

# Un-Obtainium: The Quest for Rare Earth Elements

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## Abstract

The 17 "rare earth elements" are essential for the development of new technologies. Over the last several decades, China has established a virtual monopoly on the rare earth industry, producing over 97% of the world's current demand. This was achieved by effectively undercutting other producers who stopped competing in this market. In 2010, in an effort to bolster its domestic market, China decided to reduce the amount of rare earth elements that it would export. This situation can be used to consider China's relations with the rest of the world from two perspectives. (1) The realist perspective views China's actions as threatening to both the US hegemony and our system of international institutions. (2) Alternatively, the liberal view interprets the Chinese activities as defensive, protectionist and benign. The liberal view has more evidence to support it, considering economic, political and social constraints that prevent the Chinese leadership from taking total control of the international marketplace for the rare earth elements. To continue its long-term development and economic growth, a rational China will choose not to act in a way that would cause other countries to mistrust China.

“Rare earths are the economic and technologic foundation of a safe and secure Nation. To possess them imparts independence, immunity to coercion, and the tools to invoke scientific advancement.” -- James B. Hedrick

## Introduction

On the periodic table, approximately 17 elements are classified as rare earth elements (REEs), or rare earth metals. These 17 elements, and a few additional elements that have been added to this group of minerals, have become extremely important to the technologic and economic development of many countries. REEs are used in many of the new technologies being developed around the world. The value of these metals derives from their application in new green technology such as hybrid cars or wind turbines, military weapons such as precision guided missiles and radar equipment, and even our iPhones and new flat screen televisions.

However, over the last 20 years the mining and production of these important resources have transferred from a global network to a single producer: China. China currently produces over 97% of all rare earths used throughout the world. Its domination of the market was gained through cheap labor practices and lax environmental standards that allowed China to push competitors out of business. In 2010, the power of this control became painfully apparent. Following a territorial dispute between China and Japan, China completely suspended Japan's supply of REEs for one month. Realizing the market control exerted by this action, China subsequently decided to limit the amount of REEs for global exportation. Limiting the export of REEs may have started as a way to punish Japan for the territorial dispute, but it now evolved into an issue of domestic growth potential for China. This maneuvering does not bode well for industries outside of China that rely on these resources for their operations.

Since this incident, the US, Japan and the EU have attempted to negotiate with China. Countering with new mines in other areas around the world could take as long as 10 years to become established. Until then, China can maintain a virtual monopoly on these vital elements and thus can hold a very controlling position and unfair marketing advantage over the rest of the world. In March 2012, the US, Japan and the EU appealed to the World Trade Organization (WTO) for assistance, claiming unfair trade practices. China has defended its case and to date has not changed any of its policies.

My paper will examine this issue from two perspectives. The first will be from a realist perspective, which views this situation as a sign of warning that China is attempting to use its power and influence to affect and alter world institutions to better fit its own agendas. This perspective sees China as a threat to our international system, and to the US hegemony. The alternative perspective is the economic liberal or liberal institutionalist perspective. This perspective contends that this action is not an attempt to alter our international institutions, but rather is a struggle to work within the system to allow China to continue its economic growth and development. I will argue my final thoughts from the liberal institutionalist perspective. I will provide evidence that, based

on the premise that China is acting rationally, China is faced with both political and economic constraints that to act in a threatening manner towards our current institutions and systems would be detrimental to its future. Given China's use of our current institutions, any attempt to overthrow or weaken it would result in a slow-down of economic growth. Our international system of economics has evolved to the point where the growth rate of any single country cannot be more rapid compared with the other countries with which it is connected. I will provide evidence that would make it very unlikely and unwise for China to present itself as a threat to our international norms.

Before I begin to examine these two perspectives, it is important to understand the significance and importance of studying REEs when analyzing China's role in the international arena. China's actions surrounding the case of REEs have impacted other countries on a global scale, contributing to heated debates and calling to question many of the US, EU and Japan's decisions regarding reliability of any potential partnerships with China. This issue has raised many questions and is essential to understanding a complete picture of the power and influence China may or may not have. While China may be employing tactics that would be considered unfair according to our international standards, we must not forget that China is still in a developing stage and has not acted in malicious ways towards institutions like the WTO or the UN Security Council. China is simply trying to do what is best for its people and establish a reasonable living standard for its citizens before becoming too involved in international politics.

I will begin my paper with a brief history of China's involvement in the rare earth sector, to help establish a background and basis for the conflict. Next, I will discuss the realist perspective, examining how China has amassed a great deal of power that could be used against the international institutions, or specifically against the US. This perspective stands to counter my main argument that China should not be considered a threat to our international norms and the US hegemony. I will then consider the economic liberal/liberal institutionalist perspective, which looks at the other side of the story. This perspective interprets China's actions as benevolent and does not believe that their policy decisions should be an alarm for concern. This perspective leads me into my final section that examines the many constraints that both China and the US (as well as the rest of the world) may face that prevent any of those involved from resorting to extreme actions.

