THE NATURAL RESOURCE CURSE: CASE OF MONGOLIA

By

Bardorj Bolortsetseg

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
for the degree of

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ABSTRACT

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Natural resource rich countries have the tendency to grow less than resource poor countries. Some mineral rich countries in Africa such as Nigeria, Sudan, Angola and the Congo are still less developed: their people live with a low standard of life and are still suffering from poverty. Mean while, other East Asian mineral resource poor countries such as Hong Kong, Thailand, South Korea and Japan are developing rapidly. They have achieved western-level standards of live. The reasons of lover development are the negative impacts of the natural resource curse and a lack of management for mitigating it.

The study undertakes empirical evidences to explore the impacts of the natural resource curse. Within an analytical framework based on a literature review on the natural resource curse, the study provides further empirical support to the impacts of the natural resource curse in Mongolia using technical data. Based on a Chilean experiment on how to combat against the natural resource curse, the findings of the study state some suggestions on mitigating negative effects.

ACKNOWLEDGEMENT

I would like to thank everyone who supported and encouraged me while I was working on my thesis. I am most grateful to my professors Lee, Seung- Joo and Lee, Jinsoo for providing me with enough support and knowledge to complete my work. Without their advice I would not have been able to finish it and I will never forget their contribution. I would like to acknowledge the financial, academic and technical support of the Academic Affairs staff of the Korean Development School. Also, a big thanks goes out to my colleagues who graduated in 2010 for their encouragement and support was very valuable to my success.

This thesis is dedicated to my family, who has always been a huge encouragement and support; especially I am very thankful for my husband and my children's support.

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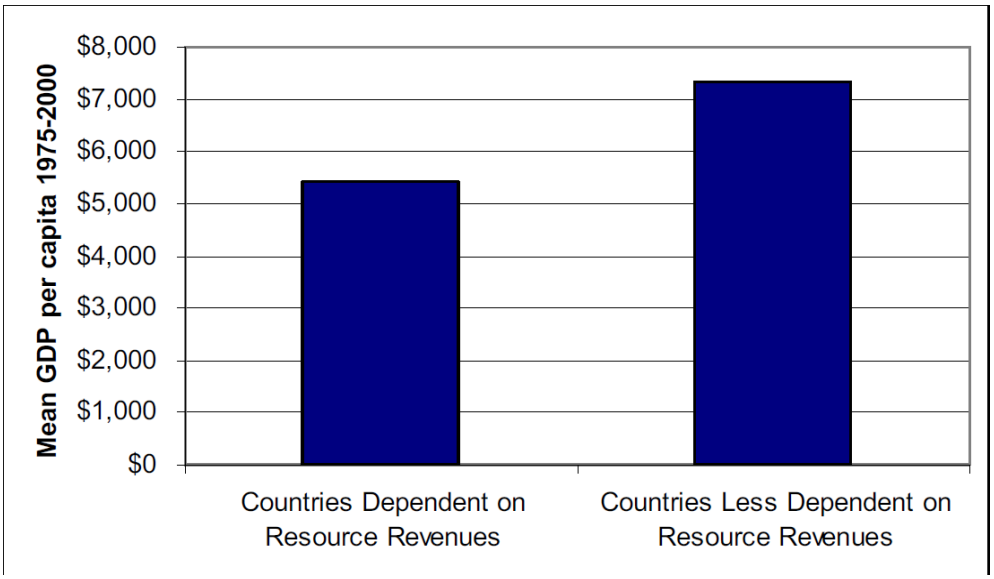
1. INTRODUCTION

1.1 Background

Countries with natural resource rich countries have failed to develop rapidly rather than countries without natural resource (Figure1).

