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CHINA'S RARE EARTHS EXPORT QUOTAS: OUT OF THE CHINA-RAW MATERIALS GATE, BUT PAST THE WTO'S FINISH LINE?

Han-Wei Liu^{*} and *John Maughan*^{**}

ABSTRACT

Several recent studies have discussed the ramifications of the *China – Raw Materials* case for China's rare earths. However, none of these studies has conducted a thorough investigation of China's current export quota regime for rare earths or how it might stand up under WTO rules, assuming that it would be treated the same. This article makes no such assumption, investigating China's export quota regime for rare earths as it stands in early June 2012. The regime is somewhat improved over that applied during the *Raw Materials* case and could allow a more favourable WTO ruling. However, if General Agreement on Tariffs and Trade (GATT) disciplines are interpreted narrowly, as in *China – Raw Materials*, this article finds that the current regime still falls short of certain GATT exceptions. This article informs future analyses of China's export quota regime for rare earths. Beyond the case of China, it also invites discussion on the appropriate amount of 'policy space' WTO Members should enjoy for imposing export quotas under the relevant GATT disciplines for resource conservation and environmental protection.

I. INTRODUCTION

Rare earth elements (rare earths or REE) are critical ingredients to many of the most technologically advanced industrial goods.¹ They consist of 17

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¹ Technologies dependent on rare earths range from common commercial goods such as cell phones, iPods, computers, and televisions to emerging green or strategic technologies such as wind turbines, electric vehicles, and lasers.

elements that may be roughly divided into three categories: light, medium, and heavy.² Though rare earths are widespread in the earth's crust, they scarcely arise in concentrations large enough to mine economically.³

China contains within its borders 30% of global rare earths reserves, but produces 95% of global output.⁴ This disproportionate level of production and export puts severe pressure on its remaining stock, which it estimates could be exhausted in 15–30 years.⁵ Moreover, extraction and processing of rare earths are highly polluting. As a result, China's environmental burden is unbalanced vis-à-vis the rest of the world.⁶ One of China's principle goals in imposing rare earths export quotas is to reduce these burdens and to induce other countries to develop new supplies or substitutes.

Currently, advanced economies are highly dependent on Chinese rare earths supplies despite the small size of the market.⁷ Global demand for rare earths has been growing steadily at around 8–11% since the late 1990s.⁸ In 2010, China tightened its export quotas on rare earths by over 35%. It was also widely reported that, as a result of a diplomatic dispute, China temporarily banned rare earths exports to Japan.⁹ These events alarmed China's trade partners, fuelled a rapid increase in global rare earths prices from 2010 to mid-2011,

² The 17 elements include the 15 lanthanides (atomic numbers 57–71) plus yttrium (39) and scandium (21). Heavier REEs are generally scarcer, more expensive, and more difficult to extract than lighter varieties. See Jane Korinek and Jeonghoi Kim, *Export Restrictions on Strategic Raw Materials and Their Impact on Trade and Global Supply* (OECD Workshop on Raw Materials 2009) 19, http://www.oecd-ilibrary.org/trade/export-restrictions-on-strategic-raw-materials-and-their-impact-on-trade_5kmh8pk441g8-en (visited 8 June 2012).

³ Typically, commercial sources of rare earths include concentrations of bastnäsite, as in northern China and California. Southern China contains deposits of lateritic ore with higher concentrations of heavy REEs. See US Geological Survey, *Rare Earth Elements – Critical Resources for High Technology* (USGS, 2002), <http://pubs.usgs.gov/fs/2002/fs087-02/> (visited 8 June 2012).

⁴ Korinek and Kim, above n 2, at 19. China established a quasi-monopoly over the global rare earths industry in the late 1990s and early 2000s.

⁵ *Ibid.*, at 20. See also *China Rare Earths to Last 15–20 Years*, *Bloomberg* (16 October 2010), <http://www.bloomberg.com/news/2010-10-16/china-says-its-medium-heavy-rare-earth-reserves-may-last-only-15-20-years.html> (visited 17 March 2012).

⁶ We see no reason why, as some may contend, China's lax environmental regulation in the recent past should, in and of itself, prejudice any sincere efforts it makes to clean up the industry today.

⁷ See Scott Kennedy, *Rocky Road for China Inc(herent)* (GK Dragonomics, 2012) (on file with authors) (observing that China's total exports were valued at under US \$1 billion in 2010, a small fraction of the US \$79 billion China paid for iron ore imports in the same year).

⁸ Korinek and Kim, above n 2, at 19. Rare earths demand has typically followed the general trend of rising demand seen in most commodities since the early 2000s. See Kennedy, above n 7, at 2; Maurice Obstfeld and Kenneth Rogoff, *Global Imbalances and the Financial Crisis: Products of Common Causes*, Federal Reserve Bank of San Francisco Asia Economic Policy Conference, 18–19 October 2009, at 137, <http://elsa.berkeley.edu/~obstfeld/globalimbances2010.pdf> (visited 8 June 2012).

⁹ See e.g., Amid Tension, China Blocks Vital Exports to Japan, *New York Times*, 9 September 2010, <http://www.nytimes.com/2010/09/23/business/global/23rare.html?pagewanted=all> (visited 25 March 2012).

and prompted advanced economies to make serious efforts to find rare earths substitutes or bring new supplies online.¹⁰ The USA, EU, and Japan challenged China's application of export quotas by filing for World Trade Organization (WTO) consultations in March 2012.¹¹

Previous studies, as noted below, have focused primarily on the *China – Raw Materials* case, applying its conclusions to China's rare earths regime. This article reviews China's rare earths export quota regime and applies WTO rules directly. In Section II, we detail WTO disciplines relating to export restrictions and offer a brief description of the restrictions' potential economic impact. Section III lays out all relevant and available Chinese laws and regulations relating to rare earths export quotas,¹² framing China's rare earths legal regime as it stands in early June 2012.¹³ In Section IV, we show that China's export quotas violate the General Agreement on Tariffs and Trade (GATT) Article XI:1 without an Article XI:2 (a) defence. Sections V and VI analyse the consistency of China's rare earths export quota regime with GATT Articles XX (b) and XX (g), two key exceptions cited by China. Section VII extends these analyses to the 'chapeau' of GATT Article XX and Section VIII concludes. We find that China's current export quota regime violates GATT Article XI and is unlikely, in its current form, to meet the legal requirements of these exceptions.

II. LAW AND ECONOMICS OF EXPORT RESTRICTIONS

Export restrictions have a variety of economic impacts.¹⁴ In contrast to the rules on import restrictions, however, the current WTO regime has relatively

¹⁰ See e.g., Toyota Finds Way to Avoid Using Rare Earth-media, *Reuters*, 23 January 2012, <http://www.reuters.com/article/2012/01/23/toyota-rare-earth-idUSL4E8CN4GC20120123> (visited 8 June 2012); Japan to Slash Use of a Heavy Rare Earth as China Tightens Grip, *Reuters*, 8 February 2012, <http://www.reuters.com/article/2012/02/08/us-rare-earth-japan-idUSTRE8170KN20120208> (visited 8 June 2012).

¹¹ Request for Consultations by the United States, *China – Measures Related to the Exportation of Rare Earths, Tungsten, and Molybdenum*, WT/DS431/1, 15 March 2012; Request for Consultations by the European Union, *China – Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum*, WT/DS432/1, 15 March 2012; Request for Consultations by Japan, *China – Measures Related to the Exportation of Rare Earths, Tungsten, and Molybdenum*, WT/DS433/1, 15 March 2012 [hereinafter '*Requests for Consultations, China—Rare Earths*'].

¹² China agreed not to impose export taxes on rare earths under the China Protocol. While China *does* in fact impose export taxes on rare earths, in violation of the Protocol, the present analysis is limited to China's quota-related measures.

¹³ We summarize these instruments in Appendix I below. Note that, due to informational constraints, not all Chinese measures relevant to this analysis may be publicly available. We have made every effort to provide a comprehensive analysis, but make no claim that it is exhaustive. Moreover, given that official English translations of the Chinese measures reviewed in this analysis are limited, much of the content of the instruments (including titles) may rely on the authors' translations.

¹⁴ For a detailed discussion, see e.g., Baris Karapinar, 'Export Restrictions and the WTO Law: How to Reform the 'Regulatory Deficiency'', 45 (6) *Journal of World Trade* 1139 (2011) at 1142–1143.

limited disciplines on exports.¹⁵ This section briefly reviews relevant GATT rules on export restrictions, including exceptions, and introduces a basic framework for understanding their economic impact.

A. WTO rules on export restrictions

WTO law distinguishes between two types of export restrictions: duties and non-duties. Export duties, tariffs, or taxes are generally permitted under the GATT, but may be restricted in special cases such as under China's WTO Accession Protocol.¹⁶ Non-tariff or 'quantitative' restrictions, such as export quotas, are generally forbidden under GATT Article XI.¹⁷

The GATT provides certain exceptions to Article XI which may arguably serve sustainable development purposes. These include exceptions to prevent critical shortages of essential raw materials, to 'protect human, animal or plant life or health' (widely interpreted to include environmental protection), and to conserve exhaustible natural resources.¹⁸

There are few precedents to-date that have tested these rules. The Panel and AB reports address relevant concerns in *China – Raw Materials* and *China – Audiovisuals*¹⁹ as well as in *Argentina – Hides and Leather* and *US*

¹⁵ Ibid, at 1143–1144. See also, Julia Ya Qin, 'Reforming WTO Disciplines on Export Duties: Sovereignty over Natural Resources, Economic Development and Environmental Protection', 46 (5) *Journal of World Trade* (forthcoming 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2030477. (visited 8 June 2012). While this article focuses on export quotas, we nevertheless note the asymmetry between GATT treatment of export duties and quotas. The lax regime on export duties allows the majority of Members to impose export taxes, which some economists fear could create a 'domino effect' leading to more systemic problems as countries increasingly impose export restrictions.

¹⁶ See the Protocol on the Accession of The People's Republic of China, Article 11.3 [hereinafter '*China Protocol*'].

¹⁷ Additional forms of quantitative export restrictions include minimum export prices, non-automatic export licensing, non-transparent export licensing procedures, and so on. While duties are considered transparent and consistent with the price mechanism, quantitative restrictions are considered non-transparent and more trade-distortive. See generally, Andrew Guzman and Joost Pauwelyn, *International Trade Law* (New York: Aspen Publishers, 2009) at 199–223; Petros C. Mavroidis, *The General Agreement on Tariffs and Trade: A Commentary* (Oxford: Oxford University Press, 2005) at 27–52.

¹⁸ See GATT Articles XI:2 (a), XX (b), and XX (g), respectively. Other GATT exceptions are available to secure compliance with a GATT-consistent measure (XX (d)), to prevent domestic price hikes (XX (i)), and to ensure domestic quantities of products in short supply (XX (j)). Exceptions are also available for maintaining public morals and order (XX (a)). The relevant restraints on foreign enterprises' market access to the rare earths market may touch upon the Article XIV of General Agreement on Trade in Services (GATS Agreement) and China Protocol. In this article, we focus on GATT Articles XI:2 (a), XX (b), and XX (g).

¹⁹ WTO Appellate Body Report, *China – Measures Related to the Exportation of Various Raw Materials*, (*China – Raw Materials*), WT/DS394/AB/R, WT/DS395/AB/R, WT/DS398/AB/R, adopted 22 February 2012; WTO Appellate Body Report, *China – Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products* (*China – Audiovisuals*), WT/DS363/AB/R, adopted 19 January 2010.