## Brief History of Rare Earth Elements and China

Rare earth elements (REEs) are a group of 17 metallic elements that are found naturally within the Earth's crust. Unlike their name suggests, these metals are not actually rare, nor are they dirt ("earths"). They are quite abundant and can be found in many countries around the world. For examples, yttrium is more abundant than lead, cerium is more abundant than tin, and even the rarer of the rare earths are more abundant than the platinum-group elements (Spedding, 2000: 209). REEs acquired their name to distinguish them from the alkaline earth elements (e.g., beryllium, calcium, and magnesium) that are found in the same deposits as many REEs (Cordier, 2011). Originally discovered in the 17<sup>th</sup> century, REEs were eventually isolated as oxides from the rare metals in the 18<sup>th</sup> and 19<sup>th</sup> centuries (Castor, 2004). In the 20<sup>th</sup> century, more complex and efficient processes were developed that allowed separation of these minerals into pure and usable forms. Application to commercial use only appeared during the last 50 or 60 years (Castor, 2004).

These elements are special for several reasons. Due to the unique properties that rare earth metals possess, REEs are used in many high tech applications. As an example, the phosphorus light emitted from a combination of highly purified yttrium and europium produces the red colors in many of our modern televisions and computers (Spedding, 2000: 212). Other usages for these metals include magnetic resonance imaging (MRI) scans, fiber optic communication, hybrid cars, wind turbines, lasers, radar systems, glass polishers, permanent magnets, petroleum refiners, headphones and many others (Humphries, 2011 and Hurst, 2010). The discovery of these elements has been a boon for the high tech industries.

It is for this very reason that China has emphasized the importance of REEs in its growth and development. Countries from around the world had mined rare earths for many years. The world's second largest mine, Mountain Pass in California, followed by Mount Weld in Australia, had produced a majority of the rare earths until the 1990's when China began to heavily invest in REEs and drove most of its competition out of business. Through the use of inexpensive labor, heavy government subsidies, and low environmental standards, China's entry into the marketplace made it economically unfeasible for other countries to compete in the global market.

Initially when China began producing REEs, the US and Japan were not concerned with the source of their REEs, as long as they could obtained cheaply, and even mitigated the environmental costs to China who was happy enough to carry the burden. China flooded the international market with its cheap metals. In a span of ten years, starting in 1990, "China's production increased over 450% to 73,000 metric tons (t) from about 16,000 t (Tse, 2011)."

However once China understood the importance of these elements in determining its future, China began to change its policies. China discovered the possibilities that rare earths could play in the future of technology in the 1980's, dedicating resources to developing new programs to both the mining and the study of these elements. In 1986,

China began a new project devoted to technology ranging from biotech to space research. This project was called “863 Program” (Osnos, 2009). China began investing billions of dollars into researching rare earths. Its hope was to gain a stronger foothold in the international arena and to use new technology to effectively catch up with the rest of the developed world. Given its abundant stockpiles and access to REE, China realized that these minerals could be the key to its growth and development.

China’s control of the rare earth sector seemed to function perfectly for the rest of the world. A constant stream of cheap metals was readily available from China. However, China’s initial goal in investing in this industry was to help promote the development of its country into a more developed country. The Chinese wished to “[move] from a model of ‘made in China’ to one of ‘innovated in China’ (Segal, 2010).” This meant that China would need to move away from functioning as a “supplier-nation” and instead become a “buyer-consumer nation” of REE (Wray, 2011). China understood that the real money and rewards lay not in the supplying of raw materials, but rather in the application of these materials into useful products. At this point in time, in 2000, however, China was only consuming about 19,000t of REEs (Tse, 2011: 5). China realized that its production of rare metals might be insufficient to sustain the planned and anticipated economic growth and development. Therefore, one of two things could be done. Either China would be forced to produce much greater quantities of rare earth to meet both international and national demand, or it could slowly reduce the amount of REEs exported to allow local producers ample access as it developed domestic markets. From its baseline of about 19,000t of REEs in 2000, by 2009 China had increased its consumption to nearly “73,000 t, about 380 percent higher than in 2000 (Tse, 2011: 5).” After several years of increasing local use, China realized that to continue to increase its own consumption, it could not sustain both the domestic and international markets. Therefore, China decided that it was in its best interest to begin cutting exports to consumers of REEs around the world, mainly Japan, the US and the EU. Over the course of the last five years, China has slowly decreased the amount of rare earth allowed for export. However, only in the last several years has China reduced exports below global demand. To validate their monopolistic policies, it needed an event or spark that came in the form of a territorial dispute with Japan in 2010.

On September 7<sup>th</sup>, 2010, a Chinese fishing boat rammed a Japanese Coast Guard ship in contested territory between the two countries. This event led to a serious diplomatic conflict between China and Japan over who controlled the territory and its economic benefits. Among other actions, China responded immediately by cutting off Japan from rare earth metals. Japan, to show its willingness to be diplomatic and righteous in its reactions, was left with no choice but to release the Chinese fisherman. However, tensions between the two countries remained high. The Chinese claimed that its sovereignty had been threatened and felt the need to take a tough stance on the issue (Park, 2010). Little did the Chinese fisherman know that his actions would be the catalyst for a chain of events that would forever change the future of the rare earth market and political tensions between China and the rest of the world.