Figure1. GDP comparison of resource wealth countries and resource scarce countries



Natural resource curse phenomena is controversial current issue in Mongolia, because it has extensive mineral resources which are considered large part of industrial production: copper, gold, coal, molybdenum, tin, tungsten (Appendix A) and Government of Mongolia (GOM) has been implemented the policy to achieve development by exploiting and using mineral resources. The negative effects of having abundant natural resource are long-term trends world commodity price, volatility, crowding out manufacturing, civil war, poor institutions and the Dutch disease (Frankel. 2010). The Mongolian mineral sector provides 20.3% of the country's GDP, accounting for 65.4% of the country's industrial output and 42.7% of its export revenue. Even Mongolia has an extensive mineral resource; it has poor infrastructure and stagnant Government Institution.

Today, Mongolia confronts these curse symptoms and particular difficult challenges to avoid natural resource curse by managing wisely mineral resource revenue: GOM needs to confirm that this abundant natural resource could lead Mongolia to development. This paper explores some empirical evidences that natural resource curse in Mongolia and the Chilean applicable model how to achieve development by using mineral resource and avoid natural resource curse.

1.2 Research question

The particular research questions outlined for this study as follows:

- What is natural resource curse?
- What are the negative effects of natural resource abundance?
- Can Mongolia achieve to development growth by using natural resource?
- What did Chilean government do against natural resource curse?
- How effective is the current policy against natural resource curse in Mongolia?
- What economic and financial leverages Mongolian government should implicate for mitigating natural resource curse?

1.3 Research methodology

This study employs variety of research methodology such as collecting and analyzing primary and secondary data, generalizing information and comparison methodology. Also case study is important part of this thesis.

2. LITERATURE REVIEW

It has been observed for some decades that the possession of oil, natural gas, or other valuable mineral deposits or natural resources does not necessarily confer economic growth. Auty (2001) is apparently the one who coined the phrase "natural resource curse" to describe this puzzling phenomenon. Its use spread rapidly.[i] There are many research and studies which stated that countries with abundant natural resource have more tended to grow less rapidly rather than natural resource scarce countries. In the seventeenth century, resource poor Netherlands eclipsed Spain, despite the overflow of gold and silver from the Spanish colonies in the New World. In the nineteenth and the centuries resource poor countries such as Switzerland and Japan surged ahead of resource abundant economies such as Russia. In the past thirty years, the world's star performers have been the resource poor Newly Industrializing Economies of East. Raul Prebish and Hans Singer argued that resource based economy growth would be ineffective because the world prices of primary exports relative to manufactures show a deep tendency toward secular decline. Closely related views held that world demand for manufacturers would grow faster than demand for primary products or that the rich countries would be more protectionists against primary imports than manufacturing imports .(Perbish and Singer.)

Another set of possibilities is strictly economic, drawing upon the ideas widespread in the development literature in the 1940 s and 50 s and in the Dutch disease models more recently. In the Dutch disease model, the economy has three sectors: a tradable natural resource sector, a tradable (non resource) manufacturing sector, and a non-traded sector. The greater the natural resource endowment, the higher is the demand for non tradable goods, and consequently, the smaller will be the allocation of labor and capital to the manufacturing

sector. Therefore , when natural resources are abundant, tradable production is concentrated

in natural resources rather than manufacturing, and capital and labor that otherwise might be employed in manufacturing are pulled into the non- traded goods sector (D.Sachs et al.).

