

## On Problems in Rare Earth Exports of China and Countermeasures

ZHANG Shujing<sup>[a],\*</sup>

<sup>[a]</sup> PHD, Professor, mainly engaged in international trade, international regional economy, international finance. School of Business, China University of Political Science and Law, 100088, China.

\*Corresponding author.

Address: School of Business, China University of Political Science and Law, P.R. China, 100088.

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### Abstract

As a country with rich deposit domestically and huge amount of supplying internationally of rare earth, China has not received the matched benefits. The major problems faced by China in rare earth are low international price, difficult transition of export policy, rampant smuggling and decreasing export potential. To solve these problems, China must insist on the transformation of export policy in rare earth, try to match domestic policies with international ones, fully recognize the strategic status of rare earth, control the exporting, mining, utilizing and reserving of rare earth comprehensively, and attack rare earth smuggling more seriously.

**Key words:** Rare earth; Export control; Smuggling; Strategic reserve

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### INTRODUCTION

Rare earth is one of the scarce, exhaustible natural resources. It has unique physical and chemical

characteristics, and is used widely in the fields of new energy, new materials, energy saving, environment protecting, aerospace and electronic information. Rare earth is one of the essential and indispensable elements for modern industries. The rare earth deposit in China amounts to 23% of the total world volume. At present, China takes more than 90% of the market supply of rare earth in the world with its 23% deposit. China has become the largest country of producing, utilizing and exporting rare earth in the world. In 2011 56% of China's rare earth exports was exported to Japan, ranking the first, 14% to the United States and ranking the second, 10% to France and ranking the third, and the rest was exported to Hong Kong, Germany, Italy, South Korea, the Netherlands and Vietnam. In addition to the direct imports of rare earth products enterprises from the US, Germany, France, Canada and Japan etc. invest rare earth industry in China. There are 38 wholly owned enterprises or joint ventures operating rare earth products in China, of which the investment amounts to 6.1 billion yuan renminbi and the products are mainly exported to serve the demand of their home countries (State Council Information Office [SCIO], 2012).

However, China's advantage in the volume of rare metal exports has not brought China matched benefits. China has been led to such a situation that other countries are busy in storing rare earth while China is busy with exporting rare earth, and it is difficult for China to break through this dilemma. The major problems faced by China in its advantage rare earth are low international price, difficult transition of export policy and rampant smuggling.

## 1. PROBLEMS IN RARE EARTH EXPORTS OF CHINA

### 1.1 Low Export Pricing

Because of the scarce, uneven distributed, non-renewable and exhaustible characteristics, rare earth is different

from normal commodities, has high strategic significance, and should be in a seller's market, in which sellers have the power to influence the price. However, China has no capacity and right to regulate the supply and demand of rare earth in international market, and has been at a shortage of pricing power and deteriorating terms of trade, though it takes absolute large proportion of deposit and supply in the global rare earth market.

Rare earth is regarded as "industrial gourmet powder", which is essentially needed by high quality products and advanced processing technology. The role of rare earth today is very similar to petroleum which is called "industrial blood" in the first half of the 20th century. After the spring-up of petroleum industry, petroleum had been in buyer's market abnormally for a long time. Exxon and Chevron of the United States and Shell and BP of the United Kingdom, these four petroleum enterprises from these two important petroleum consuming countries, had controlled the pricing rights of petroleum, and kept very low oil price at 1-2 US dollars per barrel. In September 1960, the Organization of Petroleum Exporting Countries (OPEC) was formally established. From then on international oil price entered the rising channel. Since 1970's the influence of the OPEC on oil price has been increasing (ZHUANG, 2009).

For a long time China's rare earth has been sold at a very low price and has been decreasing in the long term, which is far away from its value. Besides the general costs of mine, transportation, taxation and tariff, the price of rare earth should reasonably reflect the scarcity and exhaustibility of rare earth, ecological and environmental damages resulted from the mining and processing of rare earth products, and the huge appreciating space implying in the utilization of rare earth products. However, the rare earth products mainly exported by China have been at very low price for a long time which does not reveal the real value.

Early since 1973, China has been exporting rare earth. During the following 30 years, while the amount of production and exports is going up greatly, the international rare earth price has kept moving at a very low level. As the most important rare earth supplying country, China has been endured losses caused by low price.

In 1986, rare earth was sold by China at the price of 8 US dollars per kilogram or so. During the following 20 years, the price has been flouting at USD10. In the period of 2001-2005, the price had been below USD10, and even below USD8. Mainly because China began its policy transformation from encouraging the exports of rare earth to restricting in 2005, the price of rare earth rose rapidly, and once up to USD18 (SCIO, 2012).