Cutting off Japan from rare earth metals was just the beginning. China recognized its need for greater quantities of rare earths and saw this as a window of opportunity to begin pulling back from its role as the global producer. China then announced its new policy that would limit the amount of REEs allowed for exportation. This had several effects. First, the prices of rare earths rapidly escalated. Over the next year, prices increased by as much as 1000% (Wray, 2011). Elements such as neodymium went from \$45 to near \$450 per ton (Wray, 2011). While this may be considered counterintuitive to China's goals, China's support of the rare earth sector in the form of both subsidies and research grants allowed this market to continue business as usual. Additionally, one of the main sources of price spikes came from implementation of Chinese export tariffs, making it more difficult for international compared with domestic consumers to purchase the REEs. Second, countries and companies that relied on China's supply of REEs realized that they had a dilemma. They had two options: move production to China, or find alternative sources for REEs. Both presented equally disturbing choices. Reestablishing old mines could take many years, with some industry experts noting that it could be up to ten years before older mines would be able to compensate for the loss of Chinese exports (Kefferpütz, 2010). Not only are permits and regulatory standards necessary, but also the initial investment requirements are huge, often in the hundreds of millions of dollars. The urgency of the situation has also forced several companies in developing countries to begin the production of REEs without adhering to all of the safety standards. One of the largest mines in the world, located in Kuantan, Malaysia, has "risen out of the red mud" and begun production, much to the dismay of the local population that is worried about radiation, regulatory challenges, and refinery safety (Bradsher, 2012b). Alternatives are available, such as recycling. Additionally, countries such as the US and the EU do have stockpiles in reserve, but this would only be a temporary solution. Business as usual cannot be stopped to wait for alternatives, which has forced many companies to "[move] to China from all over the world to be closer to their sources of supply" (Rare earths – Nytimes.com, 2012). "Showa Denko," a producer of hybrid car magnets, "announced that in June it will increase by 50% its output in China of alloys used in magnets for hybrids (Chang, 2011)." Other companies are following this tact. Hitachi metals, a Japanese company, is considering making the move to assure continued access to this precious commodity (Chang, 2011). Gordan Chang, a commentator for Forbes magazine, sees this as a slightly more serious problem. He believes: "This is a pattern we have seen before, in industry after industry. As analyst John Tkacik notes, China's predatory policies follow a predictable pattern: Beijing demands that foreigners bring technology to China and then the Chinese steal the technology, undercut foreign competition on global markets with subsidies, and finally drive foreign competitors into bankruptcy. The world's free-trade architecture is not working as it should. China's rapacious rare-earth tactics demonstrate that governments need to intervene, perhaps with measures as rough as Beijing's (Chang, 2011)"

While this all seems unfair and quite threatening to the rest of the world, China believes that it has done nothing wrong and sees no issue with the latest activities. China "has repeatedly explained to other governments already that its raw materials export policy 'aims to protect resources and the environment,' not distort industry (Miller, 2012)." Its intent from the very beginning has been to promote domestic growth and development and to curb the environmental impact on the mining of rare earth. The tax that China began imposing on the export of REEs was reported by China's Xinhua News Agency to

be used “to support research on rare-earth processing and application technology, set up environmental compensation funds or build rare-earth reserves (Wray, 2011).” China began this endeavor by closing down several mines in an attempt to reorganize and reconstruct the processes employed for extraction. This could allow further reinvestment into new and cleaner technology. As the extraction process both produces toxic waste and causes other types of environmental damage, this claim does have some validity. Additionally, Liu Weimin, a spokesman for China on this issue, supported China’s recent decision to limit exports. The Chinese leadership believes that these actions comply with WTO rules and are within the limits of what is acceptable activity. While countries like the US, Japan and Mexico have filed complaints to the WTO about the Chinese export restrictions, the WTO rules allow countries to enact policies that would limit “production and consumption, [which] could help correct market failures that lead to environmental degradation and unsustainable resource depletion (Karapinar, 2011: 392).” The WTO article XX reads as follows:

“WTO members may adopt policy measures that are inconsistent with GATT disciplines, but necessary to protect human, animal or plant life or health (paragraph (b)), or relating to the conservation of exhaustible natural resources (paragraph (g)) (WTO, 2012).”

Therefore, the Chinese argue that its export restriction policies fall into the “conservation of exhaustible natural resources” category, and exclude them from adhering to the GATT disciplines. The Chinese are well aware of the impact of its mining activities and believe that these export restrictions will help to mitigate the environmental degradation. Liu thought the accusations against China were completely unjustified and unfair (Wan, 2012).

However, when China began to set export quotas on their rare earth exports, China had a relatively clear idea of what its goals were, with no serious or well-structured plan on how to get there. The problematic and inconsistent policy decisions that China enacted since this dispute began implies that China did not have a coherent goal of what it was trying to accomplish. The fact that China’s export quotas have remained below the global consumption level suggests that the leaders were trying to allude to their intentions, with no real intent to hurt the global market (Yuan, 2012). Prices have recently begun to decline – not quite to the levels of pre-2010, but the prices of eight rare earths have dropped 41% in the last 6-12 months (Yuan, 2012). While China is concerned with growth, the country is still reliant on foreign direct investment (FDI) from the US, EU, Japan and other countries that supply much of their technological innovations to China. The inconsistency of long-term goals is further complicated by the fact that China is in the midst of an election year, so each politician is concerned with being portrayed as “soft” towards foreign entities. While China may have certain strategies it wishes to follow, the political atmosphere in this election year may impact its current policy decisions.