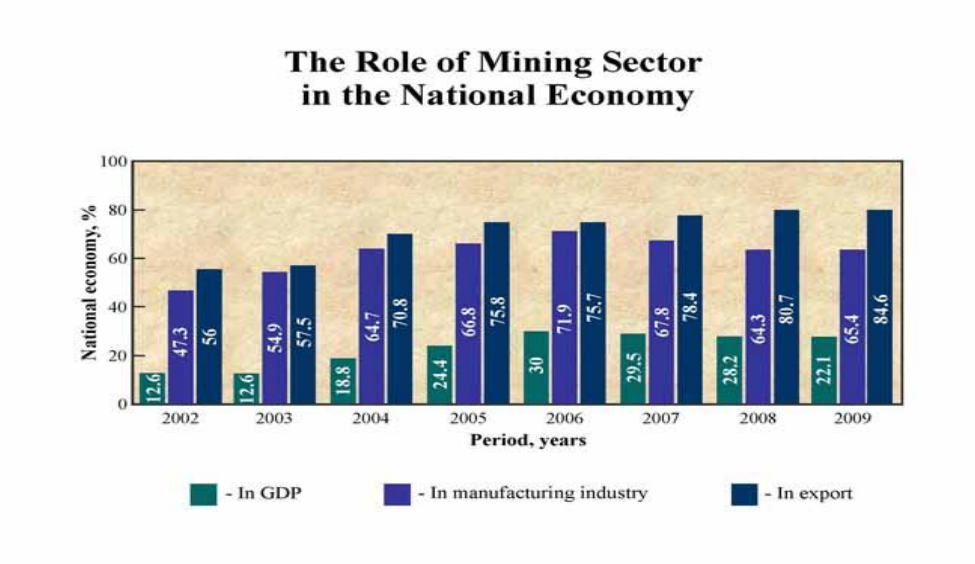
Further, Thorvaldur Gylfason (2001) stated about five possible channels of transmission from natural resource abundance to sluggish to economic growth. First, natural resource boom and the associated surge in raw-material exports tend to drive up the value of the domestic currency in real terms, and perhaps also increase exchange rate volatility and wages, with the result that exports may stagnate or even fall relative to GDP, or may become biased away from manufacturing and services. Second, huge natural resource rent may lead to rampant rent seeking behavior on the part of the producers. There is much possibility that it can occur where imperfect or missing markets, lax of legal structure in many developing countries and emerging markets. Third, natural resource abundance may reduce private and public incentives to accumulate human capital due to a high level of non-wage income – e.g., dividends, social spending, and low taxes. Fourth, and this point is closely related to the preceding one, abundant natural resources may imbue people with a false sense of security and lead governments to lose sight of the need for good and growth-friendly economic management, including free trade, bureaucratic efficiency, and institutional quality. Fifth, natural resource abundance may blunt private and public incentives to save and invest and thereby reduce economic growth. Specifically, when the share of output that accrues to the owners of natural resources rises, the demand for capital falls, and this leads to lower real interest rates and less rapid growth[ii].

3. THE IMPACTS OF NATURAL RESOURCE CURSE

3.1 GDP Dependency on World market price

Erika Weinthal and Pauline Jones Luong indicated that mineral wealth countries' reliance on mineral exports (measured as a percentage of GDP) led them to the more slowly economic growth. From 1960-1990, GDP per capita in mineral rich countries increased 1.7 percent compared to 2.5-3.5 percent in mineral poor countries; similarly, from 1970-1993, mineral rich countries grew by only 0.8 percent PCGDP compared to 2.1-3.7 percent in mineral poor countries.[iii] Frankel. J stated that "Large countries have some control over the price at which they can sell exports on world markets, especially if the exports are manufactured goods or services. Developing countries, by contrast, tend to be smaller economically than major industrialized countries, and more likely to specialize in the exports of basic commodities like oil and other minerals. As a result, they are more likely to fit the small open economy model: they can be regarded as price-takers, not just for their import goods, but for their export goods as well. That is, the prices of their tradable goods are generally taken as given on world markets".[iv] Mongolia is developing and small country; therefore, it cannot control export and import commodity price. As a result, Mongolia tends to be specializing in the exports of mining product, especially copper. Mining sector is the main driver for the Mongolian economy (Figure 2). Therefore, mining export takes big percentage in export and GDP (Figure 3, 4).

