The “rhetoric” of proliferation of mineral export restraints and WTO under-regulation
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I. Introduction

International markets of primary supplies are currently affected by the longest and most comprehensive wave of export restraints on raw materials since the second World War\(^1\). As in the case of the first wave of export restraints, which mainly affected agricultural commodities and raw materials during the 1970’s and coincided with the oil-crisis-driven price spike of 1972-1974\(^2\), this “second” wave is directly linked to the commodity boom of 2002-2003\(^3\). However, major differences makes it an *unicum* in recent history: first, the phenomenon is not limited to the agricultural sector – although the food crises of 2008 and 2010 have forced the international community and the WTO itself to envisage effective ways of disciplining agricultural export restrictions for the purposes of food security\(^4\) – but has come to involve multiple sectors of the economy including industrial raw materials such as minerals

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\(^3\) M. Radetzki, *supra* n. 1, at 7-8.

and metals; second, the phenomenon has now entered its first decade, with its lastingness being the result of the persistence of the major geo-economic changes responsible for the 2002-2003 commodity boom, on the one hand, and the eruption of the international economic and financial crisis, on the other hand. The crisis has in fact triggered intensification in the use of export restrictions, and such measures were reportedly the fastest growing component among the newly potentially restrictive measures adopted within the framework of the crisis, reaching their peak between 2010 and 2011. Among them, in particular, minerals and metals were the product category mostly affected by this type of measures.

Within this context, industrialized entities traditionally reliant on the massive importation of primary supplies, such as the United States, Japan, and the European Union, started to denounce export restrictive practices on minerals and metals as the manifestation of the rise of a so-called “resource nationalism”. In particular, such countries have strenuously opposed what they identified as a proliferating use of export restrictions and, in particular, of export taxes, on a cluster of non-energy minerals and metals whose demand is expected to receive great impulse due to emerging technologies and which are considered strategic for the development and growth of key industrial sectors including environmental technologies. As a means to better monitor the dangers inherent in eventual abuses, the European Union launched the so-called Raw Materials Initiative, and issued a Report compiled by

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5 See WTO Docs. WT/TPR/OV/W/1-6.
6 Between 2010 and 2011, in particular, their incidence was more than 150 per cent higher than in the previous year. WTO Doc. WT/TPR/OV/14, at 17.
8 See Closing Statement of the United States at the Second Substantive Meeting of the Panel with the Parties, China – Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum (DS431), 19 June 2013, at 1.
9 Export taxes are reported to be by far the most popular measures applied on minerals and metals. B. Fliess, supra n. 7, 12-13.
the Ad-hoc Working Group on defining critical raw materials, which elaborated a standard methodology for determining mineral criticality based on elements such as supply risk, economic importance, and environmental risk. In a similar fashion, a Committee of experts created within the US National Research Council released a Report which gives account of critical minerals and metals for the United States on the basis of a “criticality matrix” developed by means of considering key factors such as supply risk and importance in use. Both initiatives identify a limited nucleus of minerals and metals that, for the most part, overlap: the criticality label is in fact not driven by physical availability risks, but rather by the combination of uneven geographical distribution of mine production, and increasing recourse by these countries to taxes on the exportation of such materials.

Accordingly, the issue of mineral export restrictions has come to the forefront of the international trade debate, giving rise to a general perception of urgent need for strengthened rules in this domain and a parallel “conventional wisdom” that WTO rules on the export side do not provide for an effective, sufficient and credible legal framework capable of preventing abuses in the use of export restraints, as if their multiplication could not but originate from a “regulatory deficiency”.

This paper aims at investigating whether this conventional wisdom could be established and substantiated by means of evidence, and focuses on critical minerals and metals as a relevant case study: this category of affected products has indeed generated the greatest deal of tension between industrialized countries denouncing

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14 The critical minerals identified by the EU are antimony, beryllium, cobalt, fluor spar, gallium, germanium, graphite, indium, magnesium, niobium, platinum group metals, rare earths, tantalum, and tungsten. See Report of the Ad-hoc Working Group on Defining Critical Raw Materials, supra n. 12, at 42. Moreover, the Union identified a nucleus of minerals and metals whose demand is expected to receive great impulse due to emerging technologies: antimony, chromium, cobalt, copper, gallium, germanium, indium, neodymium (rare earths), niobium, palladium, platinum groups metals, ruthenium, silver, tantalum, titanium. The United States identified copper, gallium, indium, lithium, manganese, platinum group metals, rare earths, tantalum, titanium, and vanadium as critical metals. See National Research Council, supra n. 13.
16 For the purposes of the present analysis, therefore, the expression “critical” minerals and metals would be used to indicate the limited nucleus of materials identified by the European Union and the United States.
export restrictions as beggar-thy-neighbour instruments hampering fair access to mineral resources, and richly-endowed emerging economies determined to use export restrictions as “developmental” tools and/or to achieve non-economic public policy goals – mainly public health and conservation goals associated to the environmental spillovers effects of the mining industry.

The choice to focus on minerals and metals is motivated by the absence of specific studies on the adequateness of WTO rules on export restrictions with respect to minerals and metals predicated on a thorough analysis of the distinctive features of the current wave of mineral export restraints. Section II will first describe the general overall trends and developments affecting world supply and demand of minerals and metals; Section III will examine relevant emerging patterns in critical minerals and metals trade; Section IV will analyse how the current panorama of mineral export restraints fits within the current WTO rules on export restraints; and Section V will present some conclusions on the adequateness of such disciplines and unveil the “rhetoric” in the debate over the proliferation of such measures and WTO under-regulation.