Despite these considerations, China may be in an optimal position to use its REEs to promote the type of domestic growth that would propel the country into the ranks of developed countries. China has set a goal for itself that by 2020, it should “reduce its ‘degree of dependence on technology from other countries to 30 percent or less’ (down from 50 percent today) (Segal, 2010).” By investing both in the rare earth resources and the technology research beyond its applications, China hopes to become a powerhouse in

the high tech industry. In 1992, Deng Xiaoping said that "there is oil in the Middle East, there is rare earth in China," referring to the dominance that China could play in the future of the world's technology (Doll, 2007). China has likely stumbled upon the resource of the future, and successfully over the course of the last 20 years has created a virtual monopoly on the resource.

For these reasons, in mid March, 2012, the US, Japan and the EU brought a case to the WTO against China claiming that China was employing unfair trade practices with their export tariffs on REEs. President Barack Obama spoke out against the unfair trade practices that China was using, hoping to encourage negotiation or, at the least, discussion of possible solutions to this problem. "If China would simply let the market work on its own, we'd have no objections," President Obama said on March 13, 2012 (Wan, 2012). However, as previously stated, China is ready to defend the accusations brought against them. Xinhua, the official state-run news agency, warned that any actions made by the US against China could result in repercussions for the US (Wan, 2012). As a developing country with a reputation to uphold, China is very protective of its international standing and will not allow the Western powers to halt their activities.

This was not the first case that has brought against China. In 2009, the EU, the US and Mexico filed a similar complaint against China in relation to its policies on export restrictions on food products and natural resources. This led to heated international debates on the issue, lasting for several years (Karapinar, 2011). In January of 2012 the WTO finally ruled that "China must dismantle its system of export taxes and quotas for nine widely used industrial materials (Bradsher, 2012)." This success prompted the subsequent case regarding rare earth metals against China.

Lastly, as with the case in 2009 that took several years to be decided, the new appeal brought forth by the US, EU and Japan in regards to REEs may also take a lengthy time to resolve. If the WTO cannot reach an agreement soon, the window to ensure a fair and balanced business environment will potentially close. Businesses cannot stand to wait for agreements to be made, and will most likely decide to find their own alternatives instead of waiting for any prolonged period of time. New mines may already be established, or businesses may have already relocated to China.

Overall this is a terrible dilemma for global consumers of REEs. China has caught the world off its guard, and now has the upper hand in this situation.

## Realist Perspective

First I will consider the perspective of the American realist (not a Chinese realist). The realist perspective is pessimistic about future of Sino-US relations. This perspective views China as a rising superpower in the world, moving from what could be considered a developing country into a developed one. Given this assumption, realists see China as a threat to current global order and the US hegemony. Their beliefs are that China will rise to contest our current international institutions, shaping a new world order that would be created for the benefit of its own domestic interests. This perspective views this not only as a threat to our established international systems, but also that China's intentions are inconsistent with current global procedure and should be interpreted as threatening.

Realists view China not as actively threatening international institutions and norms (to fit its own strategic plans), but rather as a growing world power with the capability to shake its fists should it so desire. This fear is compounded with the rationale that China already has a number of advantages of the rest of the world, and their ability to control and monopolize the rare earth industry could simply be interpreted as a prelude of more to come. Realists understand that the US and the rest of the world have had their differences with China, and when China decides that it is advantageous to its future to act in a fashion different from those of the current norms, it will not see the US as an ally, but instead as a threat. Although this may not be in their immediate plans, realists argue that simply the ability to do this leads us to the conclusion that the US, and the rest of the world, must act now to counter this threat. China's unconventional rise as a country has provoked a conflict that realists believe needs to be dealt with. REEs play an important role in this process. Rare earths are seen as an extremely important commodity to the future of technology around the world. REEs are used in many of the most advanced technological innovations of the last 20-30 years. By controlling access to the abundant supply of these metals, China can take considerable advantage in new technology over the rest of the world.

One of the single most important assumptions to the realist perspective is that China is a rising power. This fact credits many of the ideas and fears realists share about the future with China's role in the international arena. Since China first began its economic reforms in 1978, "the PRC's [People's Republic of China's] gross national product (GNP) is thought to have increased by a factor of four and, according to some estimates, it could double again by the middle of the second decade of the twenty-first century (Friedberg, 2005)." With this increase in national productivity and resources, China has easily expanded its military, spending increasing amounts on arms and military equipment. Not only has their military grown in strength and numbers, but also their ability to adopt and acquire more advanced technology has allowed them to become even more powerful. Additionally, China's diplomacy has expanded outside of Asia, now reaching to Africa, Latin America and the Middle East (Ikenberry, 2008). During The Cold War, when the US was competing against the Soviet Union for global hegemony, the US was matched by the Soviet Union only as a military rival, whereas China is proving itself to be both militarily and economically competitive (Ikenberry, 2008). However, China is still far from being considered a real military rival. Another realist, John Mearsheimer, believes

that as China continues to gain power, “China, like all previous potential hegemony, [will] be strongly inclined to become a real hegemon (Friedberg, 2005).” This shift away from the US hegemony and Western institutions has caused skepticism and fear among many.

One extreme realist, John Mearsheimer, believes that China represents an imminent threat that needs to be addressed immediately. China has the power to become a global hegemony that will rival the US, and has the capacity to move in this direction whenever it determines that the time is right. He believes that “it is more likely that [China] will want to dictate the boundaries of acceptable behavior to neighboring countries, much the way the US makes it clear to other states in the Americas that it is the boss (Mearsheimer, 2005).” Further, he explains how just as the US had done earlier in the 19<sup>th</sup> century, China may move to enact new policies to weaken the surrounding countries like Japan and Russia. It has the power to do this from a number of standpoints, one of which we have seen more recently with China’s decision to cut Japan off from rare earths in 2010 (Park, 2010).