However, the good days had not lasted for long. The collapse of Lehman Brothers in September 2008 made the financial crisis rapidly spread over the world. The economic recession and shrinking demand of the US, the

EU and other major economies significantly reduced the amount of procurement of rare earth from China, which resulted in the sharp fall of rare earth export price, even under USD8. In the first half of 2009, the production of Baotou Steel Rare Earth, China's largest rare earth producer, accounted for 50% of the global demand for rare earth, but its loss amounted up to 60 million yuan Renminbi (CHEN, 2010).

After 2009, the price of rare earth began to grow up. One reason is that the economy of some importing countries is turning warmer, and the other reason is that China's export control policies on rare earth resulted in certain effect. However, from 2000 to 2010, the rising span of rare earth is quite small than other raw materials such as gold, copper and iron minerals, during which the price of rare earth has risen 2.5 times, while 4.4, 4.1 and 4.8 times for the price of gold, copper and iron minerals respectively (SCIO, 2012).

## 1.2 Difficulties in Front of China's Export Policy Transformation

Governments of China have been strengthening the adjustment of export policy of rare metals (including rare earth) in order to break through the disordered situation of rare metal mining and exporting, change China's passive and embarrassed status of pricing in international rare metal market, develop and use rare metal resources reasonably, and safeguard the security of economy and resources. Since the 21st century, especially after 2005, China's export policy of rare metal products has been changed from encouraging to restricting. China has enhanced rare metal export control, decreased rare metal export quotas and started to impose export tariffs.

The quite stricter control over rare metal export and the relevant policies have resulted in outstanding impacts on rare earth in the short term. The exporting price of rare earth rose rapidly. However, the rare earth products exported by China are priced mainly based on international demand market climate index as well as the attitude and policies of the importing countries.

On the road of the transformation of rare metal export policy from encouraging to restricting China has met many difficulties mainly caused by the violent rejections from the United States, Japan and the European Union. On June 23 of 2009, the US and the EU formally put forward their trade dispute requests to the WTO against China. They thought China's policies of fixing export quotas, levying export duties and other price control methods on nine raw materials were against the WTO rules, contrary to China's promises when joining the WTO in 2001, and directly disturbed the normal international supply order of raw materials. On January 30, 2012, the WTO Appellate Body stated that it supported the decision made six months ago and came to the adjudication that China's policy to restrict the export of nine raw materials was unreasonable.

As expected, the main purpose for the US and the EU to sue China for its export restrictions on nine raw materials is to explore the way to challenge China's rare earth policy. On March 13, 2012, the US, the EU and Japan came to the WTO dispute settlement body again to sue China for its export restrictions on rare earth, tungsten and molybdenum. They thought China's restriction measures had violated WTO rules and China's promises when joining the WTO, including export quotas, export licenses and export restriction measures, and then requested China to have a negotiation (World Trade Organization, n. d.).

### 1.3 Rampant Smuggling

In China the extensive and disordered exploitation led to excessive supply of rare earth. The enforced export regulation of China over rare earth results in the decreasing volume of export and increasing international price. Although the world financial crisis has led to a drop of the demand of the US, the EU and Japan, the demand for rare earth in international market has kept stronger than other raw materials because of the important functions and strategic reserve status of rare earth.

One of the excuses for the US and EU to sue China in the WTO is that China is implementing more severe external regulations on the exports of rare earth and looser internal management in its domestic rare earth industry. China's domestic market is oversupplied, and rare earth is faced with downward pressure on prices. However, there is a rigid demand for rare earth in the international market. Japan is scarce in rare earth but has large demand for it and attaches great importance on reserving it, and the US and the EU cover their domestic rare earth resources without mining but import rare earth products in a huge amount for both consuming and reserving.

In China the domestic supply is more than the international supply, the domestic demand is weaker than the international demand, the regulation is domestically less strict than internationally, and the price is lower domestically than internationally. Under such a condition, the smuggling of rare earth is still a serious problem even though the General Administration of Customs of China has put rare earth in the list of anti-smuggling items.

Since 1998 China has implemented quotas on the exports of rare earth products. The total amount of rare earth quotas decreases year by year. In 2005 China cancelled export tax refunded policy on rare earth smelting separation products. Since November 2006, rare earth exports have been imposed tariff of 15-25%, and rare earth raw ore and 41 kinds of rare earth products have been listed in the catalogue of prohibited commodities in processing trade (FANG, 2010).

From 2006 to 2008, the volume of rare earth imported from China in the statistics of foreign customs is 35%, 59% and 36% more than the statistics of the General Administration of Customs of China respectively. In 2011

the overseas number is 1.2 times more than the domestic number (SCIO, 2012).

China's rare earth smuggled mainly flows into Japan, followed by South Korea, the US and some European countries. Large volume of rare earth smuggling results in the leaching out of valuable resources at very low price, and offsets the export regulation policy effect of China.