II. Major Structural Changes in Minerals and Metals Trade

The international minerals and metals market has been recently undergoing some major transformations ultimately susceptible to affect the traditional equilibrium of world supply and demand for such materials. These transformations are closely intertwined with the “mineral boom” started as from 2002-2003, and are still ongoing. The first element of innovation consists in the steadily upward pressure on the world price of minerals and metals occurring as from the beginning of the 2000’s, following an extended period of low mineral prices during the 1990’s that had led to reduce investment in production and consequent decline in spare supply capacity. As a matter of fact, the exceedingly fast macroeconomic expansion, triggered by the high growth performance of Developing Asia and, in particular, of China, met with a

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17 Metals and minerals are essential for economic growth and development in that the manufacture sector is critically dependent on raw materials availability. However, as for modern economies, “the volumes needed have shrunk impressively compared to the value of manufactured output” and, accordingly, metals and minerals account for a relatively small share of world industrial output. M. Radetzski, supra n. 1, at 11.

18 Starting from the 1990’s, developing countries such as China and India have increasingly accelerated their consumption of resources to feed their economies, expanding at more than twice the OECD rate.
tight production capacity situation and relatively small inventories thus resulting in a severe demand shock and mineral booming prices. Mineral prices reached their peaks in mid-2009 and, after a decline produced by the eruption of economic and financial crises, started to progressively rise again reaching pre-crisis levels again in 201119.

Such trends are at the same time arising out of and accelerating a process of rapid industrialization on the part of developing countries in the effort of diversifying their export base and achieve economic development. The tension of developing countries and, in particular, of newly emerging economies towards the diversification of exports away from primary mining is rooted in the determination to “break” the traditional patterns of international trade which, through most of the twentieth century, have seen the developed countries as dominant producers of higher-value added (more dynamic) goods and importers of raw materials, while the heavy commodity dependence typically occurred in developing nations20. In other words, the upgrade of the economic and trade structure is seen by these countries as the only way to “catch up” and fill the development gap with respect to highly industrialized countries and as an instrument to achieve higher level of growth and economic performance through the exportation of greater volumes of higher-value added products21.

In promoting such vision, developing countries rely on a substantial body economic literature which has progressively theorized and documented multiple examples taken by the empirical evidence that suggest a negative correlation between high growth rates, on the one hand, and resource-led development on the other22. In particular, Sachs and Warner have elaborated the theory of the so-called “resource curse”, according to which mineral-dependent countries would suffer from slower economic growth rates and social progress compared to that of other countries at corresponding levels of economic development due to the combination of a series of

M. Radetzki, supra n. 1, at 71. Moreover, the development stage of Asian emerging countries is proportionately much more in primary materials use than the OECD economies, which have already reached a mature economy stage, characterized by a declining share of the primary sector. Id., at 7-12. Hence, the share of global demand has been increasingly biased towards emerging economies. G. Peeling, supra n. 10, at 156.
20 See, for all, Leamer’s description of the international trade structure and, in particular, the concept of “development ladder”. E. Leamer, Sources of International Comparative Advantage: Theory and Evidence (MIT Press: 1984), in particular Table 4.4 and Table 4.5.
factors peculiarly afferent to the mining sector, such as high market volatility, deficient governance of large mineral rents due to corruption and absence of reallocation of macroeconomic level, and social tensions arising out of it. Moreover, the spectrum of the so-called Dutch disease is often evoked by developing countries as a reason to exploit mineral booms “domestically”, i.e. to boost internally a domestic processing industry for minerals and metals instead of merely relying on high profits arising out of raw materials’ export earnings. According to such theory, in fact, there is a inherent risk of shrinkage of the manufacturing sector in the exploitation of a mineral resource bonanza as the excess profits produced by a mineral boom – generated by increased mineral exports and, thus, by large external surplus – induce an appreciation of the real exchange rate which, in turn, decrease the competitiveness of other domestic tradable goods (i.e. manufactured goods) and thereby generates a production contraction of those goods up to the point when the mineral-abundant country becomes a mono-economy.

Although evidence on the presumed negative effects linked to mineral-dependence is non-conclusive, it is undeniable that the emerging economies responsible for the expansion of world demand are undergoing major industrialization

24 Davies describes the Dutch disease as “a morbid term that simply denotes the coexistence of booming and lagging sectors in an economy due to a temporary of sustained increase in export earnings”. G. Davies, ‘Learning to Love the Dutch Disease: evidence from the mineral economies’, 23 World Development (1995) 10, at 1765-79. The expression was coined in the late 1970’s to describe the weakening of the manufacturing sector experienced by the Netherlands throughout the decade as a consequence of the booming exploitation of natural gas earnings. However, some authors pointed out that the name chosen is misleading, in that the Dutch case was not the first nor the most significant, the empirical examples dating back to the booms of gold mining in Australia, guano exportation in Chile and Peru, and sugar in Cuba more than a century ago. M. Radetzki, supra n. 1, at 207.
25 For a detailed description of the mechanism described as the Dutch disease see Davies, supra n. 24, at 14-18. It has to be noted, however, that the reallocation effect endangered by the commodity boom increases the overall national welfare and, therefore, would not per se constitute a disease susceptible to undermine economic growth and development. However, according to Davies, “the Dutch disease truly becomes a problem if there exists some market failure inhibiting an appropriate structural adjustment or if there is some existing distortion in the economy which is intensified by the mineral export boom”. Id., at 16. Radetzki underlines, moreover, that the complete reliance on mineral exports would not per se be harmful as long as it ensures profitable exploitation if it wasn’t for the fact the bonanza “often ends with a bang” (supra n. 1, at 208), mainly due to depletion, emerging commodity surplus or technical innovation which renders the commodity redundant or substitutable.
paths in the effort of diversifying their export base\(^\text{27}\) and thus consolidating the process of deep transformation of the traditional international trade patterns triggered the major changes occurring in the international minerals and metals market. The combination of these important transformations occurring in the geopolitical and economic framework is ultimately producing an upward pressure on mineral prices and affecting traditional equilibrium of world supply and demand for minerals and metals.