Another author, Sun-Won Park, has recognized that relations between Russia and China strengthened over the last several years, while “Chinese relations with the ASEAN [Association of Southeast Asian Nations] countries and Japan and South Korea—i.e., its East Asian neighbors—and relations with the U.S. are not so smooth.” Realists interpret China’s recent policy decisions as a reason to be fearful. This sort of attitude demonstrates that China has the capacity and confidence as a nation to disregard or otherwise counteract policies set to ensure smooth international relations.

David Shambaugh, another believer of the realist perspective, views China’s unpredictability as a problem for the US and Western institutions. He believes that the many issues surrounding China have led them to become hesitant to fully embrace global norms (Shambaugh, 2010). Chinese diplomacy has varied over the last several decades, at one time negotiating trade agreements or allying with countries such as North Korea or Iran, while at the same time participating in G-20, WTO and UN Security Council agendas. Shambaugh believes “the reason behind fluctuation in Chinese diplomacy lies in the fact that China remains deeply conflicted about its international identity and the roles it should play in the world. As one leading Chinese scholar told the recent Stockholm China Forum, “China is still wrestling with what kind of world order it wants (Shambaugh, 2010).” Considering that it could be argued that China should be included in the group of the most powerful nations in the world, it would seem that its role should be much more clearly defined, or at the least, shaped towards current international norms. Instead, this inconsistency leads Shambaugh to believe that China’s actions will be aimed at “[pursuing] a more narrowly self-interested foreign policy with a few priorities (Shambaugh, 2010).” This agenda is more consistent with China’s decision to begin stemming the flow of rare earths outside of their country. A monopoly on rare earths (a plan long in the making, starting with the research and purchasing of mines in the 1980’s) provides a secure and profitable future for China. If China is willing to make these sorts of decisions, it cannot be trusted to support other allied nations if it would not be in its best interest.

China's new role in the international arena is also changing. As China gains more political and economic power and influence throughout the world, it has been allowed to participate in the established world order. Organizations like the WTO, G-20, the UN Security Council, and other international institutions have brought China into their midst, giving China new influence in global policy. However, China is at the disadvantage, given that it was "not present at the creation of this world order, so it will have to reconcile its differences with other nations and accommodate the order's rules to integrate successfully (Lloyd-Damnjanovic, 2011)." As a fledgling to this world order, China is in a position where it may be required to follow rules and policies that are inconsistent with their long-term agenda. China has thus "attempted to use its own power and influence to balance American hegemonic power on issues that do not serve Chinese interests (Mingjiang, 2011)." For example, China has put a great amount of effort into taking a greater role in the global community. China is using its power to provide aid of other countries, just as the US and other developed countries have done in the past. Unfortunately, these actions are not always in sync with the plans of the Western order. Realists are concerned that given China's past policy decisions, this fact places international institutions, including the US and its interests, in a dangerous and often contentious position of needing to defend and stand against the reshaping of global norms.

Several times, China has proved that its actions do not typically follow established norms. China's ideology has evolved from Marxism to becoming more "focused on the preservation and protection of the Communist Party. In China's eyes, the United States is a "crusading liberal power" seeking to convert other nations to its own democratic model (Lloyd-Damnjanovic, 2011)." China's interpretation of US policy is that it has "been to tame China...but also over time to transform China (Lloyd-Damnjanovic)." This attitude has put China on the defensive, possibly in a mindset where Chinese leadership may be unconcerned with the dilemmas of the Western world. Just as China had decided that rare earths should be used to benefit China regardless of the consequences to other countries (giving no warning, nor any indication of its true intentions or long-term strategies), China has begun to create uncertainty and anxiety across Asia, and has recently elicited responses from the US from its actions. Within the last 12 months, China has:

- Shielded North Korea from tough international sanctions, despite Pyongyang's unprovoked sinking of a South Korean naval vessel and deadly shelling of a small island;"
- Intensified its long-standing claim to virtually all of the resource-rich South China Sea by suggesting that the region was a "core national interest," a term previously used to refer only to areas (like Tibet and Taiwan) over which China is willing to go to war.
- Declared publicly that, when it comes to resolving competing claims over this region 'China is a big country and other countries are small countries, and that's just a fact.'
- Threatened for the first time to impose sanctions on U.S. companies that participate in arms sales to Taiwan (Friedberg, 2011)."

These actions, among others, have led many realists to believe that China is not interested in adhering to the established global norms, but may in fact choose to create its own.

Even given all of this evidence, I disagree with the realist perspective. China has spent the last 30-40 years integrating itself into the contemporary global order and has

experienced economic growth and development previously unseen. Its continued economic success can be attributed to its cooperation with the WTO and other international organizations. Without the support of other countries, China would be unable to continue its current level of growth. Before China can concern itself with international politics, it must still focus on developing and integrating its own markets into those of the developed world. China has plenty of its own problems; I do not believe China needs to also adopt those of the rest of the world.

