supply” provided in Art. XX(j), Art. XI:2(a) adopted the wording “critical shortage”, in connection with “foodstuffs” and “other products essential to the exporting contracting party.” Accordingly, Appellate Body drew the conclusion that Art.

¹⁶⁸ The light rare earths are widely applied in producing hybrid engines, metal alloys, electronic appliances as well as magnets. The heavy ones are generally used in high tech applications. See Hurst (2010) p.3 and Humphries (2012) p.3.

¹⁶⁹ Appellate Body Report, *US – Gasoline*, p.25

¹⁷⁰ Appellate Body Report, *China – Raw Materials*, para.337

¹⁷¹ Appellate Body Report, *China – Raw Materials*, para.337

XI:2(a) sets a relatively strict application scope compared to Art. XX(j).¹⁷² In terms of the logic relation, Art. XX(j) can serve as a second recourse when quantitative restrictions under Art. XI cannot be justified by exceptional situations provided therein.

4.8 Concluding remarks

Generally speaking, Art. XX can be considered as the WTO's unique way to cope with issues outside the trade area. The Appellate Body has been able to "operationalize these provisions to provide members with policy space for non-WTO concerns."¹⁷³ Its application generally reflected the conflict between trade relations and national interests. The troublesome part lies in the diversity of national interests.

Among these exceptions, Art. XX(b) and (g) particularly deal with trade measures that have environmental implications. Judging from the available cases, these two articles are most frequently referred to in cases where respondents defend themselves on basis of policy objectives related to environment protection as well as natural resource conservation. Practices in this area have thus been well developed.

Considering *China – Rare Earths*' similarities to *China – Raw Materials*, export measure in dispute is expected to be tested again on their compatibilities with (b), (g) as well as chapeau of GATT 1994. Apart from these 2 subsections, Art. XX(i) also seems appropriate to be referred to, in that rare earths products are usually closely related to market supply issues. This thesis also shed light upon Art. XX(j), in consideration of its similarity to Art. XI:2(a).

However, *China – Rare Earths* has its own salient characteristics. Firstly, rare earths are raw materials that have strategic meaning. They are crucial to various industries, especially new technology application area. Secondly, the market of rare earths featured by its volatility in price. Third, China's export restrictions imposed on rare earths has been implemented for 7 years, and going through a shifting period recently. New policies and regulations have already been issued or being studied, most of which are related to public purpose like protecting envi-

¹⁷² Appellate Body Report, *China – Raw Materials*, para.325

¹⁷³ The WTO and Global Governance: Future Directions (2008) p.49

ronment and human health, conserving natural resources etc. To sum up, export restrictions on rare earths can be discussed from many different angles due to the issue's complexity. In context of this, there exists much space for both sides of *China – Rare Earths* to argue.

Under the framework of GATT/WTO, what is questionable is the lawfulness of the measures chosen by countries, not the policy objectives as such. As can be seen from WTO practices, a typical interpretation process in a report always starts with the ordinary meaning. Nevertheless, it seems that the Appellate Body tends to adopt a broad way of interpretation, making the exception clauses more effective,¹⁷⁴ even though the decisions always turn to be no surprise. On one hand, diversified policy goals would cause difficulties when exporting countries attempt to resort to exceptions under Art. XX. From the other, according to World Trade Report 2007, how to “distinguish between legitimate public policy and protectionism in the design and use of domestic policies” is the core challenge faced by current GATT/WTO system.¹⁷⁵

¹⁷⁴ Appellate Body Report, *US – Gasoline*, p.22 and Appellate Body Report, *US – Shrimp*, para.156.

¹⁷⁵ WTO (2007) p.xxviii. See also Kapterian (2010) p.89.

5 Conclusion

Except for export duties, export restrictions are generally prohibited in GATT 1994. Justifications are provided in forms of general exceptions as well as more specialized ones. However, resorting to these provisions can be challenging, especially in context of natural resources trade. To make clarification on its application in such cases, *China – Rare Earths* was chosen and discussed under available exceptions.

By way of recalling GATT/WTO precedents, crucial terms in these provisions are restated and analyzed in light of *China – Rare Earths*. As the focal point in this case, rare earths are of great importance, widely applied, exhaustible, and can be quite problematic from the perspective of sustainable development. As can be seen from the main body, certain difficulties are identified when applying exceptions to export restrictions on rare earths. To some extent, rare earths can be viewed as a typical type of a series of strategic raw materials that share common characteristics. These difficulties also reflect issues that exporting countries may encounter in future practices related to imposing export restrictions on other strategic materials.