In conclusion, the major changes affecting the traditional status quo in minerals and metals trade are ultimately producing a mounting divarication of interests between industrialized countries, concerned about fair access to primary supplies to sustain their top value-added industries, and developing countries aiming at breaking their dependence upon resource-led development. In particular, industrialized entities historically reliant on imports of primary supplies to feed their mature manufacturing industry, such as the European Union and the United States, appear (at least temporarily)\(^\text{28}\) dependent on trade to get access over minerals and metals, while net-exporters countries have acquired a parallel control over prices and quantities made available on world markets\(^\text{29}\).

### III. Emerging Patterns in Critical Minerals and Metals: Mapping the Network of Mineral Export Restraints

The above-referred changes in minerals and metals trade are further amplified in the case of critical minerals and metals due to two main reasons. First, the exceptionally uneven geographical distribution of such resources: mine production of critical minerals and metals is heavily concentrated in a limited number of developing countries, mainly located in Asia (China, Russia, Kazakhstan), but also in Latin America.

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\(^{27}\) See M. Radetzki, *supra* n. 1, at 70 *et seq*; M. Farooki, *supra* n. 19, 70 *et seq*.

\(^{28}\) Due to the high risk associated to mining investments, characterised by high capital intensity and long-term payback perspectives, and to the regulatory, decisions and implementation lags for investments in the extractive industry, new capacity expansion needs a time lag of averagely 7-8 years to become operational. Moreover, “regulatory requirements facing new projects in both developed and developing countries have generally become more burdensome as public values such as environmental protection and the need for post mining reclamation have captured certain externalities and turned them into development costs while also driving environmental assessment processes to be more inclusive of social issues”. G. Peeling *et al.*, *supra* n. 10, at 159.

\(^{29}\) In particular, dominant mine producers (so-called “large countries”) can influence world prices of mining products through the control of exports. In other words, they are “price setters”. R. Piemartini, *supra* n. 21, at 3.
America (Brazil, Chile, Mexico, Peru, Bolivia) and Africa (South Africa, Democratic Republic of the Congo). Within such framework, access to critical minerals and metals is not challenged ab absolueto by physical availability risks but rather by scarcity at a regional level, with traditional net-importers such as the EU Member States and the United States particularly vulnerable to the moves of their suppliers on the world markets.

Second, the fact that those richly-endowed emerging economies are undergoing a phase of major economic transition, which has been requiring massive use of primary supplies of critical raw materials to feed a growing industry. In this respect, it is noteworthy that for many critical minerals and metals the geographical concentration of production does not necessarily reflect the global distribution of the reserve base – with the distribution of reserves being much more widely dispersed than the current

30 For all critical materials, the top five producing countries account for over half of world production and, for materials such as antimony, germanium, lithium, platinum group metals, rare earths, tungsten, and vanadium, almost the entire world production takes place in the top three mining regions. In a limited number of cases, production is so concentrated that a single country detains a dominant position (e.g., South Africa for chromium, 43 per cent of total production; Democratic Republic of Congo for cobalt, 65 per cent; China for gallium, more than 50 per cent; China for germanium, 54,2 per cent; China for indium, 56 per cent; Chile for lithium, 47,8 per cent, China for molybdenum, 35,5 per cent; South Africa for platinum, 77,6 per cent and together with Russia for palladium, accounting respectively for 44,2 and 41,8 per cent; Chile for rhenium, 50 per cent; China for silicon, 67 per cent); in rare but relevant cases, always involving China, the first producer enjoys a de facto monopolistic power (antimony, over 90 per cent, rare earths, almost 98 per cent, and tungsten, 85,3 per cent). Elaboration of the author, using data accessed at ‘World Mining Data Report 2012’ available at http://www.bmwfj.gv.at/energieundbergbau/weltbergbaudaten/Seiten/default.aspx (last visited 12 August 2013).

31 Indeed, based on current levels of mine production and projected levels of consumption for the identified “critical” minerals and metals, the level of world reserves is adequate to meet world demand. Report of the Ad-Hoc Working Group, supra n. 12, at 16.


33 In this respect, the traditional “supremacy” of Western countries’ industries is increasingly challenged by emerging economies at two levels: first, they compete internationally for access to feed supplies, with respect to which a level playing field is a fundamental prerequisite; second, they are increasingly confronted with competition on the export market for semi-manufactured and final goods.

34 The U.S. Geological Survey Mineral Yearbook commonly distinguishes among world resources (i.e. “the concentration of naturally occurring solid, liquid, or gaseous material in or on the Earth’s crust in such form and amount that economic extraction of a commodity from the concentration is currently or potentially feasible”), identified resources (i.e. “resources whose location, grade, quality, and quantity are known or estimated from specific geological evidence”), reserve base (i.e. “that part of an identified resource that meets specified minimum physical and chemical criteria related to current mining and production practices, including those for grade, quality, thickness, and depth”) and reserves (i.e. “that part of the reserve base which could be economically extracted or produced at the time of determination, including only recoverable materials”). Hence, published reserve figures do not reflect the total amount of mineral potentially available in that mining companies normally only invest what they require for their short-term needs to prove reserves and thus justify commercial investment decisions over a limited time-frame (usually over 20 years). Report of the Ad-Hoc Working Group, supra n. 12, at 16.
patterns of mine production would induce to think\textsuperscript{35} – thus suggesting that such countries are currently exploiting at the highest possible rate its deposits in order to feed the massive primary needs of their growing industry.  