– *Export Restraints*.²⁰ There are also two pre-WTO cases, *Japan – Semiconductors* and *Canada – Salmon*.²¹ The relevance of these cases will be noted as required in the analysis below. The lack of abundant case law in this area leaves Members some room to test WTO rules on export restrictions.

B. A brief economic assessment of export restrictions

Export restrictions have important international trade consequences whether or not they meet WTO obligations. In essence, they drive a wedge between domestic and international prices, lowering the former and potentially raising the latter. As seen in Figure 1 below, domestic prices fall ('p0' to 'p1'). As shown in the right panel, global prices also rise (' π_0 ' to ' π_1 ') when a 'big' country imposes the restrictions.²² This alters the optimal allocation of resources worldwide, a core goal of the WTO, and introduces inefficiencies in global production.²³

Moreover, Members could impose export restrictions to benefit domestic interest groups at the expense of foreign trade partners. First, export restrictions benefit domestic consumers by raising domestic supplies ('d0' to 'd1') and lowering domestic prices ('p0' to 'p1').²⁴ Downstream industries, for example, could utilize cheaper and more abundant inputs to produce higher value goods. Second, in 'big' countries, domestic producers could also benefit.²⁵ Though they must cut production and face lower prices at home, higher prices abroad could make up the loss.²⁶ Thus, 'big' countries may be motivated by an opportunity to improve their terms-of-trade.²⁷

²⁰ WTO Panel Report, *Argentina – Measures Affecting the Export of Bovine Hides and the Import of Finished Leather (Argentina – Hides and Leather)*, WT/DS155/R, adopted 16 February 2001; WTO Panel Report, *US – Measures Treating Export Restrictions as Subsidies (US – Export Restraints)*, WT/DS194/R, adopted 23 August 2001.

²¹ GATT Panel Report, *Japan – Trade in Semi-Conductors (Japan – Semiconductors)*, para 107 L/6309, adopted 4 May 1988, GATT B.I.S.D. (35th Supp.) (1989); GATT Panel Report, *Canada – Measures Affecting Exports of Unprocessed Herring and Salmon (Canada – Salmon)* L/6268, adopted 20 November 1987, GATT B.I.S.D. (35th Supp.) (1989), at 99.

²² 'Big' and 'small' in this case do not refer to the size of a country, but rather to its dominance in a given sector. 'Big' countries have market power and thus can influence global prices, whereas 'small' countries cannot.

²³ Areas 'b' and 'd' in Figure 1 are 'dead-weight losses' due to production inefficiencies introduced by the export restrictions.

²⁴ Foreign consumers are hurt because exports fall ('x0' to 'x1'). Prices remain the same in the case of a 'small' exporter (left panel) or rise under a 'big' exporter (right panel).

²⁵ Producer gains are represented by area 'e' in the right panel.

²⁶ The ability of domestic producers to impact global prices is determined by its market power in the sector as well as the product's price elasticity of demand. In general, the more inelastic demand for a product is, the more foreign consumers will be willing to pay.

²⁷ World Trade Organization, *World Trade Report 2010: Trade in Natural Resources* (2010), at 114, http://www.wto.org/english/res_e/reser_e/wtr10_brochure_e.pdf (visited 8 June 2012). Terms-of-trade surpluses refer to the gains that 'big' countries receive by raising global prices on exports relative to imports.

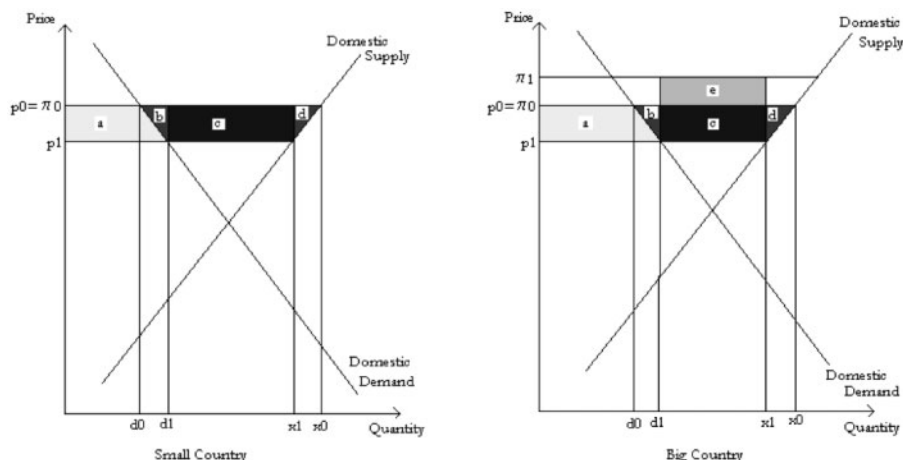


Figure 1. Partial equilibrium analysis of an export tax. *Source:* Antoine Bouët and David Laborde Debucquet, *Economics of Export Taxation in a Context of Food Crisis: A Theoretical and CGE Approach Contribution* (International Food Policy Research Institute, Discussion Paper 00994, June 2010), <http://www.ifpri.org/sites/default/files/publications/ifpridp00994.pdf> (visited 8 June 2012). Though this study focuses on export taxes, quotas' impact on the market is similar.

These distortions inevitably subject GATT-inconsistent export restrictions such as export quotas to intense scrutiny. However legitimate the declared goal may be, such restrictions will need careful justification under the WTO rules.

III. CHINA'S EXPORT QUOTA REGIME FOR RARE EARTHS

China's rare earths export quotas are based on a regime that differs from that applied in the *China – Raw Materials* case. This regime, as it stands in early June 2012, is laid out in detail below.

A. Primary legal instruments and authorities

The main legal instrument governing China's imports and exports is the Foreign Trade Law of the People's Republic of China.²⁸ Import and export trade in goods is generally permitted in China, unless relevant laws or administrative regulations provide otherwise.²⁹ The Foreign Trade Law confers to the competent authority the power to regulate the exportation of goods. Currently, the export of specific goods may be restricted under Article 16 for certain purposes. These include safeguarding state security

²⁸ Dui Wai Mao Yi Fa [Foreign Trade Law] (promulgated by the Standing Comm. National People's Congre., 12 May 1994, amended, 6 April 2004, effective 1 July 2004) [hereinafter '*Foreign Trade Law*'].

²⁹ *Ibid.*, Article 14.

or public interests;³⁰ protecting the environment and human, plant, or animal life or health;³¹ conserving exhaustible natural resources;³² establishing or developing a particular domestic industry;³³ and so on.

The State Council implemented these rules under the Regulation on Import and Export Administration.³⁴ Article 35 provides that the exportation of goods may be restricted under the circumstances described in Article 16 of the Foreign Trade Law.³⁵

The main authority for trade regulation lies in the hands of the Ministry of Commerce (MOFCOM) which, in conjunction with Customs, has the responsibility to 'establish, adjust, and publish the list of goods' subject to export restrictions.³⁶ According to the Foreign Trade Law, enterprises in violation of the export restrictions would be subject to administrative fines or, where applicable, criminal sanctions.³⁷ Thus, MOFCOM's decisions on the items restricted for exportation are binding on the exporters.

Because rare earths are strategic natural resources with ramifications for the environment, they also fall under the auspices of several other authorities. These include the Ministry of Land and Resources (MLR), the Ministry of Industry and Information (MIIT), the State Development and Reform Commission (SDPC),³⁸ the Ministry of Environmental Protection (MEP), and the Ministry of Health (MOH).³⁹

B. Export quotas and administration

The main legal instruments governing export quotas are the Measures for the Administration of License⁴⁰ and the 2012 Export Licensing List.⁴¹

³⁰ Ibid, Article 16 (1).

³¹ Ibid, Article 16 (2).

³² Ibid, Article 16 (4).

³³ Ibid, Article 16 (7).

³⁴ Huo Wu Jin Chu Kuo Guan Li Tiao Li [Regulation on Import and Export Administration] (promulgated by the State Council, 10 December 2001, effective 1 January 2002). [hereinafter '*Regulation on Import and Export Administration*']

³⁵ Ibid, Article 35 (which states that 'in any of the circumstances as provided in Clauses 1, 2, 3, and 7 of Article 16 of the Foreign Trade Law, the goods concerned shall be limited in exportation. Where there are provisions in other laws or regulations on limiting the exportation of goods, such provisions shall be abided by').

³⁶ *Foreign Trade Law*, above n 28, Article 18; *Regulation on Import and Export Administration*, above n 34, Article 35.

³⁷ *Foreign Trade Law*, above n 28, Article 61.

³⁸ Formerly, the State Planning Commission.

³⁹ See Sections V and VI below.

⁴⁰ Huo Wu Chu Kuo Xu Ke Zheng Guan Li Ban Fa [Measures for the Administration of License for the Export of Goods] (promulgated by the MOFCOM, 7 May 2008, effective 1 July 2008). [hereinafter '*Measures for the Administration of License for the Export of Goods*'].

⁴¹ 2012 Nian Chu Kou Xu Ke Zheng Guan Li Mu Lu [2012 Export Licensing Management Commodities List] (promulgated by the MOFCOM and the Customs, 30 December 2011, effective January 2012) [hereinafter '*2012 Export Licensing List*'].

Export restrictions are applied as export quotas and/or export licenses.⁴² Thus, the goods subject to export restrictions shall not be released from Customs without a license.⁴³ These licenses take one of two forms: an ‘export quota license’ or ‘export license’.⁴⁴ The licensing list is jointly published by MOFCOM and Customs annually, and rare earths are listed as one of the 49 goods covered by the 2012 list.⁴⁵ It is unclear based upon what criteria that the Chinese Government determines which goods will be included in the list.⁴⁶

Export quotas are allocated directly or through a bidding system.⁴⁷ Pursuant to the 2012 Export Licensing List, export quotas for rare earths are directly allocated by MOFCOM.⁴⁸ MOFCOM enumerates the quotas biannually by dividing them into two batches, ‘Batch I Quota’ and ‘Batch II Quota’. Table 1 below lists the quotas for the past four years.

Certain important measures on export quotas have been enacted since 2012. First, the quotas are now allocated in a more sophisticated manner based on two categories, namely, ‘light’ and ‘medium/heavy’ rare earths.⁴⁹ Second, MOFCOM may withhold from exporters the relevant quotas in order to enforce environmental protection standards.⁵⁰ Thus, MOFCOM reserved certain Batch I Quota allocations in 2012. If the relevant exporters do not pass inspection by the Ministry of Environmental Protection by the end of July, they will be ineligible for the Batch II Quotas. Moreover, they will lose their Batch I Quota assignments, which will be re-allocated to competitors.⁵¹

Since export quotas are allocated directly by MOFCOM, exporters need to apply for such quotas. Exporters are categorized either as ‘producers’ or

⁴² *Foreign Trade Law*, above n 28, Article 19.

⁴³ Hai Guan Fa [Customs Law] (promulgated by the Standing Comm. National People’s Congre., 22 January 1987, amended, 8 July 2000). Article 24 provides that the goods subject to export license are not permitted for release without the license [hereinafter ‘*Customs Law*’].

⁴⁴ Measures for the Administration of License for the Export of Goods, above n 40, Article 6.

⁴⁵ 2012 Export Licensing List, above n 41, Article 1.

⁴⁶ To the extent that this measure may be applied in a non-transparent manner, it could violate GATT Article X and the China Protocol. See China Protocol, above n 16, Annex 7, Reservations by WTO members, para 2 (c) 1.