From the perspective of application, Art. XI:2(a) is not a frequently cited provision in GATT/WTO. The three standards of “essential to”, “critical shortage” and “temporarily” should be read as an integrated part. In accordance with reasoning presented in Appellate Body Report of *China – Raw Materials*, most disputable point in applying this provision in *China – Rare Earths* remains to be justifying the measure at dispute in light of natural resources’ characteristics. This thesis holds the opinion that, considering the status of rare earths exploitation activities worldwide, China should refer to this provision and defend itself.

Art. XX provides more options for exporting countries. Among the 10 subsections, (b), (g), (i) and (j) are exceptions that deserve to be considered in *China – Rare Earths*. Art. XX(i) and (j) are precluded for being utilized as justifications, while (b) and (g) are two potential provisions that can be considered. However, the justification process can be quite tricky, because certain national interests should be evaluated against the free trade value, which is a big issue facing adjudicative bodies as well as all member states in WTO framework.

One more thing is worth noticing. It should be kept in mind that discussion concerning *China – Rare Earths* in this thesis has precluded impact of accession protocol. In context of this, application of existing exception provisions in this case may be relatively broad in comparison to *China – Raw Materials*.

6 Table of reference

Cases

Brazil – Retreaded Tyres Appellate Body Report, *Brazil – Measures Affecting Imports of Retreaded Tyres*, WT/DS332/AB/R, adopted 3 December 2007

China – Raw Materials, Panel Report, *China – Measures Related to the Exportation of Various Raw Materials*, WT/DS394/R, adopted 5 July 2011

China – Raw Materials, Appellate Body Report, *China – Measures Related to the Exportation of Various Raw Materials*, WT/DS394/AB/R, adopted 30 January 2012

EC – Asbestos, Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos-containing Products*, WT/DS135/AB/R, adopted 12 March 2001

EC – Asbestos, Panel Report, *European Communities – Measures Affecting Asbestos and Asbestos-containing Products*, WT/DS135/R, adopted 18 September 2000

EC – Tariff Preferences, Panel Report, *European Communities – Conditions for the Granting of Tariff Preferences to Developing Countries*, WT/DS246/R, adopted 1 December 2003

GATT Panel Report, *Canada – Administration of the Foreign Investment Review Act*, L/5504 - 30S/140, adopted 25 July 1983

GATT Panel Report, *Italian Discrimination against Imported Agricultural Machinery*, L/833 - 7S/601958, adopted 23 October 1958

GATT Panel Report, *United States – Restrictions on Imports of Tuna*, DS21/R - 39S/155, adopted 3 September 1991

Herring and Salmon, GATT Panel Report, Canada – *Measures Affecting Exports of Unprocessed Herring and Salmon*, L/6268 - 35S/98, adopted 22 March 1988

Japan – Alcoholic Beverages II, Appellate Body Report, *Japan – Taxes on Alcoholic Beverages*, WT/DS8/AB/R, adopted 4 October 1996

Korea – Various Measures on Beef, Appellate Body Report, *Korea – Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, WT/DS161/AB/R, adopted 11 December 2000

Turkey – Textiles, Appellate Body Report, *Turkey – Restrictions on Imports of Textile and Clothing Products*, WT/DS34/AB/R, adopted 22 October 1999

US – Gasoline, Appellate Body Report, *United States – Standards for Reformulate and Conventional Gasoline*, WT/DS2/AB/R, adopted 29 April 1996

US – Shrimp, Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, adopted 6 November 1998

Documents

Barfield, Claude. *Trade and Raw Materials—Looking Ahead*. 2008.

<http://www.aei.org/article/economics/international-economy/trade-and-raw-materials--looking-ahead/> [Visited 2 October 2012]

Chinese Society of Rare Earths. *New Environmental Standard Calls for an Upgraded Rare Earths Industry*. 2009.

<http://www.cre.net/show.php?contentid=85363> [Visited 5 October 2012]

Commission of the European Communities. *Communication from the Commission to the European Parliament and the Council*. Brussels 2008.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0699:FIN:en:PDF> [Visited 4 October 2012]

European Commission. *Tackling the Challenges in Commodity Markets and on Raw Materials*. Brussels 2011.

http://ec.europa.eu/enterprise/policies/raw-materials/files/docs/communication_en.pdf [Visited 14 November 2012]

GATT. L/6898. 1991.

http://www.wto.org/gatt_docs/English/SULPDF/91530884.pdf [Visited 25 November 2012]

GATT. *Report of Working Party “D” on Quantitative Restrictions*. 1950.

http://www.wto.org/gatt_docs/English/SULPDF/90320408.pdf [Visited 20 October 2012]

GATT. *Statement by the Delegation of India*. 1979.

http://www.wto.org/gatt_docs/English/SULPDF/92010150.pdf [Visited 20 October 2012]

Humphries. *Rare Earth Elements: The Global Supply Chain*. 2012.