Within such framework, the mapping of the export restrictions applied on critical minerals and metals is particularly enlightening. All critical minerals and metals have been affected by export restrictions at least in one form and at least in one country\textsuperscript{36}. However, the same recurring countries, namely China and Russia, and in limited cases Ukraine and Vietnam, are responsible for this integral coverage of export restrictions\textsuperscript{37} – hence, those exceptionally endowed emerging economies seeking high-speed industrialization\textsuperscript{38}. Among them, all countries resort uniquely to export taxes but China, which on the contrary imposes quantitative restrictions on the exportation of a wide range of critical minerals and metals\textsuperscript{39}.

Hence, when qualifying the generally stated “proliferation” of export restrictions on critical minerals and metals, it is noteworthy that such phenomenon does not result out of an “horizontal” diffusion of export taxes and other forms of restrictions by means of the multiplication of the number of countries resorting to such measures, but rather arises from the fact that a few recurring countries are applying – and, in most relevant cases, progressively tightening\textsuperscript{40} – export restrictions on a increasingly high


\textsuperscript{37} Some other countries apply taxes on the exportation of specific critical minerals and metals: for instance, India taxes exports of chromium ores on the exportation, and Argentina taxes cobalt articles and waste and copper ores and concentrates. J. Korinek, J. & K. Jeonghoi, supra n. 35, Annex. However, such measures are generally meant to be temporary and in any case the countries imposing them do not enjoy significant mine production share. ‘World Mining Data 2012’, supra n. 30.

\textsuperscript{38} Ninth Report of the DG Trade, supra n. 36, at 9-12.

\textsuperscript{39} According to the Catalogue of Commodities subject to Export Licence Administration 2012, the following items are subject to export quotas: wheat, corn, rice, wheat flour, rice flour, cotton, sawn timber, live cattle, live pigs, live chicken, coal, coke, crude oil, refined oil, rare-earth (including rare earth ferroalloy), antimony and antimony products, tungsten and tungsten products, zinc ore, tin and tin products, silver, indium and indium products, molybdenum, phosphate ores\textsuperscript{39}. Mat rush and mat rush products, silicon carbide, talcum lump (powder), magnesia, alumina, licorice and licorice products are subject to quota bidding. MOFCOM Announcement No. 98/2011 (30 December 2011).

\textsuperscript{40} An emblematic case in this respect is, for instance, the evolution of the Chinese restrictions on rare earths elements on the basis of the Five-Year Rare Earths Industry Development Plan drafted by the country’s Ministry of Industry and Information Technology. See C. Hurst, ‘China’s Rare Earths Industry: What Can the West Learn’, Institute for the Analysis of Global Security, 2010; and M. Morrison and R. Tang, ‘China’s Rare Earths Industry and Export Regime: Economic and Trade Implications for the United States’, CRS Report for Congress, 30 April 2012.
number of tariff lines relevant to critical minerals and metals. Such “vertical” proliferation has raised great concerns among traditional net-importing actors due to two main reasons: first, the fact that the countries responsible for such proliferation are “large” countries enjoying a leading position in world production of either mining or primary materials and thus are able to affect, through the regulation of the export flows, access to such materials; second, the fact that such countries are emerging economies that seem to implement export restrictions as developmental tools within the context of major industrialization plans.

The dominant position of tax-imposing countries significantly amplifies the economic implications of an export tax. According to the standard economic theory of export restrictions, in fact, when an export tax is applied by a “large” country, the contraction in the volume of exports of the product affected by the restriction not only induces a diversion of domestic production from the international market onto the domestic market, and therefore a diminution of the domestic price, but also provokes an increase in the world price of the taxed product, thereby widening the price differential between the latter and the domestic price “insulated” by the export tax. In this respect, export restrictions could result in an indirect subsidy to downstream producers, provided with higher domestic supply at below-the-world-prices and thus incentivized to increase production.

In light of the above, it is not surprising that the emerging economies recurring to export taxes on critical minerals and metals have all been strengthening their industrial policies. In this respect, significantly, the European Commission has noted that the latest years show “a consolidation of trade measures as part of industrial policy”, as if they were part of the attempt to promote downstream processing in order to avoid dependence on commodity-led growth through the exportation of greater volumes of higher-value added products and thereby accelerate economic transition. In this perspective, China’s mix of export taxes on critical minerals and metals is emblematic in that such measures are often associated to an emerging

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42 For a more detailed explanation see R. Piermartini, supra n. 21, 3-6.
43 Id., at 10.
44 For further information, see Ninth Report of the DG Trade, supra n. 35, at 9-12.
leading role in downstream sectors\textsuperscript{46}, thus revealing an “aggressive” industrial policy strategy\textsuperscript{47}. Indeed, the European Union has denounced in several cases the “predatory” use of export taxes allegedly adopted by China to increase its export share of semi-processed and final products within international markets, considered to be destructive of the normal price structure and harmful for the European Union competitiveness\textsuperscript{48}.

Finally, it is noteworthy that, even when adopted within the context of expanding industrial policies, the goal of supporting the local industries and promoting downstream processing through investment incentives is not always openly declared\textsuperscript{49}. Rather, the rationales attached to export restrictive measures applied on critical minerals and metals are varied, and they often include environment-related goals, namely the conservation of finite energy resources and the minimization of public health and environmental impacts linked to the extractive industry\textsuperscript{50}. Such justification tends to rely on the standard economic theory of export restrictions, according to which the diversion of exports onto the domestic market of the tax-imposing country and the ensuing domestic price reduction would ultimately induce a

\textsuperscript{46}This is the case of the Chinese cobalt, tungsten, and copper industry, as well as the steel industry. Indeed, China was in 2010 the leading producer of austenitic stainless steel, accounting for about 38% of world output, and producing more austenitic stainless steel than the United States and all of the countries in the European Union combined. Accordingly, in 2010 world production of stainless steel reached an all-time high of 31.1 Mt. International Stainless Steel Forum, 2012, Stainless and heat resisting steel—Crude steel production (ingot/slab equivalent), 2001 through 2010 [by region]: Brussels, Belgium, International Stainless Steel Forum, available at http://www.worldstainless.org/Statistics/Crude/2010.htm (last visited 12 August 2013).