⁴⁷ 2012 Export Licensing List, above n 41, Article 1.

⁴⁸ *Ibid.*

⁴⁹ Shang Wu Bu Guan Yu Gong Bu 2012 Nian Xi Tu Chu Kou Qi Ye Ming Dan Bing Xia Da Di Yi Pi Chu Kou Pei E De Tong Zhi (2012 Notice on List of Rare Earth Export Enterprises and First Batch Rare Earth Export Quota) (promulgated by MOFCOM, 26 December 2011) [hereinafter ‘*2012 Export Enterprise List and First Batch Quota Notice*’] This approach is consistent with the administration of production quotas for rare earths. See Section VI below.

⁵⁰ *Ibid.* Enterprises (other than those engaged solely in distribution) that have been assigned the Batch I Quota for 2012 are also listed by MEP as qualified under the relevant environmental protection regulations in 2011. See Section V below.

⁵¹ *Ibid.*

Table 1. Export quota for rare earths (2009–12) (metric tons)

Year	Batch I	Batch II	Total
2009	21,728	26,427	48,155
2010	22,283	7976	30,259
2011	14,446	15,738	30,184
2012			
Light	21,700	NA	NA
Medium/heavy	3372	NA	NA

Source: MOFCOM; Tse (2011). NA: not applicable.

'distributors', both of which must meet certain qualifications.⁵² Producers must satisfy the following criteria:

- independent juridical person with a registered export business;⁵³
- compliance with relevant rare earths regulations;⁵⁴
- compliance with the export performance requirement (2008–10);⁵⁵
- raw rare earths must originate from licensed mining enterprises;⁵⁶
- compliance with certain environmental requirements;⁵⁷
- separation and metal smelting enterprises shall fall within the list published by MEP;⁵⁸
- compliance with relevant land regulations;⁵⁹
- compliance with certain social security requirements;⁶⁰ and
- non-violation of other regulations.⁶¹

⁵² Guan Yu 2012 Nian Xi Tu Chu Kou Pei E Shen Bao Tiao Jian He Shen Bao Cheng Xu De Gong Gao (Announcement on 2012 Application Conditions and Procedures for Qualification for 2012 Rare Earth Export Quota) (promulgated by MOFCOM, 11 November 2011) [hereinafter '2012 Rare Earth Export Quota Application Qualifications and Procedures']. Producers are technically identified as 'production enterprises' and distributors as 'logistics enterprises'. This measure may be inconsistent with China's commitments under the Protocol, which states that, with certain exceptions, China must 'progressively liberalize the availability and scope of the right to trade in all goods', such that 'all enterprises in China shall have the right to trade in all goods'. See China Protocol, above n 16, para 5.

⁵³ 2012 Rare Earth Export Quota Application Qualifications and Procedures, *ibid*, Article I.1(1).

⁵⁴ *Ibid*, Article I.1(2).

⁵⁵ *Ibid*. (The enterprise must demonstrate that its actual export volume from 2008 to 2010.)

⁵⁶ *Ibid*, Article I.1(3).

⁵⁷ *Ibid*, Article I.1(4) (including environmental protection equipment corresponding to the scale of the production enterprise, compliance with national and local emissions standards, proof of payment of pollutant emissions charges, no record of non-compliance with environmental regulations, contingency plans for environmental emergencies, and so on).

⁵⁸ *Ibid*, Article I.1(5).

⁵⁹ *Ibid*, Article I.1(6).

⁶⁰ *Ibid*, Article I.1(7).

⁶¹ *Ibid*, Article I.1(8).

With respect to distributors, the following requirements apply:

- independent juridical person registered to export;⁶²
- minimum capital of RMB 50 million;⁶³
- export performance record;⁶⁴
- ISQ 9000 certification;⁶⁵
- compliance with certain social security requirements;⁶⁶
- non-violation of other regulations;⁶⁷ and
- rare earths products must originate from a certified producer.⁶⁸

After 2012, distributors are only permitted to export rare earths purchased from production enterprises qualified under the environmental protection requirements.⁶⁹

In general, the application for export quotas must be made to the competent provincial commerce ministries. After a preliminary review, these authorities forward their recommendations to MOFCOM for final approval.⁷⁰

IV. GATT ARTICLE XI APPLICATION TO CHINA'S RARE EARTHS REGIME

China's rare earths export quota regime violates the terms of GATT Article XI:1. In its current form, we find the regime is also unlikely to meet the narrow terms of the Article XI:2 (a) carve-out. This section reviews these arguments.

A. Application of GATT Article XI:1

China's export quotas on rare earths likely violate Article XI:1 of the GATT. The prohibition on the use of quantitative restrictions is central to the WTO regime. As opposed to quantitative restrictions, tariffs are a preferred and acceptable form of protection under the GATT.⁷¹ This is reflected in Article XI:1, which reads 'no prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas . . . shall be instituted . . .'

Article XI:1 does not rely on an exhaustive list of covered measures. The GATT Panel in *Japan – Semiconductors* held that 'Article XI:1, unlike other provisions of the General Agreement, did not refer to law or regulations but

⁶² Ibid, Article I.2(1).

⁶³ Ibid, Article I.2(2).

⁶⁴ Ibid.

⁶⁵ Ibid, Article I.2(5).

⁶⁶ Ibid, Article I.2(4).

⁶⁷ Ibid, Article I.1(6).

⁶⁸ Ibid, Article I.2(3).

⁶⁹ Ibid.

⁷⁰ Ibid, Article II (stating that enterprises governed by the central government shall apply for export quota to MOFCOM directly).

⁷¹ See above n 17 and the accompanying text.

more broadly to measures.⁷² In the same vein, the Panel in *Colombia – Ports of Entry* asserted that ‘WTO panels have also concluded that the language “other measures” in Article XI:I is meant to encompass a “broad residual category”, and that the concept of a restriction on importation covers any measures that result in “any form of limitation imposed on, or in relation to importation”.’⁷³ Recently, the AB in *China – Raw Materials* confirmed that ‘Article XI of the GATT 1994 covers those prohibitions and restrictions that have a limiting effect on the quantity or amount of a product being imported or exported.’⁷⁴

In the instant case, MOFCOM and Customs authorities subject rare earths to export quotas twice a year under the mandate of the Foreign Trade Law and the Regulation on Import and Export Administration. Given that this export quota regime is instituted by executive agencies in the Chinese government, that it binds all enterprises engaged in rare earths trade, and that the export quotas on rare earths result in quantitative restrictions, the export quotas violate Article XI:1 of the GATT.

B. Application of GATT Article XI:2 (a)

GATT prohibits the use of quantitative restrictions apart from certain exceptions. We first examine Article XI:2 (a), which provides that Article XI:1 shall not extend to cases where ‘export prohibitions or restrictions [are] temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting Member’. Thus, to invoke this exception, China would have to overcome at least three legal hurdles, namely, ‘temporarily applied’ ‘other products essential’, and ‘to prevent or relieve critical shortages’. The AB thus far examined these elements in detail in only one case, namely, *China – Raw Materials*. This article builds on that analysis, examining each element in turn.

1. Temporarily applied

The AB considered the term ‘temporarily’ to mean ‘lasting or meant to last for a limited time only’, ‘not permanent’, and ‘made or arranged to supply a passing need’.⁷⁵ Taken together, ‘temporarily applied’ and ‘applied’ refer to ‘measures that are applied in the interim’.⁷⁶

⁷² See GATT Panel Report, *Japan – Semiconductors*, above n 21, para 106.

⁷³ WTO Panel Report, *Colombia – Indicative Prices and Restrictions on Port of Entry (Colombia – Port of Entry)*, WT/DS366/R, adopted 20 May 2009, para 7.227 (original emphasis added). See also WTO Panel Report, *India – Measures Affecting the Automotive Sector (India – Autos)*, WT/DS146R, WT/DS175R, adopted 5 April 2001, paras 7.254–7.265.

⁷⁴ WTO Appellate Body Report, *China – Raw Materials*, above n 19, para 320. The Appellate Body concurred with the Panel and considered the use of the word ‘quantitative’ in the title of Article XI when it interpreted the terms ‘restriction’ and ‘prohibition’ under Articles XI:1 and XI:2.

⁷⁵ WTO Appellate Body Report, *China – Raw Materials*, above n 19, para 323.

⁷⁶ *Ibid.*

China has employed the export quota system on rare earths for over 10 years and, so far, there has been no indication that it will cease to impose the quotas. As observed, China's rare earths reserves are estimated to last 15–30 more years at the current rate of production. Faced with a similar factual background, the AB upheld the Panel's conclusion that the relevant export restriction had 'been in place for at least a decade with no indication of when it will be withdrawn and every indication that it will remain in place until the reserves have been depleted'.⁷⁷

China could argue that export quotas are interim measures applied 'temporarily' until new resources or technologies create viable substitutes for rare earths, thereby alleviating shortages. The AB found room under Article XI:2 (a) for 'temporary' measures that do not specify end-dates.⁷⁸ China would need to show that its export quotas are in fact intended to be interim, which could be evidenced by other efforts to relieve the shortage in addition to, or in lieu of, export restrictions. Periodical review of existing export bans based on objective assessment criteria, scientific research for technological alternatives or substitutes, and other such measures could be relevant.⁷⁹ China's various measures taken to regulate and reduce rare earths extraction could also apply.⁸⁰

Without convincing evidence that China instituted an end-date for its export quotas or engaged in other activities that might imply a future end-date, it is unlikely that China's measures will be seen as 'temporary'.

2. *Foodstuffs or essential products*

According to the AB, the term 'essential' means 'absolutely indispensable or necessary', and the scope of 'products' is not limited to foodstuffs.⁸¹ Thus, Article XI:2 (a) denotes 'critical shortages of foodstuffs or otherwise absolutely indispensable or necessary products'.⁸² In *China – Raw Materials*, China successfully convinced the Panel that refractory-grade bauxite is 'essential' to China. Given that rare earths are extremely scarce and key to the production of many new technologies, China would be capable of overcoming this hurdle.

3. *Prevent or relieve a critical shortage*

To 'prevent' is to 'provide beforehand against the occurrence of [something]', 'make impracticable or impossible by anticipatory action', or

⁷⁷ *Ibid.*, paras 311, 315, 339–341.

⁷⁸ *Ibid.*

⁷⁹ In *China – Raw Materials*, China argued that the export restrictions were 'temporary' because they were renewed annually. Given that they remained in place for over 10 years and lack of evidence showing the measure would be removed, however, the argument was rejected by the Panel and the Appellate Body. Thus, in the present case, there must be something beyond annual renewal to convince the WTO tribunals that the measures are 'temporary'.

⁸⁰ See Section VI.

⁸¹ WTO Appellate Body Report, *China – Raw Materials*, above n 19, para 326.

⁸² *Ibid.*

'stop from happening',⁸³ while 'relieve' denotes 'raise out of some trouble, difficulty or danger; bring or provide aid or assistance to'.⁸⁴ The term 'critical shortage', as the AB observed, refers to 'those deficiencies in quantity that are crucial, that amount to a situation of decisive importance, or that reach a vitally important or decisive stage, or a turning point'.⁸⁵ Taken together, Article XI:2 (a) is to 'alleviate or reduce an existing critical shortage' and for 'preventive or anticipatory measures adopted to pre-empt an imminent critical shortage'.⁸⁶

China's supplies of rare earths are expected to last at least 15–30 more years. This time span is long relative to the likely meaning of 'critical shortage'. The Panel in *China – Raw Materials* found that a similar time period—16 years—did not constitute an imminent 'critical shortage' on another raw material. Without a significantly different interpretation of this term, China will be unlikely to meet the requirement.