China have strengthened the strike on smuggling, however, it is very difficult to investigate rare earth smuggling. In order to seek a huge illegal profit, the unscrupulous enterprises are using various techniques to smuggle rare earth, which has brought great harm to China's macro-management policies, duty income and customs regulation. The main means of smuggling are as follows:

#### 1.3.1 Faked Products and False Declaration

In China quota restrictions are only imposed on resource products, such as rare earth oxides, which can be used only after being processed. The applied products which can be used directly as parts are not subject to quota restrictions.

Some enterprises make rare earth raw materials into the shape of tiles or marble and declare them as applied products to be exported. Even such kind of low-level methods can not be found out, the main reasons are that means of supervision and inspection of the Customs are too simple and backward, and necessary inspection reports from a qualified institution before exporting are in lack.

Rare earth has a variety of kinds and quite valuable. Most types of rare earth oxide are white powder physically. Therefore, it is difficult to distinguish different rare earth products, and it is relatively easy for the illegal enterprises to declare their rare earth products at a lower price or with a false name of applied rare earth products so as to obtain rich illegal profit. Such smugglings have made China's export regulation policies less effective, caused great loss in national tariff income and disturbed the normal exporting order.

#### 1.3.2 Going Around Export Control by Making Use of Loopholes in Tariff Descriptions

In China the customs tariff descriptions about rare metals are too simple and the tariff gradients are unobvious, which can not satisfy the requirement of tariff collection and management, and have bad effects on the export regulation measures to a certain extent.

Rare earth has more than 400 kinds and nearly 1000 specifications, while there are only 54 10-digit commodity codes in China's customs tariff description and only 45 of them are regulated with quota licenses and 15-25% export tariff (General Administration of Customs of the People's Republic of China, n. d.). It is easy to find out loopholes of fuzzy concept and unclear orientation in China's customs tariff description.

As for rare earth alloy, it has not been clearly defined and lies between rare earth raw materials and applied products. Rare earth alloy is not restricted by export quota restriction in China. This should be a large loophole in the

management of China customs.

Make rare earth alloy by mixing rare earth elements and iron together and then have the rare earth alloy exported. Apparently, such behaviour is a legitimate means to increase value-added. In essence, this is a method of bypassing rare earth quota regulation and smuggling rare earth. This is just the main path for rare earth to flow out of China. The buyers, which have advanced technology of separation and purification, can separate the rare earth alloy and extract rare earth raw materials easily.

### **1.3.3 Collusion of Declaration Companies and Customs Officials**

It is more disguised and despicable that some tariff declaration companies and customs officials help a tyrant to do evil. They have become a key link on the chain of rare earth smuggling. The smuggling companies buy rare earth raw materials from the mines and purchase quotas from the companies with rare earth export quotas, then the tariff declaration companies make false declaration or directly buy off the customs officials to have the illegal smuggling activities completed.

### **1.4 Decreasing Export Potential of Rare Earth**

Strictly speaking, rare earth is non-renewable resources. Along with the extensive mining, excessive waste and large amount of exports, the existing storage and guarantee period of rare earth in China has been declining rapidly. The comparative advantage of China is shrinking.

Up to June 2012, only one-third of the major resources have been left in Baotou Mine, which is rich in light rare earth ore. The ratio of reserves to production in the southern mines in Ganzhou of Jiangxi province and Longyan of Fujian province, which are rich in heavy and medium rare earth ore, have decreased to 15. In comparison the ratio is 50 twenty years ago. Because the terrible phenomenon of mining rich ore, abandoning poor ore, going to the area easily mined and leaving the area uneasily mined, the recovery rate of rare earth is quite low. The recovery rate of ionic rare earth in the southern mines is less than 50%, and the utilization rate of Baotou Rare Earth Mine is only 10% (SCIO, 2012).

The situation of heavy waste of resources and market confusion in rare earth industry seriously threatens China's resource safety and economy safety (ZHOU, 2007). There are more than 160 rare earth mining companies, only about 20 of them are backbones and the others are very small. The mining techniques of the small mines are backward, and some are even in original rough state. The rate of mineral mining recovery is very low. The extraction of rare earth requires a lot of land resources, which often results in widespread vegetation destruction, soil erosion and bad ecological impacts. The rare earth mining industry in China mainly lives on selling raw materials.

## **2. COUNTERMEASURES TO SOLVE PROBLEMS OF RARE EARTH EXPORTS IN CHINA**

As the biggest exporting country of rare earth, China is faced with the problems of low exporting price, difficult transformation of export policy, serious smuggling and decreasing potential of export. To solve these problems, China must insist on the transformation of export policy, fully recognize the strategic status of rare earth, try to match the domestic policies with the international policies, and control the mining, utilization, reserve and export of rare earth comprehensively.