\textsuperscript{47}In 2011 China launched its twelfth National Five-Year Plan (2011-2015), which aims at uplifting and reconstructing traditional industries, including iron/steel and non-ferrous metals, construction, equipment manufacturing, shipbuilding, and automotive, as well as boosting seven strategic emerging industries requiring use of critical minerals and metals. As a follow-up of the National Plan, China has been elaborating various sector-specific plans aimed at imposing targeted objectives for the reinforcement of “national champions” in the different industries, such as the raw materials industry. Such plans encompass the identification of strategic industrial development policies, and generally match these policies with trade-restrictive measures, such as export taxes. Ninth Report of the DG Trade, supra n. 35, at 10.

\textsuperscript{48}See the cases of the EU cobalt industry, the molybdenum industry, and the tungsten industry. Report of the DG Trade, supra n. 35, Annex V, at 52-53, 130-131, and 209-210.


\textsuperscript{50}The recurring invocation of environment-motivated goals is, on the one hand, a reflection of the increasing sensitivity towards environmental degradation issues and of the definitive recognition, both internationally and at national levels, of the value of sustainable development; on the other, it is rooted on the peculiarities of the mining industry, which is traditionally characterized by harmful and widespread environmental impacts. OECD (2008), ‘Minerals and Pro-Poor Growth, in Natural Resources and Pro-Poor Growth: The Economics and Politics’, DAC Guidelines and Reference Series, available at http://www.oecd.org/dac/environmentanddevelopment/42440224.pdf, 138-139.
decline in domestic production\textsuperscript{51}. However, even in such cases, these measures are often ambiguous, as they can be both for environmental preservation and conservation purposes and economic objectives\textsuperscript{52}. As a matter of fact, when an export tax combines the environmental rationale with the objective to promote higher value-added activities, even if indirectly, the expansion of the volume of downstream production induced by the policy would require a massive utilization of domestic below-the-world-price inputs, thereby impairing the desired domestic production reduction and thus the achievement of the environmental objective\textsuperscript{53}.

IV. The Relation with WTO Relevant Disciplines on Export Restrictions

When dealing with relevant WTO disciplines on export restrictions, the main source of obligations for Members is the GATT 1994. In particular, Article XI:1 GATT, titled “General Elimination of Quantitative Restrictions”, provides that:

\textquotedblleft[n]o prohibition or restrictions other than duties, taxes or other charges, whether made effective through quotas,…export licences or other measures, shall be instituted or maintained by any contracting party…on the exportation or sale for export of any product destined for the territory of any other contracting party \textquotedblright.

Article XI:1, on the one hand, prohibits all quantitative prohibitions and restrictions on exports adopting a quite comprehensive scope: indeed, existing case law has consistently interpreted in a broad way the term “restrictions” in connection to “other measures”, making clear that any form of export quantitative restrictions may fall under Article XI:1 irrespective of its legal status or of its \textit{de iure} or \textit{de facto} nature, as long as it places “a limitation on action, a limiting condition or regulation” or that it has “the very potential to limit trade”\textsuperscript{54}. In this respect, any country resorting to

\textsuperscript{51} R. Piermartini, \textit{supra} n. 21, at 5.
\textsuperscript{52} A substantial body of literature has shown mixed evidence as to adequateness of export taxes as tools to achieve environment-related goals in comparison with alternative options such as straight conservation policies and regulation of domestic production. WTO Trade Policy Review – Report by the Secretariat, China, WT/TPR/S/230/Rev.1, 5 July 2010, Box III.1, at 44; M. Ruta and A. Venables, \’International Trade in Natural Resources: Practice and Policy\’, Oxcarre Research Paper No. 84/2012, at 16.
\textsuperscript{53} J. Korinek J. and K. Jeonghooi, \’Recent Trends in Export Restrictions on Raw Materials\’, in OECD (2010), \textit{The Economic Impact of Export Restrictions on Raw Materials}, at 110 et seq.
quantitative restrictions on the exportation of various critical minerals and metals would run counter to Article XI:1 and be obliged to remove them unless authentically respondent to public policy goals recognized by terms of Article XI:2 (a) – the shortage of essential product clause – or Article XX of the GATT 1994.

On the other hand, Article XI:1 expressly allows export taxes and duties. The exclusion of “duties, taxes or other charges...on the exportation”, as opposed to quantitative exports restrictions, from the scope of application of Article XI:1 reflects the traditional preference of the GATT for “tariffs” over quantitative restrictions as the lawful means of restricting imports and exports. However, while GATT contains a detailed framework for binding import tariffs, no provision was specifically envisaged to bind export duties in a manner similar to import tariffs notwithstanding that Article II:1 (a) of GATT does not impede the binding of export tariffs and, furthermore, Article XXXVIII(bis):1 encourages “negotiations on a reciprocal and mutually advantageous basis, directed to the substantial reduction of the general level of tariffs and other charges on imports and exports”. Hence, WTO Members are left free under GATT Article XI:1 to recur to export taxes and duties irrespective energy irrespective of their level or rationale.

The fact that, by terms of Article XI:1 GATT, WTO Members are not under any obligation on the use of export duties is not sufficient to substantiate the conventional wisdom on the deficiency of WTO disciplines on the export side, at least with respect to critical minerals and metals. All countries responsible for the vertical proliferation


55 For a thorough explanation of the underlying conception at the basis of the GATT, see J. H. Jackson, World Trade and the World of GATT (Indianapolis: 1969).