One important factor in this reading of 'critical shortage' is the linkage 'critical shortage' and a time factor. The Panel in *China – Raw Materials* appeared to link the two separate requirements of 'temporarily applied' and 'critical shortage',⁸⁷ noting that export quotas in place until depletion of reserves would connote a shortage that was less likely to be 'critical'. The AB largely avoided the substance of this issue by stating 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'.⁸⁸ However, the link between 'temporariness' and 'critical shortage' could be decisive for China: if its measures are found not to be temporary, it will be unable to show that a 'critical shortage' exists. China would thus wish to weaken the link between 'temporariness' and 'critical shortage'.

To overcome this hurdle, China may point to the AB's observation in *China – Raw Materials*, stating that '...whether a shortage is "critical" may be informed by how "essential" a particular product is'.⁸⁹ By emphasizing the unique qualities of the rare earths industry, including its importance

⁸³ Ibid, para 327.

⁸⁴ Ibid.

⁸⁵ Ibid, para 324.

⁸⁶ Ibid, para 327.

⁸⁷ WTO Panel Report, *China – Measures Related to the Exportation of Various Raw Materials (China – Raw Materials)*, WT/DS394/R, WT/DS395/R, WT/DS398/R, adopted 22 February 2012, para 7.351.

⁸⁸ WTO Appellate Body Report, *China – Raw Materials*, above n 19, paras 336, 342–343. See also Baris Karapinar, 'Defining the Legal Boundaries of Export Restrictions: A Case Law Analysis', 15 (2) *Journal of International Economic Law* 443 (2012), at 455–456 (criticizing that such interpretation would lead to absurd result. Assuming that China's bauxite will be exhaustible within one year, rather than 16 years, the export restrictions would still not relieve the critical shortage because bauxite will be exhaustible anyway. Unfortunately, the AB did not substantively address this issue).

⁸⁹ WTO Appellate Body Report, *China – Raw Materials*, above n 19, para 328.

in global high-tech supply chains and the difficulty of finding substitutes, China could underline its ‘essentialness’ and thus bolster its case that the shortage is ‘critical’. China’s argument could be further enhanced by indicating that its chosen measure, export quotas, will relieve the ‘critical shortage’ by signalling to trade partners that they should expect serious supply restrictions. China’s trade partners could then be expected to begin developing new rare earths supplies and lessen the shortage.

C. Conclusion

China’s export quotas on rare earths constitute quantitative restrictions in violation of GATT Article XI:1. China’s ability to invoke Article XI:2 (a) as a valid exception is slim, largely depending on how China satisfies the ‘temporariness’ and ‘critical shortage’ requirements. Given the relative lack of WTO jurisprudence on these disciplines, future adjudicators may find more flexibility in these terms based on the unique nature of the rare earths industry.⁹⁰

V. GATT ARTICLE XX (B) APPLICATION TO CHINA’S RARE EARTHS REGIME

China may defend its export quotas on rare earths under Article XX (b) of GATT 1994, which allows Members to take measures ‘necessary to protect human, animal or plant life or health’. Over time, the AB’s interpretation of the scope of GATT Article XX involves more environmental consideration.⁹¹ Following the AB practice,⁹² China’s export quotas must first meet the requirements of the specific XX (b) exception. Then, they must meet the requirements of the ‘chapeau’ (see Section VII). In this regard, China bears the burden of proof.

The Article XX (b) exception contains three legal tests. First, the ‘objectives’ targeted by the disputed measure must fall within the scope of health and environmental protection.⁹³ Second, the disputed measure must make a

⁹⁰ The AB in *US – Shrimp* referred to ‘sustainable development’—one of the primary objectives enshrined in the Preamble to the WTO Agreement—when interpreting GATT Article XX. The unique nature of rare earths, their rapid depletion, and the lack of new technology or substitutable resources could have a significant impact on future generations. Thus, ‘sustainable development’ could inform adjudicators’ readings of ‘critical shortage’. See WTO Appellate Body Report, *US – Shrimp*, below n 92, paras 129, 131.

⁹¹ See Patrick Low et al., ‘The Interface between Trade and Climate Change Regimes: Scoping the Issues’, WTO Staff Working Paper ERSD-2011-1, at 33, http://www.wto.org/english/res_e/reser_e/ersd201101_e.pdf (visited 8 June 2012).

⁹² See WTO Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products (US – Shrimp)* WT/DS58/AB/R, adopted 6 November 1998; see also, WTO Appellate Body Report, *Brazil – Measures Affecting Imports of Retreaded Tyres (Brazil – Tyres)*, WT/DS332/AB/R, adopted 17 December 2007.

⁹³ See e.g., WTO Panel Report, *European Communities – Measures Affecting Asbestos and Asbestos Containing Products (EC – Asbestos)*, WT/DS135/R, adopted 5 April 2001, para 8.184; WTO Panel Report, *United States – Standards for Reformulated and Conventional Gasoline (US – Gasoline)*, WT/DS2/R, adopted 20 May 1996, para 6.20.

significant 'material contribution' to the targeted objectives.⁹⁴ Third, no other less trade-restrictive 'alternative' measures should be reasonably available.⁹⁵ We examine to what extent China's current export quota regime, as introduced above at Section III, can meet these requirements. We also suggest ways the regime could be further strengthened.

A. The environmental objectives of China's export quotas

The 'objectives' test can be conducted by focusing on the design and structure of the rare earths export quotas, as determined by their text and context.⁹⁶ Ideally, the text should reference the objective, taking the measure's legislative history into consideration as context. Context should also reveal that the measure is part of a comprehensive framework to achieve the objective.⁹⁷

In the present case, the texts of the measures imposing China's export quotas do not directly reference environmental or health protection.⁹⁸ Rather, the measures are authorized under the Foreign Trade Law, which allows MOFCOM and Customs to impose export restrictions for public health or environmental protection purposes.⁹⁹ Absent legislative history as context, however, it is difficult to positively determine whether or not a clear link exists between the export quotas and the objective of health and environmental protection.

Nevertheless, the export quotas could be within a broader framework for environmental protection. In the past two years, China has introduced a more comprehensive regulatory regime for rare earths. See Table 2 below. Prior to 2011, China circulated two measures relating to rare earths and health or environmental protection, one of which was designed to protect workers in the industry from radiation.¹⁰⁰ More recently, China issued a series of relevant measures. First, the 2011 Rare Earths Opinions produced a high-level policy plan to consolidate the rare earths industry, curb illegal mining, promote clean production, and energy consumption, and engage in

⁹⁴ WTO Appellate Body Report, *Brazil – Tyres*, above n 92, paras 150–152, 155.

⁹⁵ WTO Appellate Body Report, *Korea – Various Measures on Beef (Korea – Beef)*, WT/DS161/AB/R WT/DS169/AB/R, adopted 11 December 2000, para 166; WTO Panel Report, *US – Gasoline*, above n 93, paras 6.24, 6.26, and 6.28.

⁹⁶ WTO Panel Report, *China – Raw Materials*, above n 87, para 7.500.

⁹⁷ See e.g., WTO Panel Report, *European Communities – Conditions for the Granting of Tariff Preferences to Developing Countries (EC – Tariff Preferences)*, WT/DS246/R, adopted 20 April 2004, paras 7.201–202.

⁹⁸ See 2012 Export Licensing List, above n 41.

⁹⁹ Foreign Trade Law, above n 28, Article 16.

¹⁰⁰ Xi Tu Sheng Chan Chang Suo Zhong Fang She Wei Sheng Fang Hu Biao Zhun [Radiological Protection Standards for the Production Locations of Rare-Earth Elements] (promulgated by Ministry of Health, 8 April 2002, effective, 1 June 2002).

Table 2. Environmental measures in chronological order (1999–2012)

Year	Instrument	Measure
1999	1999 Circular on the Suspension of Mining Permit for Certain Minerals	Temporary suspension of rare earths mining due to serious environmental pollution
2002	Radiological Protection Standards for the Production Places of Rare Earth Elements	Relevant measures taken to protect employees in rare earths enterprises.
2011	2011 Rare Earths Opinions	High-level policy document setting overall rare earths agenda. Emphasizes environmental protection; requests implementation of the 'ecology restoration deposit' system
2011	2011 Emissions Standards	Sets specific emissions standards for rare earths enterprises
2012	Measures for the Environmental Protection Inspection of Rare Earth Enterprises	The MEP took a series of inspection measures to enhance the implementation of the environmental protection
2012	Announcement on Application Conditions and Procedures for Qualification for 2012 Rare Earths Export Quota	Enterprises unqualified under the environmental protection requirements are prohibited from applying for:
	Circular with respect to the List of Rare Earths Enterprises Qualified under the Environmental Protection Requirement (Batch I)	<ul style="list-style-type: none"> • export quota for rare earth; • environmental assessment for new or expanded projects; • financial support in relation to environmental protection and certificates.

Source: MOFCOM; MLR; MEP; SDPC; State Council.

ecologic restoration and environmental protection.¹⁰¹ Second, China promulgated the 2011 Emissions Standards, establishing specific standards on air and water pollution for the rare earths industry, including monitoring and supervision.¹⁰² Next, China introduced the 2012 Measures for the Environmental Protection Inspection of Rare Earths Enterprises. This created a three-tiered system of self-inspection, local and national inspection overseen by MEP and aimed at enforcing the Emissions Standards.¹⁰³ Importantly, only those enterprises that pass inspection may qualify for

¹⁰¹ Guan Yu Cu Jin Xi Tu Hang Ye Chi Xu Jian Kang Fa Zhan De Ruo Gan Yi Jian [Several Opinions on Promoting Sustained and Healthy Development of the Rare Earths Industry] (promulgated by the State Council 20 May 2011) [hereinafter '2011 Rare Earths Opinions'].

¹⁰² Xi Tu Gong Ye Wu Ran Wu Pai Fang Biao Zhun [Emissions Standards of Pollutants from the Rare Earths Industry] (promulgated by the Ministry of Environmental Protection, 24 January 2011, effective 1 October 2011) [hereinafter '2011 Emission Standard'].

¹⁰³ Guan Yu Kai Zhan Xi Tu Zhuan Xiang Zheng Zhi Xing Dong Lian He Jian Cha De Tong Zhi [The Circular on Rare Earth Specific Rectification Actions and Joint Inspection] (promulgated by the Ministry of Land and Resources, 10 November 2011). Also, MEP requested that the relevant provincial departments take more effective and efficient measures against non-qualifying enterprises. Such measures include fines, certain timeframes for amelioration, business suspension, and license revocation.

rare earths export licenses. The licenses thus operate as an incentive to firms wishing to produce for export to pass environmental certification.¹⁰⁴ Rare earths producers without environmental certification are barred from starting new projects or expanding operations.¹⁰⁵ Finally, China announced the Application Conditions and Qualification Procedures for the 2012 Rare Earths Export Quotas. This measure tied allocations of rare earths export quotas to environmental certification. Rare earths distributors intending to export have to prove that their supplies have originated from environmentally certified producers. In addition, rare earths producers must themselves obtain certification for access to the export quota. Export quotas are therefore part of the incentive structure limiting exports to certified sources.