<http://www.fas.org/sgp/crs/natsec/R41347.pdf> [Visited 14 November 2012]

Hurst, Cindy. *China's Rare Earth Elements Industry: What Can the West Learn?* 2010.

<http://fmso.leavenworth.army.mil/documents/rareearth.pdf> [Visited 3 October 2012]

Japan. 2012.

http://docsonline.wto.org/GEN_viewerwindow.asp?http://docsonline.wto.org:80/DDFDocuments/t/G/L/984.doc [Visited 6 November 2012]

Kim, Jeonghoi. *Summary Report of the Raw Materials Workshop.* 2010.

http://www.wto.org/english/res_e/publications_e/wtr10_forum_e/wtr10_oecd_summary_report_e.pdf [Visited 30 October 2012]

Kim, J. *Recent Trends in Export Restrictions.* Paris 2010.

http://www.oecd-ilibrary.org/trade/recent-trends-in-export-restrictions_5kmbjx63sl27-en [Visited 27 September 2012]

Li, Shaofei. *History of China's Policies on Rare Earths*. Beijing 2011.

http://news.xinhuanet.com/politics/2011-07/25/c_121717369.htm [Visited 5 October 2012]

Li, Tianrui. *Ministry of Industry and Information Responded To Doubt on Differences Between Domestic and Global Prices.* Beijing 2011.

<http://finance.china.com.cn/industry/ny/20120620/816439.shtml> [Visited 16 November 2012]

Long, Keith R. *The Principal Rare Earth Elements Deposits of the United States-A Summary of Domestic Deposits and a Global Perspective.* Reston 2010.

<http://pubs.usgs.gov/sir/2010/5220/> [Visited 3 October 2012]

Meng, Sishuo. *Resource Tax of Rare Earths is Possible to Be Raised and Levied Based on Price.*

http://news.xinhuanet.com/fortune/2012-08/18/c_123599037.htm [Visited 8 October 2012]

- Ministry of Commerce. *Notice on Issuing the First Batch of Rare Earths Export Enterprises and Export Quotas*. Beijing 2011.
<http://wms.mofcom.gov.cn/aarticle/zcfb/d/p/201112/20111207901475.html> [Visited 8 October 2012]
- Ministry of Environmental Protection. *Notice on Issuing Pollutant Discharge Standards of Rare Earths Industry*. Beijing 2011.
http://www.gov.cn/zwjk/2011-02/28/content_1812585.htm [Visited 7 October 2012]
- Ministry of Industry and Information Technology. *Seeking breakthrough in China Manufacturing Industry*. Beijing 2011.
<http://www.miit.gov.cn/n11293472/n11293832/n11293907/n11368223/14591302.html> [Visited 22 November 2012]
- Moore, Dg Mike. *the WTO and Developing Countries: priorities for negotiations*. Berlin 2001.
http://www.wto.org/english/news_e/spmm_e/spmm60_e.htm [Visited 3 October 2012]
- Morrison, Wayne and Tang, Rachel. *China's Rare Earth Industry and Export Regime: Economic and Trade Implications for the United States*. 2012.
<http://www.fas.org/sgp/crs/row/R42510.pdf> [Visited 16 November 2012]
- Oxford Dictionary. 2012.
<http://oxforddictionaries.com/definition/english/involve?q=involving> [Visited 16 November 2012]
- Piermartini, Roberta. *The Role of Export Taxes in the Field of Primary Commodities*. Geneva 2004.
http://www.wto.org/english/res_e/publications_e/disc_paper4_e.htm [Visited 28 September 2012]

Song, Rao. Zhang, Bin. *Difficulties in Levying Rare Earths Tax Makes It Necessary to Imposing Export Quota*. Beijing 2012.

<http://www.eeo.com.cn/2012/0206/220298.shtml> [Visited 7 October 2012]

State Council of China. *The Twelfth Five-year Plan Concerning Energy Conservation*. Beijing 2012.

http://www.gov.cn/zwggk/2012-08/21/content_2207867.htm [Visited 16 November 2012]

The Parliamentary Office of Science and Technology. *Rare Earth Metals*. London 2011.

www.parliament.uk/briefing-papers/POST-PN-368.pdf [Visited 12 November 2012]

Trade Policy Committee of the Industrial Structure Council of Japan. *2011 Report on Compliance by Major Trading Partners with Trade Agreements – WTO, FTA/EPA, BIT-*. 2012.

<http://www.meti.go.jp/english/report/downloadfiles/2011WTO/2-3-2ExportRestriction.pdf>

[Visited 19 October 2012]

Wang, Kuiting. *Sadness of the Mountain*. Beijing 2012.