## Economic Liberal / Liberal Institutional Perspective

The second perspective I address is the economic liberal and liberal institutionalist perspective. This perspective regards China as a constantly improving and evolving example of how a developing country could assimilate itself into the established international system. This perspective interprets China's actions not as an attempt to rework or modify the current world order, but rather as an attempt to develop as a nation from within. China is currently in a transition period. As it attempts to establish its role in the international arena, it is still experimenting in how it wishes to conduct itself. This phase is thought to be temporary by liberals, who believe that in the long run China will adhere to international trade and political norms. Liberals argue that instead of focusing on countering China's plans, we should instead seek out alternative sources of REEs until China decides that it can be trusted as a reliable supplier of such essential materials.

China presents us with a unique case of a rising power because of the resources available to its development. The previously established world order created after WWII provided a basis for developing countries to follow. This system was not meant to force countries to be submissive to the system, but rather to allow for a fair and balanced world order for the mutual benefit of all. Therefore, China has had the opportunity to rise within a slew of "international institutions far more developed than ever before, but more importantly, it is doing so while making active use of these institutions to promote the country's development of global power status (Ikenberry, 2008)." These advantages would likely cause a rational China to continue working within this system. It would seem ludicrous for China to suddenly turn away from this system and attempt to reshape it to form a Chinese version.

The Chinese need these international institutions, not only for the security of their sovereignty, but also for the continued advancement and growth of their economy. This necessity represents just one of many constraints that China faces. In our modern times, state power is less dictated by military power and instead is based on prolonged economic development. For example, "China is well aware that no major state can modernize without integrating into the globalized capitalist system; if a country wants to be a world power, it has no choice but to join the World Trade Organization (WTO) (Ikenberry, 2008)." Institutions like the WTO offer opportunities for growth and development that would be impossible to match otherwise. This reliance on the world order requires strict adherence to political and economic norms, that if not followed, would break apart the very fabric that holds these institutions together. China is aware of its dependence on the "continued access to the global capitalist system; it also wants the protections that the system's rules and institutions provide (Ikenberry, 2008)." Just as the US and other Western powers use these institutions to protect themselves (sometimes from nations like China), China would reap the same benefits. Given China's status, Li Mingjiang, another liberal, argues that China "has been the biggest beneficiary of the existing system over the past three decades (Mingjiang, 2011)." In the long run, China has little incentive to try to alter these established norms and institutions.

The liberal perspective recognizes that China is still in the process of developing. Mingjiang does not see China's "unfair" trade practices in the rare earth industry as a deterrent from this strategy of working within the world order, but rather as a ploy to take advantage of the systems to accelerate its development. Situations like this are simply examples of how China is "willing to accept and participate in the existing international system but at the same time, mostly uses it in a pragmatic fashion to maximize its own interests (Mingjiang, 2011: 3)." While China acknowledges the fact that it must work from within this system, its agenda has not changed from prolonged and increasing economic growth, at whatever the cost. A spokesman for China, Liu Weimin, defended China's rare earths export limits. "'We believe such measures comply with WTO rules,' Liu said. He described as "groundless" the accusation that China was using its position to control a valuable commodity and benefit Chinese firms (Wan, 2012)." China does not believe that its actions are unjustified or out of line. China has found a way to use the current system to gain a competitive edge. However, it remains unclear whether China's true intentions are for monopolistic purposes to take total control of the market or simply, as its leadership asserts, are for the benefit of their domestic market. This has been a problem with China in the past, as its official statements are difficult to trust and are consistent with its secretive nature. In any case, China has continued to observe the rules and norms set forth by international institutions, although reinterpreting them to best fit with their agenda.

Additionally, continued classification as a 'developing country' places China in a unique position as a supporter and spokesperson for the global-South. As a country moving from the developing into the developed country status, China has seen both sides to how our current system functions. As a rising power, soon to be considered among the league of "developed" nations, China has had a unique perspective of this world order and is advocating for slight changes. Jenny Clegg, another well-respected economic liberal, believes that China is more of a supporter of our US hegemony and international system of institutions than we may give them credit. She believes that China, "whilst holding the obligations of developed countries in international governance to be greater and more binding, China recognises that developing countries are not without their own responsibilities. In this it endeavours to lead by example, balancing its level of international cooperation with the limits of its own conditions...with its own ambitious plans for the development of clean energy technologies (Clegg, 2011)." This perspective suggests that China is fully aware of the norms in place, but is forced to work around them given their own responsibilities as a developing nation. It hopes that with cooperation and its success by working within the system, it is able to demonstrate to other developing nations how it can be done. Clegg also believes that more than China fully being involved and committed to this system, China has been respectful of the US's hegemony. China has "openly [acknowledged] US world leadership, accommodating at times to maintain US engagement and reduce the risk of a return to unilateralism, whilst at the same time careful to protect its own sovereignty (Clegg, 2011: 461)." This provides further evidence that China's intentions are not in opposition to existing world orders, nor against the US hegemony. In reality, China's ascendance as another power in the world, through no active action of their own, will affect the US hegemony, but only due to the conditions set forth by our existing systems.

The economic liberal perspective on China's activities surrounding the rare earth debate is in complete contrast and disagreement with realists. Realists see this event as yet another reason to deepen our mistrust in China, while the liberal perceives this event as being completely blown out of proportion. This would not be the first time that concern over the supply of a valuable resource (such as rare earth or various metals) could suddenly disappear. During the mid-20<sup>th</sup> century, tin was considered a critical metal. Due to fear that the communism could spread to tin producing countries including Indonesia, Thailand and Malaysia, the US built a stockpile of tin that in 1972, at its peak, contained 250,000 tons of the metal (Blas, 2010). This was equal to more than the entire annual supply of tin for the world at the time. It took the US over 30 years to then dissolve their overabundance of tin once the fear of losing its mines passed (Blas, 2010). This example demonstrates that just as was the case with tin, the rare earth crisis may simply be exaggerated, but if we overreact may take many years to rectify.