The regime outlined above is a significant effort to strengthen China's environmental regulation. Export quotas are linked to it through export licenses. A broad interpretation of the 'objectives' test could thus interpret the export quotas as having an environmental objective. A narrower interpretation, however, could find the link to be too tenuous, due to the fact that exactly the same incentivizing effect could be achieved through export licensing alone, without restricting exports through a quota. This leaves some ambiguity in China's ability to meet the 'objectives' test under Article XX (b).

China could attempt to strengthen its case by introducing legislation that tied the total export quota in a given year to environmental protection, using it as a reward for real reductions in pollution. This would achieve a different result than export licensing alone and could make a more convincing case that the quota has an environmental objective.

B. The material contribution of China's export quotas

The second condition under Article XX (b) requires that 'necessary' measures must make a 'material contribution' to the objective.¹⁰⁶ In *Korea—Beef*, the AB held that 'necessary' did not merely mean 'making contribution to', but was 'significantly closer to... "indispensable"'.¹⁰⁷ In *China—Audiovisuals*, the AB allowed some flexibility based on the relative importance of the underlying objective.¹⁰⁸ As health and associated

¹⁰⁴ Recall from Section II that export quotas drive a wedge between domestic and international prices, lowering the former and, in this case, raising the latter. With over 95% of global production, China has significant market power in the rare earths sector.

¹⁰⁵ Xi Tu Qi Ye Huan Jing Bao Hu He Cha Ban Fa (Measures for the Environmental Protection Inspection of Rare Earth Enterprises) (promulgated by the Ministry of Environmental Protection, 6 April 2011).

¹⁰⁶ See e.g., WTO Appellate Body Report, *Brazil – Tyres*, above n 92, para 210.

¹⁰⁷ WTO Appellate Body Report, *Korea – Beef*, above n 95, para 161.

¹⁰⁸ See WTO Appellate Body Report, *China – Audiovisuals*, above n 19, para 251.

environmental protection are deemed to be of the highest level of importance,¹⁰⁹ export quotas imposed with this objective in mind could reasonably be subject to a lower threshold of ‘necessity’. Thus, for the purposes of this article, we take a moderate position on ‘necessity’, interpreting it to mean that China’s rare earths export quotas must make a significant, but not indispensable, ‘material contribution’ to the protection of health and the environment.

China could make at least five qualitative claims that its export quotas make a significant ‘material contribution’. First, as explained above, export quotas incentivize producers to seek and obtain environmental certification. Without certification, they cannot export rare earths to potentially more lucrative markets abroad, nor can they avail of export markets through third-party distributors. Non-compliant producers are limited to production and sale in the domestic market and are prevented from expanding.

Second, China could claim that the export quotas materially contribute to reducing pollution by controlling illegal production. Illegal producers are responsible for the crudest and most environmentally damaging methods of extracting rare earths in China, yet most of their production may be arguably for export. Export quotas tied to environmentally certified firms prevent illegal production from export markets, because only firms holding export licenses may engage in international trade. Illegal producers are therefore left without their potentially most attractive markets. Moreover, as argued below, the quotas could help authorities enforce restrictions on illegal production.

Next, China could claim that the export quotas materially contribute to reducing pollution through industry consolidation. Because export quotas are allocated to firms that acquire rare earths from environmentally certified mines, they incentivize growing companies to meet environmental compliance requirements. Uncertified firms may find it difficult to compete without the additional profits they can earn on export markets. As a result, expansionary firms with environmental certification will seek to acquire them, incorporating them into a certified enterprise. Over time, it could be argued, all rare earths producers and exporters will have an incentive to become certified, because certified firms will be more profitable as well as more valuable to acquire.¹¹⁰

Fourth, export quotas could ‘signal’ that global rare earths supplies will henceforth be limited, thus inducing other countries to develop new supplies

¹⁰⁹ WTO Appellate Body Report, *Brazil – Tyres*, above n 92, paras 144, 179.

¹¹⁰ Moreover, industry consolidation will facilitate the government’s efforts to monitor environmental compliance and reduce illegal mining. China’s second and third arguments may therefore reinforce each other.

or substitutes. This diversifies global rare earths production, sharing the environmental burden more equitably and sustainably across nations.¹¹¹

Finally, China could claim that its export quotas, in conjunction with rules limiting foreign investment in China's rare earths,¹¹² materially contribute to environmental protection because they incentivize foreign companies to invest in China's rare earths industry. Such firms could be required to invest knowledge and capital to 'green' China's rare earths industry in exchange for export licenses.¹¹³

China's arguments may be countered, however. First, the export quota operates as a reward allowing certified producers and affiliate exporters to seek higher profits in international markets. It is an incentive to seek environmental certification, rather than an imperative. Producers without environmental certification may not expand or export, but may continue to produce and pollute.¹¹⁴ Moreover, exactly the same effect could be achieved through export licensing alone, without restricting export amounts through a quota.

Second, though narrower export markets could reduce some firms' profitability, it is unclear to what extent it could reduce illegal production or consolidate the industry. If illegal producers can avoid law enforcement and sell in the home market, or continuing avoiding Customs to export, the export quotas may not have a large impact at all. Similarly, small mines could remain competitive, allowing the industry to stay fragmented. Improving enforcement mechanisms that restrict illegal production and sale, in addition to market access limitations for small producers, provide more effective means of addressing these issues than export quotas alone.¹¹⁵

Third, 'signalling' other countries can be achieved without GATT-inconsistent trade measures through production cuts or multilateral diplomacy.

Finally, foreign investments do not necessarily guarantee transfers of greener technology or expertise without mandates to do so—there appears to be no Chinese law requiring such transfers as a condition for foreign investment in rare earths. Moreover, foreign investment could increase domestic production and consumption unless both are effectively limited.

¹¹¹ As noted in Section I, China's share of global rare earths reserves is far smaller than its share of global production.

¹¹² See Section VI.

¹¹³ Foreign firms in China producing downstream products not subject to rare earths export quotas will also have an advantage. These firms could further help develop China's technical capacity, but not in the rare earths industry or in environmental innovation *per se*.

¹¹⁴ Tying environmental certification to production quotas or, better yet, production licenses would be a clearer and more convincing means of making a significant 'material contribution'.

¹¹⁵ China has arguably made substantial efforts in both areas. See Section VI.

In any case, Chinese firms could also finance technical improvements through normal market mechanisms.

China's current regime ties export quotas to environmental certifications for firms, but may fall short of making a significant 'material contribution' without strong evidence to the contrary. Thus, under this test, China's export quotas would not appear to be 'necessary' to health and environmental protection for the purposes of Article XX (b). China could make efforts to strengthen the 'material contribution' of its export quotas by improving the environmental protection regime to which it is linked, as well as deepening the environmental regime's ties to export quotas.

C. Available alternatives to China's export quotas

Once a measure has been deemed to make a 'material contribution' to the objective, its 'necessity' must be re-affirmed by providing the complaining party the opportunity to rebut with proposals of less trade-restrictive, reasonably available alternatives.¹¹⁶ A measure is reasonably available if it achieves the chosen level of protection¹¹⁷ and is financially and technologically feasible.¹¹⁸

Theoretically, the complainants may propose numerous less-trade restrictive alternatives available to China outside export quotas. Suggestions will likely focus on measures that regulate environmental protection at source, that is, during production. These include taxes and caps on rare earths production and consumption, cleaner technologies and occupational safety measures, cracking down on illegal mining through stricter policing of mines, promoting the expansion of recovery and recycling, and electricity rationing. China has already begun implementing many of these measures in the rare earths industry, a fact that is likely to assure that they are 'reasonably available'.¹¹⁹

China's chosen level of protection is high, given the prime importance of health and environmental protection noted above.¹²⁰ In this sense, only those

¹¹⁶ WTO Appellate Body Report, *Brazil – Tyres*, above n 92, para 156.

¹¹⁷ WTO Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos Containing Products (EC – Asbestos)*, WT/DS135/AB/R, adopted 5 April 2001, para 174.

¹¹⁸ See e.g., Appellate Body Report, *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services (US – Gambling)*, WT/DS285/AB/R, adopted 20 April 2005, para 308. (AB held that the an alternative may not be 'reasonably available' if it is 'merely theoretical in nature, for instance, where the responding Member is not capable of taking it, or where the measure imposes an undue burden on that Member, such as prohibitive costs or substantial technical difficulties').

¹¹⁹ The Panel in *China – Raw Materials* found that China's prior implementation of such measures made them reasonably available.

¹²⁰ Observers may see China's level of protection as being somewhat lower, due to the gradual way it has implemented its environmental rules over the years. In this article, we give deference to national priorities in setting the level of protection, noting China's history of

less trade-restrictive alternatives that better achieve a high level of protection should be considered to impact the 'necessity' of China's export quotas. Recycling and electricity reduction, though important, should not rule out the impact of export quotas. Production and consumption taxes and caps, however, could achieve a high level of protection without unduly restricting trade. Similarly, stronger enforcement of mining regulations could reduce illegal mining as much or more than export quotas. Thus, to the extent that less trade-restrictive, reasonably feasible alternatives are available, China's rare earths export quotas do not appear to pass the 'alternatives' test under GATT Article XX (b).

That said, two points deserve consideration. First, the test requires further scrutiny based on evidence submitted by the parties to the dispute. The alternatives proposed here are merely illustrative. Second, recall that in *Brazil—Tyres* the AB noted the 'capacity of a country to implement remedial measures that would be particularly costly, or would require advanced technologies, may be relevant to the assessment of whether such measures or practices are reasonably available alternatives'. It held that the proposed alternatives 'could not apply as a substitute for the import ban but are, rather, complementary' to the measures that Brazil had already taken.¹²¹ In the same vein, China could contend that any proposed alternatives go beyond its capacity as a developing country and are but 'complementary' to a comprehensive environmental protection framework that includes export quotas.

D. Conclusion

China's application of export quotas is unlikely to meet the requirements of GATT Article XX (b). First, a narrow interpretation of the 'objectives' test will find tenuous the link between China's measures and the objective. Second, because export quotas provide an incentive, but not an imperative, to domestic producers to seek environmental certification, they may not constitute a significant 'material contribution'. Third, less trade-restrictive alternatives to export quotas could be reasonably available to China, making the quotas not 'necessary', unless China successfully argues that the alternatives are part of a comprehensive environmental framework for rare earths that includes export quotas.

VI. GATT ARTICLE XX (G) APPLICATION TO CHINA'S RARE EARTHS REGIME

China may defend its export quotas on rare earths under GATT Article XX (g), which allows Members to take measures 'relating to the conservation of

gradual policy implementation as well as its success. Without further evidence to the contrary, it is assumed that China's chosen level of protection is the highest.

¹²¹ WTO Appellate Body Report, *Brazil – Tyres*, above n 92, paras 159, 171.

exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption'. Following AB practice,¹²² China's export quotas must first meet the requirements of the specific Article XX (g) exception. Then, they must meet the requirements of the 'chapeau' (see Section VII). China bears the burden of proof in this regard.

The Article XX (g) exception contains three legal tests. First, China's export quotas must 'relate to' conservation of an exhaustible natural resource. Second, they must be made effective 'in conjunction with' restrictions on domestic production or consumption. Finally, the AB has ruled that Article XX (g) encompasses an implied requirement of 'even-handedness' between treatment of domestic industries and foreign trade partners.¹²³ 'Even-handedness' depends in part on the effectiveness of China's domestic restrictions.¹²⁴ We examine to what extent China's current export quota regime, as introduced above at Section III, can meet these requirements. We also suggest ways in which the regime could be further strengthened.