56 Article II:1 (b) prohibits “all duties and charges in connection with importation other than ordinary custom duties on products bound in Schedules of Concessions” (emphasis added).

57 Article II:1 (a) states: “Each contracting party shall accord to the commerce of the other contracting parties treatment no less favourable than that provided for in the appropriate Part of the appropriate Schedule annexed to this Agreement” (emphasis added). Thus, the terms of Article II:1 (a) leave Members free to negotiate other type of commitments on an MFN basis in other parts of the Schedule.
of export restrictions on such materials have in fact agreed upon “WTO-plus” obligations on the use of export taxes within the context of their accession negotiations. Such additional obligations are country-specific and in all cases involve to a greater or lesser extent commitments on critical minerals and metals.

The scope and coverage of the WTO-plus obligations agreed upon those countries, however, greatly varies, as well as the legal techniques chosen to incorporate such additional commitments into the respective accession packages. The most severe regime has been agreed upon by China, which undertook a general obligation to eliminate all taxes and charges applied to exports of products by terms of Paragraph 11.3 of China’s Accession Protocol:

“China shall eliminate all taxes and charges applied to exports unless specifically provided for Annex 6 of this Protocol or applied in conformity with the provisions of Article VIII of the GATT 1994”.

Annex 6 to China’s Accession Protocol, entitled “Products Subject to Export Duty”, lists 84 different products (each identified by an eight-digit Harmonized System number) for which maximum levels of export duty are provided. According to the Note to Annex 6,

“China confirmed that the tariff levels included in this Annex are maximum levels which will not be exceeded. China confirmed furthermore that it would not increase the presently applied rates, except under exceptional circumstances. If such circumstances occurred, China would consult with affected Members prior to increasing applied tariffs with a view to finding a mutually acceptable solution.”

Among the 84 products listed in Annex 6 figure mostly industrial raw materials, including critical minerals and metals such as tungsten ores and concentrates, tantalum and vanadium ores and concentrates, crude antimony, various forms of

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58 Such practice is part of a more general tendency on the part of WTO incumbent Members to request of aspiring new Members requirements which either exceed the obligations arising out of multilateral WTO Agreements (so-called “WTO-plus” obligations) or lie outside the current WTO mandate (so-called “WTO-extra” obligations). The additional obligations negotiated by new WTO members on the use of export duties have been categorized as “WTO-plus” obligations in light of the possibility left to WTO members to negotiate export concessions in Part III of the Schedules of Concessions. The distinction between WTO-plus and WTO-extra obligations borrows from H. Horn, et al., ‘Beyond the WTO? An Anatomy of EU and US Preferential Trade Agreements’, 33 The World Economy (2010), at 1567. The authors compellingly argue in favour of the categorization of the obligations on export duties binding upon new WTO Members as WTO-plus obligations in that, because of the potentiality for export concessions’ negotiations left to WTO Members, “a WTO instrument already exists in this area” (id., at 1571).

ferro-silicon and ferro-manganese, as well as ferro-chromium, unrefined copper, copper anodes and cathodes, alloyed copper and copper waste and scrap, unwrought, not alloyed nickel, and unwrought alloyed nickel. The bound export duty rate ranges from 20 per cent to 40 per cent.

Vietnam and Ukraine, on the contrary, abided by additional obligations on the use of export duties on specific products by terms of their Working Party Reports. Vietnam committed to gradually reduce the specific rates of the export duties applied to various forms of ferrous and non-ferrous scrap metals indicated in Table 17 of its Working Party Report (i.e. steel, copper, aluminium, nickel, tin, lead, and zinc) by terms of paragraph 260 of such Report. According to paragraph 240 of its Working Party Report, Ukraine promised to phase down and bind, pursuant to a detailed timetable contained in Table 20 (b), the export duties applied at the time of accession on, inter alia, a wide range of non-ferrous scrap metals, including various forms of cobalt, ferro-chromium, unrefined copper, copper anodes and copper waste and scrap, alloyed copper and copper powders, as well as nickel, titanium and tungsten waste and scrap.

Finally, the Russian Federation created a new “frontier” in the treatment of export duty concessions by agreeing by terms of paragraph 638 of its Working Party Report to create a new “Part V – Export Duties” within its GATT Schedule, where it bound over 700 tariff lines including several critical minerals and metals (e.g., various forms of copper, germanium, manganese, molybdenum, nickel, tantalum, tungsten, and vanadium). According to paragraph 638, in particular:

“…from the date of accession, […] products described in Part V of [the Schedule of Concessions and Commitments on Goods of the Russian Federation] would, subject to the terms, conditions or qualifications set-forth in that Part of the Schedule, be exempt from export duties in excess of those set-forth and provided therein. The representative of the Russian Federation further confirmed that the Russian Federation would not apply

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60 In both cases, the relevant Working Party provisions are legally binding in that they were incorporated into the respective countries’ Accession Protocols.
other measures having an equivalent effect to export duties on those products. He confirmed that, from the date of accession, the Russian Federation would apply export duties in conformity with the WTO Agreement, in particular with Article I of the GATT 1994…”.

Although all countries responsible for the vertical proliferation of export restrictions on critical minerals and metals are bound by WTO-plus obligations by terms of their accession packages, the existence of varying country-specific accession requirements creates unequal rights and obligations among Members and, ultimately, poses dangerous threats to the overall integrity of the system. In particular, given the uncertainty surrounding the amendment procedures of accession protocols, all countries undertaking WTO-plus obligations on the use of export duties seem to have contracted ultra-rigid obligations, with the exception of Russia. Indeed, by creating a new Part of its Schedule of Concessions as explicitly admitted by Article II:1 (a), the Russian Federation brought its WTO-plus provisions on export taxes into the GATT framework, thus reserving the right to amend its additional obligations in accordance with the GATT-specific adjustment procedures traditionally applied for import duty commitments.