Lastly, the liberal perspective is supported by a number of constraints that restrict the Chinese and other countries from acting out in such a manner that the realists propose. Realists believe that the rising power of China and the shift away from the US hegemon and Western institutions is cause for concern. However, the Chinese rely on the US and international institutions just as much as the US relies on China. Relations between the US and China have improved substantially over the last several decades. However, Quinlan believes "the bilateral relationship will never reach its full potential as long as policymakers continue to interpret America's large trade deficit with China as a loss of global competitiveness or a result of unfair trade practices. The greatest danger on the U.S.-China trade front is that while many in Washington view China as a 'strategic competitor,' American businesses have increasingly embraced the mainland as a 'strategic partner' (Quinlan, 2002: 126)." Just as much as the Chinese need the WTO and other organizations for trade purposes, American businesses rely on the manufacturing capabilities that China offers. Additionally, China would face severe consequences if it made enemies out of the US and other countries. China relies on other countries for the majority of their new technology (the source of their success in the manufacturing sector). If China lost access to this technology, it risks losing the ongoing high level of growth that has been experienced over the last several decades. Instead of interpreting China's monopolistic actions regarding REEs as a struggle for power, it should be seen rather as a type of self-defense and security for self-preservation. Their international power and influence, while significantly greater than in the past, has not been secured nor established for the long run. The control China possesses over the REE industry represents a method of acquiring international significance and influence that could facilitate China's smooth transition into developed country status.

Liberals have a different understanding and expectation of our relationship with China. They realize that China does not act in a vacuum; some of the burden and responsibility lays on the US, other countries, and a multitude of international institutions as well. If the rest of the world is unwilling to open negotiations with and allow China to participate in our global system, than China will rebel against it. We have accomplished much, thus far, in incorporating China into the system, as both China and the rest of the world have

seen growth and the potential development that could come from international agreement and cooperation.

## Constraints

The economic liberal/liberal institutionalist perspective best describes China's actions surrounding the rare earth debate. Further evidence for the perspective that China is not trying to upset the current international system of norms is provided by the fact that China is faced with a series of political and economic constraints. These constraints prevent China from acting without consideration of the repercussions and responses by the rest of the world. These constraints act as a buffer, providing a sense of protection for the US and the rest of the world from China's potential monopolistic desires. These also in turn help China ensure that its ability to reap maximum benefits of its investments.

With globalization, it is very difficult for countries to compete in the international market without the protections, economic opportunities, collaborations, and influences that are inherent with belonging to the global system. China is no different. China needs global growth and access to global markets to enable its progression towards such a goal. Only through cooperation, negotiation, and less mercantilist ideals can China expect to attract foreign companies and countries. China desires to attract more foreign direct investment (FDI), either in the form of capital investments or even new technology. The Chinese leadership cannot expect to entice foreign firms if suspicion of unfair trade practices that could potentially hurt these interested businesses is prevalent. For this reason, it is imperative that China maintains a trustworthy and decent reputation in the global realm. This cannot be accomplished if China shows signs of desiring to overthrow our established international institutional system.

From the political perspective, China would face severe repercussions if the leadership decided to employ "unfair" trade practices. As noted above, the US, EU and Japan have already filed a complaint through the WTO. To take it one step further, the US and Japan could collaboratively pressure China by applying sanctions or other forms of coercion to force them to reopen borders. China's main interests involve rapid economic growth. China's dependence on other countries for many of its economic needs leads one to conclude that the last thing China would do is provoke unwanted volatility in the global economy, which could damage global welfare (Karapinar, 2011: 405). However, in addition to provoking other countries, China should be concerned with upsetting the balance of the rare earth market itself. One such example of how China could affect the market is through price volatility. As we have seen, the price of several rare earths has increased by over 1000%. If China were to cause price inflation, the net importing countries would feel the brunt of the effects. Not only would this "undermine the confidence in the multilateral trading system," but also China's dependence on "export-oriented growth" relies on "maintaining the stability and the predictability of the multilateral trading system [in] the interest of China's long-term prosperity (Karapinar, 2011: 405)." Obviously, these scenarios would only be used as final solutions, as they could generate drastic and severe responses from both sides. We have already seen extreme price volatility in the REE market, which only led to a decrease in profits for China. For these reasons, the WTO was sought out by the US, the EU and Japan and became involved as soon as possible.

Economic constraints also ensure that China plays by the rules. Already, Japan has developed processes to recycle many of their electronics to conserve their rare earth supplies. Since 2010, when prices of rare earth metals began to skyrocket, it suddenly became economically viable for companies to begin mining for these resources. This merely makes it more difficult for China, considering it forced this competition on itself. Economic liberals such as Dudley Kingsnorth and James Hendrick do not put much weight into China's actions. Their belief is that the rare earth markets are governed not so much from the supply and demand (the supply side consisting of only China until recently), but rather are being driven by scarcity and prices. Because China merely represents a single producer in the market, they believe that given the increase in prices, the market will correct itself as alternatives become profitable. These reactions to China's new policies show that the realist fears, that China is attempting to control and dictate the movements of REEs, are unfounded. China has no more control over the market than the demand side has over the prices.