A. The relation of China's export quotas to conservation

To determine whether or not China's export quotas 'relate to' conservation, we turn to the export quota measures introduced in Section III. The texts of the measures imposing the bi-annual export quotas do not explicitly mention the goal of conservation,¹²⁵ nor does the Circular laying out export eligibility requirements.¹²⁶ However, both of these are authorized under China's Foreign Trade Law, which allows legislation affecting exports to be introduced for conservation purposes. This fact alone may not be sufficient to convince a WTO panel that China's export quotas have met the 'relate to' requirement.

Several arguments could nevertheless support the notion that China's export quotas 'relate to' conservation of rare earths. First, the quotas could be a credible means of assuring that other countries develop new rare earths supplies. We call this 'signalling'.¹²⁷ Export quotas aim directly at foreign markets where new supplies can be developed, sending the strongest possible signal that global supplies will be reduced unless rare earth production is developed abroad. In this way, China could make the case

¹²² See e.g., WTO Appellate Body Report, *Brazil – Tyres*, above n 92.

¹²³ WTO Appellate Body Report, *United States – Standards for Reformulated and Conventional Gasoline (US – Gasoline)*, WT/DS2/AB/R, adopted 20 May 1996, at 20–21.

¹²⁴ WTO Panel Report, *China – Raw Materials*, above n 87, paras 7.462 and 7.465. The burdens need not be identical.

¹²⁵ See e.g., 2012 Export Enterprise List and First Batch Quota Notice, above n 49.

¹²⁶ See 2012 Rare Earth Export Quota Application Qualifications and Procedures, above n 52.

¹²⁷ Signalling also holds under Article XX (b), the environment exception.

that its export quotas are complementary to its production quotas.¹²⁸ Export quotas could also be preferable to export taxes for this 'signalling' action. Quotas restrict foreign supplies directly, whereas taxes do so only according to a price mechanism.¹²⁹ Presumably, export taxes could then allow the wealthiest nations—those most capable of developing new rare earths supplies—to avoid doing so by paying a higher price for Chinese rare earths.¹³⁰ Unlike the export quota, the export tax could then shift the burden from large to small economies that are incapable of diversifying global supplies.

Second, because most illegal production is intended for export, quotas increase the effectiveness of production restrictions. Exports fall under the mandates of Customs and the central government. They are easier to control than production, which is regulated by local governments that do not always effectively implement central government policies. China's export quota eligibility and licensing procedures and additional legislation to combat illegal production bolster this goal by reducing the number of potential illegal producers. Export quotas are an essential, if 'second-best', means of reducing illegal production.

Third, export quota eligibility and licensing procedures limit distribution to licensed agents in China. To gain better access to China's rare earths, foreign firms need to cooperate with local rare earths enterprises, which may involve inward investment, transfer of new technology and expertise.¹³¹ The export quotas directly contribute to China's green development of rare earths by attracting technical improvements from abroad.

Finally, by limiting the amount of rare earths available for export, export quotas prevent additional (and often illegal) extraction due to sudden spikes in foreign demand or global prices.¹³²

Each of these justifications, or several taken together, could allow China's export quotas to meet the 'relate to' requirement under Article XX (g). Each

¹²⁸ While production quotas could restrict global supplies, they may fall short of export quotas on two counts. First, China's trade partners may not believe China's intention is sincere to impose production quotas, because they believe either that China does not wish to hamper domestic industries or that it is incapable of effectively enforcing production quotas. Export quotas, on both accounts, could be more 'believable'. Second, export quotas clearly define limits on foreign consumers, whereas production quotas allow jockeying for remaining supplies. This could result in a higher proportion of China's production going to global markets. The threat to foreign supplies—the critical motivator in 'signalling'—would be mitigated relative to export quotas.

¹²⁹ Even if export taxes were preferred, China Protocol Article 11.3 and Annex 6 forbid them. The Appellate Body found in *China – Raw Materials* that China had no recourse to GATT Article XX to justify violations of China Protocol Article 11.3.

¹³⁰ Large economies would still have some incentive to find new supplies and develop alternatives.

¹³¹ See generally *Wai Shang Tou Zi Xi Tu Hang Ye Guan Li Zhan Xing Gui Ding* (Interim Provisions on the Administration of Foreign-Funded Rare-Earth Industry) (promulgated by the SDPC, August 2002, effective 1 August 2002).

¹³² If production restrictions (reviewed below) are effective, additional extraction is illegal.

is rebuttable, however.¹³³ First, signalling has viable alternatives that do not threaten to distort international trade, such as a multilateral agreement on developing new rare earths supplies. A credible public announcement that China is taking serious measures to cut and control production could also induce trade partners to develop new supplies. Second, while China may contend that the export quotas aid its efforts to control illegal production, so long as there is ‘more than one alternative course of action’ available, administrative difficulties cannot excuse violations of GATT rules.¹³⁴ Third, China can increase its technical expertise and attract joint ventures without export quotas.¹³⁵ It could also purchase new technologies and hire foreign talent directly. Finally, China could respond to foreign demand or global price spikes on an ad hoc basis, for example, under GATT Article XI:2 (a), without applying export quotas when demand is flat.¹³⁶ With less trade-distortive alternatives available, China must carefully make its case that the export quotas in fact ‘relate to’ conservation of rare earths.

In the end, the case may turn on the evidence. Importantly, export quotas should lower domestic production or consumption of rare earths. A cursory look at recent data, however, suggests that both Chinese production and consumption have risen. According to some available evidence,¹³⁷ Chinese production fell in 2010, but rose again in 2011. Between 2006 and 2010, Chinese consumption also rose from 63,000 to 77,000 tons, despite more restrictive export quotas. Moreover, Chinese production quotas have been routinely exceeded and both Chinese and foreign consumers have benefited. In 2010, Chinese consumption rose with illegal extraction, filling 86% of the production quota instead of the 66% expected had both the production and export quotas been fully enforced. China must provide convincing counter-evidence to show that its export quotas have in fact reduced domestic consumption and production.

There are many arguments that could support China’s claim that its export quotas ‘relate to’ conservation. However, these are rebuttable and

¹³³ These counter-arguments, on the other hand, could also serve as reasonably available alternatives that render China’s export bans as ‘arbitrary or unjustifiable discrimination’ or ‘disguised restrictions’. We examine these elements of the GATT XX chapeau in Section VII.

¹³⁴ WTO Appellate Body Report, *US – Gasoline*, above n 123, at 28.

¹³⁵ China is already a leading destination for foreign direct investment inflows. Its large rare earths reserves assure it will continue to be an important player in the rare earths market.

¹³⁶ Moreover, export quotas could have the effect they are intended to prevent. The 2009 announcement that China would greatly tighten its export quotas sharply raised global rare earths prices in 2010. When foreign demand slackened in late 2011, prices fell, but remained significantly higher than in 2009. See Rare Earths, *The Economist*, 17 March 2012, <http://www.economist.com/node/21550318> (visited 8 June 2012). Prices continue to fall in 2012.

¹³⁷ See Pui-Kwan Tse, ‘China’s Rare-Earth Industry’, US Geological Survey Report No. 2011-1042, 2011, <http://pubs.usgs.gov/of/2011/1042/> (visited 8 June 2012). Note that the US is a complainant in *China – Rare Earths* and, thus, the data used herein are open to challenge.

will likely turn on evidence. Unless it can convince a WTO panel that the measures have in fact contributed to conserving rare earths, China may need to take further steps to make its export quotas effective in reducing domestic production or consumption of rare earths.

B. Domestic restrictions on China's rare earths industry

We now examine whether or not China's current regime meets the second condition under GATT Article XX (g), the 'in conjunction with' test. Since 2009, China has instituted a number of restrictions on domestic production of rare earths, limiting extraction through production controls, strengthening enforcement, and regulating market entry. Table 3 contains a select list of the Chinese conservation measures reviewed herein.

The State Council declared rare earths protected minerals in 1991.¹³⁸ Rare earths mining is therefore subject to licensing under the Mineral Resources Law.¹³⁹ Since then, China has taken various other measures to regulate production and exportation of rare earths. In 1999, it introduced export quotas for the first time.¹⁴⁰ Meanwhile, MLR temporarily suspended approvals of new applications for rare earths mining, citing natural resource conservation and environmental protection.¹⁴¹ The SDPC in 2002 limited foreign investors to participation in smelting and separation projects only. Such enterprises could take the form of Sino-foreign 'equity' or 'cooperative' joint ventures.¹⁴²

¹³⁸ Guo Wu Yuan Guan Yu Jiang Wu, Xi, Ti, Li Zi Xing Xi Tu Kuang Chan Lie Wei Guo Jia Shi Xing Bao Hu Xing Kai Cai Te Ding Kuang Zhong De Tong Zhi [The State Council Circular on Listing Tungsten, Tin, Antimony and Ion-Type Rare Earth as National Protected Mining Minerals] (promulgated by the State Council, 15 January 1991) [hereinafter '1991 Circular on Certain Protected Mining Minerals'].

¹³⁹ Kuang Chan Zi Yuan Fa (Mineral Resources Law) (promulgated by the Standing Comm. National People's Congre., 19 March 1986, amended, 29 August 1996, effective 1 July 1997), Article 16.

¹⁴⁰ Dui Wai Mao Yi Jing Ji He Zuo Bu Guan Yu Xia Da 1999 Nian Xi Tu Chan Pin Chu Kou Pei E De Tong Zhi [Ministry of Foreign Trade and Economic Cooperation Circular with respect to the Rare Earth Export Quota for 1999] (promulgated by the Ministry of Foreign Trade and Econ. Cooperation, 14 February 1999, effective 14 February 1999).

¹⁴¹ Guo Tu Zi Yuan Bu Guan Yu Dui Xi Tu Deng Ba Zhong Kuang Chan Zhan Ting Ban Fa Cai Kuang Xu Ke Zheng De Tong Zi [the Ministry of Land and Resources Circular on the Suspension of Mining Permit for the Rare Earth and Other Seven Minerals] (promulgated by the Ministry of Land and Resources, 23 April 1999, effective 23 April 1999) [hereinafter 'the 1999 Circular on the Suspension of Mining Permit for Certain Minerals'].

¹⁴² See Interim Provisions on the Administration of Foreign-Funded Rare-Earth Industry, above n 131, Article 1 (stating that the purpose of the Provisions is 'to deepen reform of the utilization of foreign investments in the rare earths industry' and 'promote the sustainable, rapid, and healthy development of the rare earths industry in China . . .') If these provisions deny access to foreign enterprises, China could be violating its GATS commitments. China agreed in its Protocol to allow wholly foreign-owned enterprises to engage in certain services incidental to the mining industry within three years of WTO accession. See *People's Republic of China – Schedule of Specific Commitments*, WT/MIN(01)/3/Add.2, 10 November 2001.