64 Two different visions have been developed as to the scope for amendment of new Members’ accession protocols. According to the former, accession terms are permanent and immutable in that they constitute pre-conditions for the WTO Membership. In this respect, once accession is completed, such conditions cannot be renegotiated for they would alter the balance of concessions established during the negotiations. The new member could then only withdraw from the WTO altogether, the only exception being the market accession commitments incorporated into the schedules of GATT and GATS, for the Agreements themselves provide for specific adjustment procedures. In the latter view, accession protocols are integrated into the WTO Agreement and serve a supplemental function with respect to WTO agreements by indicating country-specific obligations. Hence, they could be amended through the same procedures required for other WTO Agreements, which in any case require a very high majority of two thirds. For a more detailed overview of the two theories, see J. Ya Qin, ‘Reforming WTO Discipline on Export Duties: Sovereignty over Natural Resources, Economic Development and Environmental Protection’, 46 Journal of World Trade (2012) 5, at 1157-1158.

65 The additional commitments concerning the use of export duties of new WTO Members, in fact, do not arise out of GATT but exclusively from each of the concerned Member’s accession protocols; hence, the possibility of modification or withdrawal of such commitments is conditioned upon the possibility of amending the accession protocols’ related provisions. This lack of flexibility of accession protocols determines the non-adjustability of export duty commitments contained in accession protocols.

66 As it is known, each Member’s Schedule of Concessions is formally incorporated in Article II of the GATT and thus in the GATT itself.

67 See, in particular, Article XXVIII:1 GATT. Although Article XXVIII expressly refers to the Members with “a principal supplying interest” in a concession, thereby revealing that the reference framework is that of import duty concessions, the provision is labelled “Modification of Schedules” and it explicitly applies to concessions “included in the appropriate Schedule annexed to this Agreement”. Hence, it can be used for both import and export concessions. J. Ya Qin, supra n. 64, at 1160-1161; see also M. Matsushita, ‘Export Control of Natural Resources: WTO Panel Ruling on the Chinese Export Restrictions of Natural Resources’, 3 Trade Law and Development, (2011) 2, at 274. This interpretation is also supported by the wording of Article XXVIII bis.
A further element of inconsistency among WTO Members directly linked to the current fragmentation of WTO disciplines on export duties relates to the issue of applicability to WTO-plus commitments of GATT export-relevant exceptions such as Article XX general exceptions, which address some of the most common public policy goals associated to the use of export restraints on minerals and metals. The Appellate Body made in fact clear in China – Raw Materials that the applicability of GATT general exceptions is not automatic for commitments contained in accessions protocols, but rather conditioned on the incorporation therein of specific language to that effect. It follows from such approach that, while Vietnam, Ukraine and Russia have all successfully negotiated Article XX flexibilities, China is pre-empted to invoke Article XX exceptions to justify export duties in breach of Paragraph 11.3 of its Accession Protocol, failing therein any express reference to Article XX.

Among the public policy goals recognized by terms of Article XX GATT, the most relevant to export restrictions on critical minerals and metals are those admitting measures:

"(b) necessary to protect human, animal and plant life or health; …

(g) related to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption; …

(i) restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry during periods when the domestic price of such materials is held below the world price as part of a governmental stabilization plan; Provided that such restrictions shall not operate to increase the exports of or the protection afforded to such domestic industry, and shall not depart from the provisions of this Agreement relating to non-discrimination;

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

Furthermore, pursuant to the introductory paragraph of Article XX of GATT, notwithstanding the export restrictions would meet the requirement of these sub-paragraphs, they cannot be “applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade”.


In paragraph 260 of its Working Party Report, Vietnam committed to bind the export duties applied on products listed in Table 17 provided that:

"[t]he representative of Viet Nam confirmed that Viet Nam would apply export duties, export fees and charges, as well as internal regulations and taxes applied on or in connection with exportation in conformity with the GATT 1994”.

By terms of paragraph 240 of its Working Party Report, Ukraine promised to phrase down export duties in accordance with the binding schedule contained in Table 20(b) on the understanding that:

"[…] as regards these products, Ukraine would not increase export duties, nor apply other measures having an equivalent effect, unless justified under the exceptions of the GATT 1994”.

Finally, Russia reserved to right to invoke Article XX through the creation of Part V of its Schedule of Concessions, which starts with the statement:

"[t]he Russian Federation undertakes not to increase export duties, or to reduce or to eliminate them, in accordance with the following schedule, except in accordance with the provisions of the GATT 1994”.

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flexibilities. The unavailability of Article XX defences for violations of Paragraph 11.3 may induce China to divert export taxes into export quantitative restrictions in violation of Article XI:1 GATT., in the attempt to maintain the right to invoke the general exceptions provided for in Article XX. Such *traslatio* seems to have occurred at least once so far with respect to rare earths\(^71\), and indeed China appears as the only country resorting to quantitative forms of export restrictions on critical minerals and metals\(^72\). This substitution process will however be detrimental to the multilateral trading system in that it would “encourage” the use of quantitative restrictions instead of export taxes, thereby running counter to the cornerstone principle upon which the GATT itself was edified, i.e. the choice of “tariffs” over quantitative restrictions as the lawful means of restricting imports and exports.

In conclusion, the current WTO disciplines on export restrictions contained in the GATT 1994 and various “self-contained” protocols of accession of new WTO Members introducing WTO-plus obligations on export taxes\(^73\) present several elements of inconsistency arising out of the absence of a system-wide discipline on export duty commitments, and the parallel contraction of country-specific “stand-alone” provisions by selected new WTO Members.