### **2.1 Insist on the Strategic Policy of Export Control**

Faced with the opposition of importers China should insist on its strategic policy of export control over rare earth. It is an inalienable right of a country to restrict exports of strategic resources. Under the premise of ensuring its national and industrial security, China has the right to gradually strengthen the export control over its advantage rare earth, take over the pricing right gradually, change the unfair trade patterns, and exchange rare earth for advanced technology step-by-step. Under the premise of reducing the total volume of rare earth exports, China should restrict the exports of raw materials, primary processed products and encourage the exports of deep processed and high value-added products.

The relevant departments in China should study rules of the United Nations, the WTO and other international organizations in detail, and the policies of the US, Japan and EU about the strategic reserves and export control of rare metal resources, so as to improve the legislative level of China's export control policy system, make it more in line with international rules and reduce trade frictions.

### **2.2 Try to Match the Policies Domestically and Internationally**

The key reason why China lost the case about China's export measures on its various raw materials in 2009 was that the WTO Appeal Body, the US, the EU, Mexico and so on believed that China did not take the same measures for domestic and foreign producers and consumers when China took measures to protect its exhausting natural resources, which violated the GATT article XX (g) stipulation, also called natural resource protection exception clause (World Trade Organization, n. d.).

While China is taking tougher measures to control the export of rare earth, there are surely problems of excessive mining, serious wasting and smuggling domestically in the rare earth industry. Therefore, China should set up a similar resource protection system domestically and internationally, pay attention to the linkage of export control policy and domestic policy and the linkage between different ministries. Guided by the fundamental policy of the State Council and the unified plan of The

National Development and Reform Commission, the Ministry of Land and Resources, the Ministry of Energy, the Ministry of Industry and Information Technology, the Ministry of Commerce and the General Administration of Customs should harmonize their policies about the mining, circulating, processing, exporting and reserving of rare earth. While controlling the total amount of mining and production strictly, they should also rigidly control the exports of rough processed products.

Different from the export tariffs and export quota policies, China has larger discretion in mining license, daily supervision and domestic distribution of the rare earth resources which is not in the WTO rule constraint range.

### 2.3 Strengthen the Attack on Smuggling

The smuggling of rare earth has greatly disturbed the normal market order, and caused the policies distorted, regulation failed and national revenue lost.

China should take more efforts to support the General Administration of Customs with money, talents and equipments. Provide specific funds for more advanced, more specialized testing equipments such as chromatograph inspectors. Train qualified talents just for the special inspection and set up an agency to provide authoritative inspection report for the best. More attention should be paid to detecting the declared exports which look like rare earth, and the supervision and examination of such commodities should be enforced so as to prevent the loss of tax revenue.

The tariff descriptions of rare earth need to be further refined. Based on the principle of classifying rare earth products into categories allowed, restricted or prohibited to be exported, the rare earth products with strategic significance and military value such as heavy rare earth should be strictly restricted to be exported. The companies which trade quotas illegally, make false declaration or bribe customs officials, especially the customs officials who are involved in smuggling, must be punished and sentenced heavily, and be given criminal sanctions. What's more, the main leaders should be put in a joint accountability system as a precaution.

### 2.4 Strengthen the Strategic Reserves of Rare Earth

In 2011 China started to set up the strategic reserve system of rare earth, including resource area reserving and products reserving. Eleven rare earth mines have been singled out as the national planned areas, and specific programs concerned the key rare earth planned areas (the mines) have been composed. It is the turning point for China to take such an action and it is more important for China to improve its strategic reserve system for rare earth.

Establishing and perfecting the reserve system of rare earth is good to improve the relationship between supply and demand, lead market price reasonably and meet the need of safeguarding China's national economic security and protecting its national defense.

## CONCLUSION

China has absolute resource advantages in rare earth. The volume of deposit, production and exports of China's rare earth are all ranked high in the world. However, due to the extensive and rough exploitation and laissez faire exports, China has its resource advantage in rare earth reduced and the deposits of rare earth declining rapidly, and is faced with the danger of exhausting during this century. It is even worse that China is endowed with rich rare earth but does not have the power of pricing and is in a lack of international speaking right. In the unfair trade pattern, China has been selling large amounts of precious rare earth at very low prices for small amounts of expensive high technological products for a long time. China's terms of trade is deteriorating, and the rampant smuggling make it even worse. Soon after starting to control the exports of rare earth instead of encouraging, China was fought against drastically by some large importing and consuming economies such as the US, the EU and Japan. To solve these problems, China must insist on the transformation of export policy in rare earth, try to match domestic policies with international ones, fully recognize the strategic status of rare earth, control the exporting, mining, utilizing and reserving of rare earth comprehensively, and attack rare earth smuggling more seriously.

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