Table 3. Conservation measures in chronological order (1991–2012)

Year	Instrument	Summary
1991	1991 Circular on Certain Protected Mining Minerals	Rare earths declared protected strategic minerals
1993	Provisions on Administration of Minerals Resources Compensation Collection	Rare earths subject to resource compensation fee
1999	Ministry of Foreign Trade and Economic Cooperation Circular with respect to the Rare Earth Export Quota for 1999	Export quota on rare earths first introduced
2002	Interim Provisions on the Administration of Foreign-Funded Rare Earth Industry	Foreign investors restricted from mining rare earths
2009	Ministry of Land and Mineral Resources Circular on the Implementation of National Mineral Resources (2008–2015)	Updated general plan for natural resources
2009	Circular of 2009 Control Index of Total Exploitation Amount of Tungsten, Antimony and Rare Earth	Updated quota on rare earth mining
2010	The Interim Provisions on The Administration of Exploration and Mining of Specific Protected Mineral Resources	Interim framework to regulate exploitation and mining
2010	Calls for Comments on Market Access Standards for Rare Earth Industry	Draft bill on market access standards for public comments
2011	2011 Rare Earth Opinions	High-level policy document setting overall rare earths agenda
2011	The Circular on Rare Earth Specific Rectification Actions and Joint Inspection	Joint task force on rare earths illegal mining, trafficking
2012	Ministry of Land and Resources Circular on Implementation of Statistics Direct Report on Collection of Mineral Resource Compensation	MLR enhanced resource compensation fee collection by updating the data report system.

Source: MOFCOM; MLR; SDPC; State Council.

In 2009, China laid out a comprehensive plan for conserving natural resources. The 2008–15 National Mineral Resources Plan sets the goal of limiting total annual rare earths extraction to at most 140,000 tons until 2015 and explicitly states a conservation goal.¹⁴³ This programmatic document was followed by the Control Indices of 2009–11, which set real annual limits on domestic production. Citing the goal of conservation, the Indices set rare earths production quotas and take concrete steps to enforce them.¹⁴⁴

¹⁴³ Guo Tu Zi Yuan Bu Guan Yu Fa Bu Shi ‘Shi Quan Guo Kuang Chan Zi Yuan Gui Hua (2008–2015 Nian)’ De Tong Zhi [Ministry of Land and Mineral Resources Circular on the Implementation of the ‘National Mineral Resources Plan (2008–2015)’] (promulgated by the Ministry of Land and Resources, 31 December 2008, effective, 31 December 2008), Article 4.2.

¹⁴⁴ See e.g., 2009 Nian Wu Xi Ti Kuang Han Xi Tu Kuang Kai Cai Zong Liang Kong Zhi Zhi Biao De Tong Zhi [Circular of 2009 Control Index of Total Exploitation Amount of Tungsten, Antimony and Rare-Earth] (promulgated by the Ministry of Land and Resources, 10 April 2009).

China also imposes a resource tax¹⁴⁵ and compensation fee¹⁴⁶ on rare earths.

However, the above measures may not effectively limit production. Recent estimates suggest that China's production quotas are ineffective, as they may be regularly exceeded (see Table 4 above).¹⁴⁷ In 2011, China responded to market pressures by loosening its production quota to 93,800.¹⁴⁸ Moreover, the resource tax and compensation fee appear to be too small to make a serious impact on production. The resource tax amounts to only US\$9.10 per ton of light rare earths and US\$4.50 per ton of medium or heavy rare earths.¹⁴⁹ These are negligible fractions of the per ton price of various rare earths.¹⁵⁰ The compensation fee has been previously ruled not to operate as a significant restriction on production.¹⁵¹ China strengthened the measure's reporting requirements in 2012, but the fee itself remained unchanged.¹⁵² China must evidence that this framework in fact limits domestic production to meet the 'in conjunction with' test.

China is taking steps to make its production quotas more effective. A key factor in China's alleged excess production could be illegal extraction. The 2011 Rare Earth Opinions, although primarily aimed at environmental protection, may contribute to conservation by restraining illegal production and sales.¹⁵³ The joint task force established in late 2011 strengthens enforcement.¹⁵⁴ Scale requirements for certified rare earths producers reduce the number of firms allowed to extract, which could improve the government's

¹⁴⁵ 2011 Rare Earths Opinions, above n 101.

¹⁴⁶ Kuang Chan Zi Yuan Bu Chang Fei Zheng Shou Guan Li Gui Ding [Provisions on Administration of Mineral Resources Compensation Collection] (promulgated by the Standing Comm. National People's Congre., 29 June 1993, amended, 3 July 1997).

¹⁴⁷ Tse, above n 137, at 4. Note that the USA is a complainant in *China – Rare Earths*.

¹⁴⁸ 2011 Nian Wu Xi Ti Kuang Han Xi Tu Kuang Kai Cai Zong Liang Kong Zhi Zhi Biao De Tong Zhi [Circular of 2011 Control Index of Total Exploitation Amount of Tungsten, Antimony and Rare-Earth] (promulgated by the Ministry of Land and Resources, 23 March 2011).

¹⁴⁹ See *China: Increase of more than 1000% of an Adjusted Rare Earth Tax*, GlobalTradeAlert.Org, <http://www.globaltradealert.org/measure/china—increase-more-1000-adjusted-rare-earth-tax> (visited 28 May 2012). In 2011, China raised its extraction tax on rare earths from 10 to 20 times. Though the magnitude of change is large, the impact on production is little.

¹⁵⁰ Because there is no global exchange for rare earths, price data are not always freely available. However, MineralPrices.Com reports that on 5 March 2012, REO prices ranged from US \$30,000 per ton for cerium oxide (light REE) to US \$1,500,000 for dysprosium (heavy REE). MineralPrices.Com, <http://www.mineralprices.com/> (visited 4 June 2012).

¹⁵¹ WTO Panel Report, *China – Raw Materials*, above n 87, para 7.447.

¹⁵² Guan Yu Zuo Hao Kuang Chan Zi Yuan Bu Chang Fei Zheng Shou Tong Ji Zhi Bao Gong Zuo De Tong Zhi [Ministry of Land and Resources Circular on Implementation of Statistics Direct Report on Collection of Mineral Resources Compensation] (promulgated by the Ministry of Land and Resources, 5 January 2012).

¹⁵³ 2011 Rare Earths Opinions, above n 101.

¹⁵⁴ Guan Yu Kai Zhan Xi Tu Zhuan Xiang Zheng Zhi Xing Dong Lian He Jian Cha De Tong Zhi [The Circular on Rare Earth Specific Rectification Actions and Joint Inspection] (promulgated by the Ministry of Land and Resources, 10 November 10 2011).

Table 4. Mining quotas for rare earths (2009–11) (metric tons)

Year	Light	Medium/heavy	Total	Actual (US est.)
2009	72,300	10,020	87,620 ^a	129,000
2010	77,000	12,200	89,200	120,000
2011	80,400	13,400	93,800	130,000

Source: MLR; Tse (2011) (^aincludes a 5300 ton supplement).

regulatory capacity.¹⁵⁵ The 2010 The Interim Provisions on the Administration of Exploration and Mining of Specific Protected Mineral Resources set out rules for enforcing production controls of important minerals, including rare earths. Illegal production is sanctioned according to relevant laws and regulations.¹⁵⁶ Mining authorities must seize excess production, which may not be resold.¹⁵⁷ However, the Provisions may be primarily aimed at maintaining steady mineral supplies rather than conservation, as they allow for market adjustments.¹⁵⁸

China has in place a significant rare earths conservation framework consisting of production quotas, resource taxes, and compensation fees, and is taking important steps to limit illegal production. These efforts are relatively fresh, having begun in earnest in the past few years. However, a review of China's domestic restrictions, as well as a cursory look at recent data, suggest that the measures may not yet be effective. China needs to produce evidence that domestic production or consumption have been limited to meet the 'in conjunction with' test under Article XX (g). Thus, China could require additional legislation to make its domestic restrictions more effective.

C. 'Even-handedness' of China's export quotas

China's export quotas would additionally need to be 'even-handed' under Article XX (g). This requirement balances the burden imposed by China's conservation efforts between its trade partners and its domestic industries, and depends on the effectiveness of domestic restrictions on production and

¹⁵⁵ Gong Kai Zheng Ji Xi Tu Hang Ye Zhun Ru Tiao Jian De Yi Jian [Calls for Comments on Market Access Standards for the Rare Earths Industry] (promulgated by the Ministry of Industry and Information Technology, 12 May 2010). At the time of writing this article, China has not yet formally implemented these standards.

¹⁵⁶ Bao Hu Xing Kai Cai De Te Ding Kuang Zhong Kan Cha Kai Cai Quan Li Zhan Xing Ban Fa [The Interim Provisions on the Administration of Exploration and Mining of Specific Protected Mineral Resources] (promulgated by the Ministry of Land and Resources, 24 November 2009, effective, 1 January 2010), Article 19. It is not immediately clear to which laws and regulations this provision refers, or whether these measures are yet in place.

¹⁵⁷ *Ibid.*, Article 16. It is unclear what must be done with the excess. This could allow producers to over-extract and recover costs, especially when market conditions or socio-political expediencies demand.

¹⁵⁸ *Ibid.*, Article 7.

consumption. As their effectiveness remains unclear, this analysis must await additional evidence.

D. Conclusion

China's export quotas are unlikely to meet the requirements of GATT Article XX (g). First, China's measures may not 'relate to' conservation without convincing evidence to support their impact on conservation. Second, China must impose effective restrictions on domestic production or consumption in order to balance the burden of its export quotas on foreign trade partners. Without effective domestic limits, China's measures will not meet the 'in conjunction with' and 'even-handedness' requirements under Article XX (g). China may need to strengthen its measures with additional legislation in order to meet the terms of this exception.

VII. GATT ARTICLE XX CHAPEAU APPLICATION TO CHINA'S RARE EARTHS REGIME

If China's export quotas could meet one of the exceptions listed under GATT Article XX, they would face a second important hurdle under the 'chapeau'. The chapeau seeks to strike a balance between 'the right of a Member to invoke an exception under Article XX and the *duty* of that same Member to respect the treaty rights'.¹⁵⁹ The chapeau of Article XX, as the AB suggested in *Brazil—Tyres*, is to 'ensure that Members' rights to avail themselves of exceptions are exercised in good faith to protect interests considered legitimate under Article XX, not as a means to circumvent one Member's obligations towards other WTO Members'.¹⁶⁰

The chapeau test has two prongs. The disputed measure must not constitute 'a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail' or 'a disguised restriction on international trade'. We examine each in turn.

A. Arbitrary or unjustifiable discrimination

The first test contains three elements.¹⁶¹ First, the application of the measure must be discriminatory. Second, the discrimination must be '*arbitrary or unjustifiable* in character'.¹⁶² Third, the discrimination must occur between 'countries where the same conditions prevail'.

¹⁵⁹ WTO Appellate Body Report, *US – Shrimp*, above n 92, para 156 (original emphasis).

¹⁶⁰ WTO Appellate Body Report, *Brazil – Tyres*, above n 92, para 215.

¹⁶¹ *Ibid.*, para 150.

¹⁶² *Ibid.*

1. *Discrimination*

On their face, China's export quotas on rare earths are equally applicable to all exporters, regardless of export destination. Procedural rules on quota allocation are based on objective criteria such as environmental standards, ISO certificates, labour standards, and so on. There seems to be no rule stipulating how exporters must choose among different potential customers. Thus, China's export quotas do not appear to discriminate between foreign trade partners.

However, the way in which China manages the sales of rare earths at home and abroad may discriminate between Chinese and foreign markets. The AB confirmed in *US—Shrimp* that discrimination under the chapeau can occur 'not only between different exporting Members, but also between exporting Members and the importing Members concerned'.¹⁶³ China has implemented elaborate rules on applications for export quota licenses that are tied to environmental protection, but it is not clear to what extent domestic sales are subject to similar rules.