The Chinese face other constraints, one of which is a lack of military dominance. The Chinese are not in a position to dictate law through the use of military force, mainly due to their global inferiority. The US and its allies have formed coalitions that together could trump any sort of military force China could muster together. Although the Chinese have begun to bolster their defense spending, increasing their budget by as much as 11% by 2012, the Chinese do not have anywhere near the capabilities that the US possesses (Buckley, 2012). If the Chinese were planning on overthrowing the US hegemony, it will be a long time before it could achieve this through sheer military power.

Other economic constraints that China faces are the economic repercussions and unintended consequences of their export restrictions. While China may believe that its current export quotas on rare earth exports is opportune and in their best interest, evidence shows the opposite to be true. Not only have "export restrictions [resulted] in net welfare losses for both the country imposing the export restriction and for the rest of the world by driving a wedge between the domestic and border prices," but additionally, these export restrictions "undermine traders' confidence in the world trading system – as they distort trade and create or aggravate short-term price volatilities (Karapinar, 2011: 391)." If the Chinese should decide to continue altering the natural flow of the market by imposing export quotas, then not only will the rest of the world feel the repercussions, but so will China itself. Evidence has shown that these types of policies have not worked in the best interest of everyone involved, and the case of rare earth metals will be no different.

The Chinese want to continue reaping the benefits that our current international system of institutions offers. China is experiencing a high growth rate and technological advancement, and is now attracting huge amounts of FDI into the country. To achieve sustainability, China understands that it must play by the rules enforced by these institutions. In 2010, the Chinese thought that it could get away with creating an international monopoly on rare earths, but soon realized that the disadvantages outweighed the benefits and began to pull back. Export quotas have not been as low as

previously expected, nor has China been quite as stringent on its policies as anticipated. This informs us that China is aware of these constraints and has acknowledged the fact that the Chinese leadership must work within the global system of norms in order to achieve long lasting economic (and cultural) growth and development.

## Conclusions

The economic liberal perspective has a much clearer understanding of China's actions compared with the realist. The liberal recognizes that China is already ingrained into the international system of institutions, reaping benefits from its involvement, cooperation and adherence. China's transition into the developed world will only evolve from complete acceptance and cooperation within this system. Not only does the global community provide protection, it provides new trade networks and modes of acquiring new technology. China has no clear reason to rebel against this system, and it potentially will gain immensely by working under the international umbrella. Additionally, the Chinese are aware that a number of constraints exist that will inhibit them from acting independently in an adverse manner. From economic to political considerations, China is in no position to overthrow the US hegemony or the affiliated international institutions.

Examination of China's environmental and economic situation, coupled with the public statements justifying these policies supports the concept of the benevolence of China's actions. While we may see the ramifications of China's policies only in regards to how they affect our own economies, we must interpret China's actions from its own standpoint. The heavy environmental damage that China has sustained over the last several decades will take many years to reverse. A new policy was certainly needed to help remedy the situation. The US is also in the midst of trying to reduce its own negative environmental impact. Additionally, China is concerned with attracting more FDI and high value manufacturing to within its borders. This could not be accomplished without the support and protections offered by international institutions and advanced countries. With these environmental concerns in mind, once China realized their new policies were having unintended consequences (in the form of WTO reports, strong opposition from the US, the EU and Japan, and rising commodity prices), its leadership backpedaled and increased export quotas to better accommodate the commodity markets.

China is caught in the awkward position of trying to be responsible for the dilemmas of a developing country, while being expected to follow the rules and regulations of a developed country as it strives to achieve that status. With its higher level of development and different starting point, China cannot be expected or required to adhere to the same policies as the US or the EU. It seems unfair to hold China to these same rules as the "developed" and "powerful" countries, who were permitted some degree of flexibility because these regulations were nonexistent at the time these countries went through similar phases of economic development. The 'international norms' were established by the developed countries only after achieving status as world leaders, and appear in part to be protecting self-interests. For this reason, China's actions can be interpreted as reactionary to this system that favors the developed over the lesser developed. This explains why China will not challenge the US hegemony or the international system of institutions. Instead, China hopes to make the system more fair and balanced for countries that are attempting to evolve from "developing" to "developed" status. This could be accomplished by working with, adhering to and cooperating with the current system of international institutions. If China is unsatisfied

with current policies, it should have the ability to work within the rules of the systems to help develop new policies to improve the world economy and global relations.

Rare earths will play an increasing role in advancing the technology sector. China's current dominance and virtual monopoly in the rare earth market has forced other countries to seek alternative sources of these elements. China's future global relations therefore depend on whether China can work together with the international community or it continues to act in a monopolistic manner. By restricting export of these valuable resources, China has triggered international debates on its ability and desire to work as a partner.

In an effort to maintain domestic integrity and strength, China is unlikely to decide to rescind from its REE policies of tariffs and export restrictions. However, China is interested in adhering to the international norms set forth by our institutions. The Chinese leadership realizes that if they wish to control their own production of rare earth minerals to establish a strong and innovative technological sector, they must allow the world to work in the free market to develop alternatives to the Chinese sources. By maintaining the current stance and not opening its borders, and by not beginning to heavily subsidize their markets to promote monopolization of the global market, China ensures that the rest of the world feels secure in their access to these precious resources. This allows both a balance in the REE market and shows that China is committed to working in cooperation with our system of international institutions.

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