V. **Conclusions: How Much “Ideology” in the Debate Over Export Restrictions?**

The analysis of the phenomenon of proliferation of export restrictions on critical minerals and metals, on the one hand, and of the relevant WTO disciplines on export restraints, on the other hand, has permitted to shed light on the nature and the intensity of the relationship between the two and, in particular, to better qualify the central yet

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\(^71\) Rare earths are not listed in the Annex 6 of China’s Accession Protocol and China would thus be pre-empted from resorting to export taxes on such materials irrespectively of their rationale. In 2010 China removed the export taxes applied on some forms of ferro-alloys containing more than 10 per cent of rare earths but in parallel included these materials within the quota for exports of rare earths, thereby reducing such quota by approximately 30 per cent. Ninth Report of the DG Trade, *supra* n. 25, 119.

\(^72\) B. Fliess *et al.*, *supra* n. 7, at 5 *et seq*.

\(^73\) The conclusion of the Appellate Body on the applicability of Article XX GATT to violations of Paragraph 11.3 of China’s Accession Protocol implies that WTO-plus obligations, as non-GATT obligations contained in country-specific accession protocols, are treated as “stand-alone” provisions in that they arise from agreements (i.e. the accession protocols) that are linked to GATT only when specific language is expressly incorporated to that effect. I. Espa, *supra* n. 74, at 1407-1413.
unsubstantiated conventional wisdom on the “deficiency” of WTO regulation on the export side.

When dealing with the presumed insufficiency of WTO disciplines on export restrictions, and export taxes in particular, a first striking element is that all the countries responsible for the vertical proliferation of export restrictions on minerals and metals have undertaken specific additional commitments on export duties. Moreover, for all such countries the negotiated WTO-plus commitments cover, to a greater or lesser extent, critical minerals and metals.

Importantly, the matching of the country-specific commitments on export duties with the network of export taxes applied to critical minerals and metals unveils a certain degree of “rethoric” in the debate over the proliferation of export restrictions and WTO under-regulation: on the one hand, in fact, in all cases but China the export taxes in place have been introduced and/or maintained without incurring in violations of WTO-plus obligations, indicating that new Members undertaking additional obligations are abiding by them, and thus that WTO disciplines are effective; on the other hand, in the pre-eminent case of China, the export taxes in place extensively and systematically violate the specific obligations agreed upon by terms of Paragraph 11.3 of China’s Accession Protocol. While such circumstance has mostly to do with the great asymmetry of the additional commitments agreed by China compared to Vietnam, Ukraine and Russia, which have consented to bind export duties of specific products rather than generally undertaking an obligation on the elimination of export duties, it is important to note that the proliferating use of such measures on critical minerals and metals on the part of China cannot be traced back to a vulnus in WTO regulation per se. Indeed, Chinese export duties are not legitimately adopted under the purview of China’s WTO obligations, but they rather run counter to the specific commitments undertook under its accession protocol and therefore can be challenged before the WTO dispute settlement bodies, indicating that WTO exists and would be effective if respected. Evidently, the same conclusion holds true for the wide range of quantitative export restrictions applied by China on several critical minerals and metals in breach of GATT Article XI:1.

\[74\] In a limited number of isolated cases, applied export duties exceed the bound rate and/or do not respect the timeline specifically provided for the gradual phasing down of the bound rate. For instance, in 2011 Russia announced a new determination of export tariffs on not alloyed nickel depending on world market prices (WT/TPR/OV/14, at 95); in 2011 Ukraine announced the postponement in the reduction of export duties on ferrous scraps (WT/TPR/OV/W/5, at 22); Vietnam increased in 2012 the export duties applied on metal scraps (Ninth Report of the DG Trade, supra n. 35, at 37).
The emblematic example of China seems to suggest that the conventional wisdom on the proliferation of export restrictions and WTO under-regulation cannot be unambiguously established by means of evidence, but rather needs to be tested, at least in the case of critical minerals and metals, in light of the more complex and intertwined dynamics occurring at the international level with regards to emerging new patterns and leading actors in international trade, as well as the unfolding effects of an unprecedented financial and economic crisis. In other words, while there are not elements to prove that the massive recourse to export restrictions on critical minerals and metals originates from WTO under-regulation, not even in the case of China, it is undeniable that the current wave of mineral export restraints cannot be read in clinical isolation from the deep transformations occurring in the international minerals and metals market: the major geo-political and economic changes triggered by the heavy geographical concentration of critical minerals and metals in emerging economies, and the structural pressures on traditional international trade patterns – the combination of which is ultimately challenging the status quo which has governed the equilibrium between world supply and demand of primary supplies at the expenses of Western countries.

In light of the above, the battle over export restrictions opposing, on the one hand, poorly-endowed industrialized countries – the EU and the US in primis – and, on the other hand, the newly industrializing countries abundant in mineral resources, has broken out to configure a re-acutization of the North/South conflict over the “space” to be left to WTO Members to legitimately recur to trade instruments to fairly achieve development goals. In particular, the unfolding of the “Chinese case” has recently fuelled this debate, contributing to its further ideologization. In this respect, while it is true that, from a Western perspective, export restrictions are often used as developmental tools, instrumental to the acceleration of the major transformations affecting the traditional patterns of international trade, it is also true that such changes are ongoing and would be happening no matter how big the recourse to export restrictions. Hence, Western countries cannot fight these major changes through the battle over export restrictions and whatever successful reform on WTO disciplines, not as much urgent because of their meaningless but rather because of the main inconsistencies arising out of the fragmented WTO accession regime on export duties,

\[75\] In this respect see B. Gu, ‘Mineral Export Restraints and Sustainable Development – Are Rare Earths Testing the WTO’s Loopholes?’, 14 Journal of International Economic Law, (2011) 4, at 768.
would thus need to carefully balance the divergent interest of net-importing and exporting countries.