China's policy justifications will do little to dismiss the concern that its export quotas are discriminatory. Whether aimed at 'signalling', reducing illegal production, consolidating a fragmented industry, or attracting green technologies and expertise through foreign investment, or a combination of these goals, China's export quotas appear to put most of the burden on other Members. As under Articles XX (b) and (g) above, China must show that it has taken effective action to protect the environment and conserve resources at home, especially given the distortionary effects of export restrictions that could increase Chinese domestic production or consumption. If China's restrictions affect only exports, without similarly affecting home supplies of rare earths, then China would appear to discriminate between its market and other Members.

2. *Arbitrary or unjustifiable*

If China's export quotas are deemed discriminatory, they must also be found to be 'arbitrary or unjustifiable'. China's measures do not appear to be arbitrary because the requirements for export quota licenses are clearly enumerated and based on objective criteria. However, the export quotas could be unjustifiably discriminatory due to their focus on export markets and the availability of domestic alternatives (see Sections V and VI). China could effectively regulate domestic production and consumption, placing some burden on its own market to assure that rare earths extraction protects the environment and conserves the resource over time. This remains true even if we were to accept the argument that the alternatives are but

¹⁶³ *Ibid.* Put differently, discrimination could occur in both the 'most-favoured nation' and 'national treatment' senses.

complementary to the overall framework to regulate the rare earths industry.¹⁶⁴ Also, as the AB in *US—Gasoline* once suggested, if China's concerns about environmental protection and conservation could be mitigated through a cooperative agreement with trade partners, the export quotas would likely be 'unjustifiable'.¹⁶⁵

3. Countries where the same conditions prevail

Finally, a country's measures must take account of both the similarities and differences between conditions in all relevant countries. 'Countries where the same conditions prevail' has been clarified to include both comparisons between importing countries as well as between the exporting and importing countries.¹⁶⁶ As noted in Sections I and VI, demand for rare earths is rising both inside and outside China. In this sense, China's domestic market could be comparable to foreign markets.

4. Conclusion

While China's export quotas appear to be applied in a non-arbitrary manner, its lenient rules on environmental compliance for rare earths sold at home as opposed to those sold abroad, and its focus on placing much of the burden for its policy goals on foreign rather than domestic markets, could amount to unjustifiable discrimination under the chapeau.

B. Disguised restriction on trade

Next, China's export quotas must be shown not to be 'disguised restrictions on trade'. Put differently, it should not camouflage trade-restrictive objectives.¹⁶⁷ On their face, export quotas are much more trade-restrictive than some viable alternatives, such as environmental guidelines or production quotas. Regulating at source has a direct impact on resource conservation without distinguishing between domestic and foreign consumption. China has implemented legislation setting environmental guidelines and limiting domestic production, which could be evidence of its capacity to use these instruments in lieu of export quotas. Thus, the trade-restrictive effect of the quotas may cancel whatever value they could add to China's environmental and conservation goals.

It is important to add that the many economically distortionary effects of export quotas,¹⁶⁸ if present, could further evidence a disguised restriction on trade. These include benefits to China's terms of trade as export quotas act to raise international prices to the benefit of producers, as well as lower

¹⁶⁴ See above n 122 and accompanying text.

¹⁶⁵ WTO Appellate Body Report, *US – Gasoline*, above n 123, at 28–29.

¹⁶⁶ See e.g., *ibid*, at 23–24.

¹⁶⁷ WTO Panel Report, *EC – Asbestos*, above n 93, para 8.236.

¹⁶⁸ See Section II.

domestic prices for consumers. These effects could not be ruled out under the Article XX (b) and (g) analyses above. Whether or not China intends these effects may be irrelevant. Also, as noted above, any possibility that China could mitigate the environment and conservation concerns through cooperation with its trading partners may render such measures ‘disguised restrictions’ on trade.

C. Conclusion

China’s chosen measures could constitute both unjustifiable discrimination and a disguised restriction on trade under the terms of GATT Article XX chapeau. Moreover, in the AB’s view, ‘“arbitrary discrimination”, “unjustifiable discrimination” and “disguised restriction” on international trade’ may be read ‘side-by-side’.¹⁶⁹ Thus, the two requirements could reinforce each other. China’s export quotas are therefore unlikely to meet the requirements of the chapeau, even if they could satisfy GATT Article XX (b) or (g).

VIII. CONCLUDING REMARKS

This article examined the consistency of China’s rare earths export quota regime in light of certain exceptions to WTO rules. Based on a review of relevant Chinese laws and regulations, the current regime likely violates GATT Article XI:1, the ‘general elimination of quantitative restrictions’, and falls short of an Article XI:2 (a) carve-out. China could seek to justify its measures for environmental protection or natural resource conservation purposes under GATT Article XX (b) and XX (g). However, despite China’s substantial efforts in recent years to improve its environmental protection and conservation regulations, its export quota regime is unlikely to meet the narrow terms of these exceptions. This conclusion is reinforced by the additional hurdle of the Article XX chapeau.

These observations are preliminary, based solely on review of China’s publicly available laws and regulations in mid-2012. Additional information, including scientific and economic data, is necessary to better assess the impact of China’s measures and their consistency with WTO rules.

Moreover, these findings are based on the rather narrow reading of GATT Articles XI:2 (a), XX (b), and XX (g) that follows from the Panel and AB decisions in *China—Raw Materials*.¹⁷⁰ Taking this approach, we find that the GATT exceptions leave very little policy space to Members applying export quotas for sustainable development purposes. In this light, we note that export quotas, while theoretically *permissible* under Article XX, may be

¹⁶⁹ WTO Appellate Body Report, *US – Gasoline*, above n 123, at 25.

¹⁷⁰ We note that we do not take issue with the *China – Raw Materials* decision itself, but rather its ramifications for other GATT-inconsistent export restriction regimes.

effectively banned if the disciplines are read too narrowly. Members with a reasonable expectation to have recourse to an Article XX exception may then be frustrated in that pursuit.

Developing countries may have a greater need for recourse to sustainable development-related exceptions than industrialized countries. Developing countries are not only changing economically, but also socially and institutionally. Without the capacity in certain cases to effectively regulate domestic markets, trade measures may be a 'second-best' alternative. For example, returning to the case of China, though China seeks to impose domestic restrictions on rare earths, its production quotas are routinely exceeded due to illegal production. Additional analysis would be required to ascertain the verity of China's lack of control and to confirm that it is taking real steps to improve enforcement. Nevertheless, export restrictions could be China's only reasonably available policy option for conserving rare earths and preventing environmental damage until production controls can be made effective.¹⁷¹ If such is the case, China may be justified in seeking a GATT Article XX exception.¹⁷²

Export restrictions are not necessarily the best means—or, in many cases, even a good means—to protect the environment or conserve natural resources. They must operate to actually reduce domestic production, pollution, or consumption. Due to the counter-conservation effects of market distortions from export restrictions, they must likely be imposed in addition to real domestic restrictions in order to be effective. However, if export restrictions in fact operate to *further* conserve the environment or natural resources, in addition to or in conjunction with domestic restrictions, Members should be able to claim a legitimate right to impose them under GATT rules. These considerations should allow greater flexibility in interpreting GATT provisions than is apparent after *China—Raw Materials*.¹⁷³

¹⁷¹ This result is a particularly difficult situation for China, given that it may only apply export taxes to 84 products, excluding rare earths. See China Protocol, above n 16, Article 11.3.

¹⁷² GATT Article XX (d) could also apply in this case because export quotas may ensure the effective implementation of conservation and environmental measures. However, application of XX (d) is beyond the scope of this article.

¹⁷³ Barring that, China may only be left with production restrictions to control rare earths output. WTO rules do not prevent Members from using production limits to control natural resources. This is precisely the methodology used by Organization of the Petroleum Exporting Countries (OPEC) in regulating global oil supplies, including exports.

APPENDIX I

List of the reviewed P.R.C measures

Legal Instruments on Export Restrictions

- 1 Foreign Trade Law (promulgated, 12 May 1994; amended, 6 April 2004; effective 1 July 2004)
 - 2 Regulation on Import and Export Administration (promulgated, 10 December 2001; effective, 1 January 2002)
 - 3 Measures for the Administration of License for the Export of Goods (promulgated, 7 May 2008; effective 1 July 2008)
 - 4 2012 Export Licensing Management Commodities List (promulgated, 30 December 2011; effective, 1 January 2012)
 - 5 Customs Law (promulgated, 22 January 1987; amended, 8 July 2000)
 - 6 2012 Notice on List of Rare Earth Export Enterprises and First Batch Rare Earth Export Quota (promulgated, 26 December 2011)
 - 7 The MOFCOM Circular with respect to the Eligibility and Procedure for the Application to Rare Earth Quota for 2012 (promulgated, 11 November 2011)
 - 8 Mineral Resources Law (promulgated, 19 March 1986; amended, 29 August 1996; effective 1 July 1997)
 - 9 The State Council Circular on Listing Tungsten, Tin, Antimony and Ion-Type Rare Earth as National Protected Mining Minerals (promulgated, 15 January 1991)
 - 10 Ministry of Foreign Trade and Economic Cooperation Circular with respect to the Rare Earth Export Quota for 1999 (promulgated, 14 February 1999; effective 14 February 1999)
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Legal Instruments on Resource Conservation, Health, and Environmental Protection

- 1 The Ministry of Land and Resources Circular on the Suspension of Mining Permit for the Rare Earth and other Seven Minerals (promulgated, 23 April 1999; effective 23 April 1999)
- 2 Interim Provisions on the Administration of Foreign-Funded Rare-Earth Industry (promulgated, August 2002; effective 1 August 2002)
- 3 Ministry of Land and Mineral Resources Circular on the Implementation of 'National Mineral Resources' (2008–15) (promulgated, 31 December 2008; effective, 31 December 2008)
- 4 Circular of 2009 Control Index of Total Exploitation Amount of Tungsten, Antimony and Rare-Earth (promulgated, 10 April 2009)
- 5 Circular of 2010 Control Index of Total Exploitation Amount of Tungsten, Antimony and Rare-Earth (promulgated, 4 March 2010)
- 6 Circular of 2011 Control Index of Total Exploitation Amount of Tungsten, Antimony and Rare-Earth (promulgated, 23 March 2011)
- 7 Calls for Comments on Market Access Standards for Rare Earth Industry (published, 12 May 2010)
- 8 Several Opinions on Promoting Sustained and Healthy Development of Rare-earth Industry (promulgated, 20 May 2011)
- 9 Emission Standards of Pollutants from Rare Earths Industry (promulgated, 24 January 2011; effective 1 October 2011)
- 10 Provisions on Administration of Mineral Resources Compensation Collection (promulgated, 29 June 1993; amended, 3 July 1997)
- 11 Ministry of Land and Resources Circular on Implementation of Statistics Direct Report on Collection of Mineral Resource Compensation (promulgated, 5 January 2012)
- 12 Measures for the Environmental Protection Inspection of Rare Earth Enterprises (promulgated, 6 April 2011)

- 13 The Circular with respect to the List of Rare Earth Enterprises Qualified under the Environmental Protection Requirement (Batch I) (promulgated, 22 November 2011)
 - 14 The Law the Prevention and Control of Occupational Diseases (promulgated, 27 October 2001; amended, 31 December 31 2011)
 - 15 Radiological Protection Standards for the Production Places of Rare-Earth Elements (promulgated by Ministry of Health, 8 April 2002; effective, 1 June 2002)
-