<http://www.cenews.com.cn/xwzx/bzpdf/yb/201205/P020120527511248768398.pdf> [Visited 7 October 2012]

WTO. *Decision on Trade and Environment*. 1994.

http://www.wto.org/english/tratop_e/envir_e/issu5_e.htm [Visited 29 October 2012]

WTO. *Dispute DS433: China-Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum*. 2012.

http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds433_e.htm#top [Visited 27 September 2012]

WTO. GATT Analytical Index. 2012.

http://www.wto.org/english/res_e/booksp_e/gatt_ai_e/gatt_ai_e.htm [Visited 15 November 2012]

WTO. *World Trade Report 2007*. Geneva 2007.

http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report07_e.pdf [Visited 15 October 2012]

WTO. *World Trade Report 2010*. Geneva 2010.

http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report10_e.pdf [Visited 29 September 2012]

WTO Secretariat. *Protocol on the Accession of the People's Republic of China (Accession Protocol)*. Doha 2001.

<http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN002123.pdf> [Visited 28 September 2012]

WTO Secretariat. *Trade and Environment at the WTO*. 2004.

http://www.wto.org/english/res_e/booksp_e/trade_env_e.pdf [Visited 29 October 2012]

WTO Secretariat. *Trade Policy Review*. 2010.

http://www.wto.org/english/tratop_e/tpr_e/tp330_e.htm [Visited 30 September 2012]

Xinhua Net. *China Rare Earths Industry Now Faces Increasing Environmental Pressure*. Beijing 2010.

http://news.xinhuanet.com/fortune/2010-11/07/c_13594689.htm [Visited 7 October 2012]

Literatures

Berry, Stevens. Levinsohn, James. Pakes, Ariel. *Voluntary Export Restraints on Automobiles: Evaluating a Trade Policy*. In: the American Economic Review. Vol. 89 (1999), pp.400-430

Bouët, Antoine and Laborde Debucquet, David. *Food Crisis and Export Taxation*. In: Review of World Economics. Vol.148 (2012), p.210

Crosby, Daniel. *WTO Legal Status and Evolving Practice of Export Taxes*. In: Bridges. 12(5) (2008), pp.3-4

Gary P., Sampson. *The WTO and Sustainable Development*. Hong Kong, (United Nations University Press) 2005

Global and Regional Treaties 2010. Edited by Ole Kristian Fauchald and Bård Sverre Tuseth. Oslo, (Department of Public and International Law, University of Oslo) 2010

Gu, Bin. *Mineral Export Restraints and Sustainable Development—Are Rare Earths Testing the WTO's Loopholes?* In: Journal of International Economic Law. Vol.14 (2011), pp.765-805

ICTSD. *WTO Appellate Body: China Raw Material Export Restrictions*. In: Bridges Weekly Trade News Digest. Vol.16 (4) (2012), pp.1-3

ICTSD. *US, EU, Japan Challenge China on Rare Earths*. In: Bridges Weekly Trade News Digest. Vol.16 (10) (2012), pp.1-3

Information Office of the State Council of China. *Policies of China's Rare Earth Industry*. In: China Daily. 21 June 2012

Jones, Kent. *Voluntary Export Restraint: Political Economy, History and the Role of the GATT*. In: the Journal of World Trade. Vol.23 (1989). pp.125-140

Kapterian, Gisele. *A Critique of the WTO Jurisprudence on 'Necessity'*. In: International and Comparative Law Quarterly. Vol. 59 (2010), pp.89-127

Karapinar, Baris. *China's Export Restriction Policies: Complying with 'WTO plus' or Undermining Multilateralism*. In: World Trade Review. Vol.10 (2011), pp.389-408

Karapinar, Baris. *Defining the Legal Boundaries of Export Restrictions: A Case Law Analysis*. In: Journal of International Economic Law. Vol.15 (2012), pp.443-479

Korinek, Jane and Kim, Jeonghoi. *Export Restrictions on Strategic Raw Materials and Their Impact on Trade and Global Supply*. In: Journal of World Trade. Vol.45, no. 2 (2011), pp.255-281

Qin, Julia Ya. *Reforming WTO Discipline on Export Duties*. In: Journal of World Trade. Vol. 46 (2012), pp.1-38

Rosendorff, B. Peter. *Voluntary Export Restraints, Antidumping Procedures, and Domestic Politics*. In: the American Economic Review. Vol. 86 (1996), pp.544-561

Sharp, Ben. *Responding Internationally to A Resource Crisis*. In: Drake Journal of Agricultural Law. Vol.15 (2010), pp.259-286

The WTO and Global Governance: Future Directions. Edited by Gary P. Sampson. Hong Kong, (United Nations University) 2005

Wilkinson, Rorden. *Developing Country Participation in the GATT: a reassessment*. In: World Trade Review. Vol.7 (2008), pp.473-510

WTO. *WTO Analytical Index*. 3rd edition. Cambridge, (Cambridge University Press) 2012