Figure 2



The source: www.mram.gov.mn

Figure3. Mining sector export of Mongolia

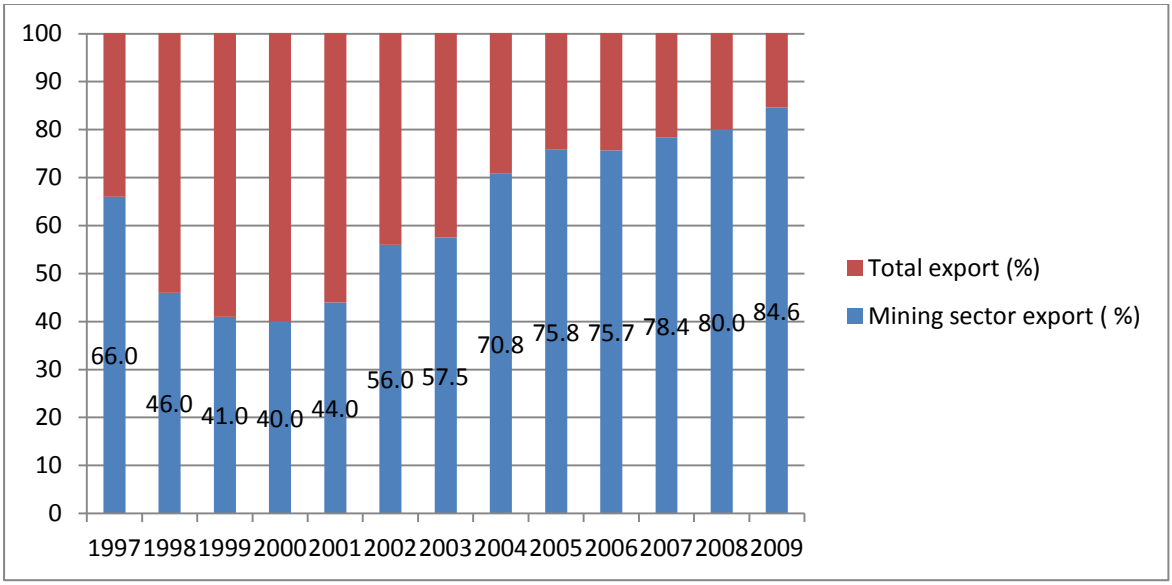
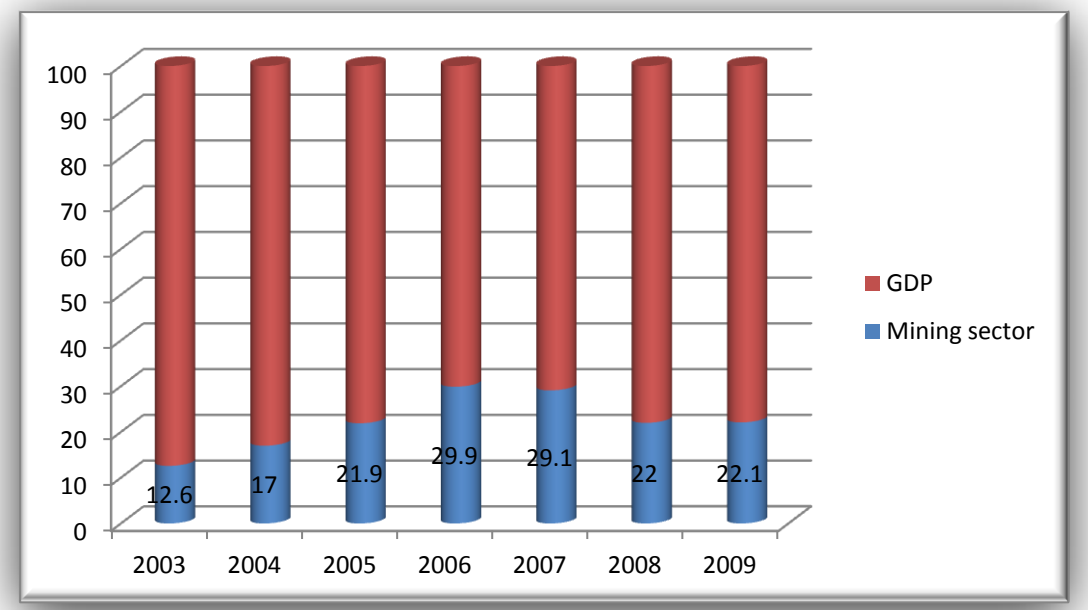


Figure4. The percentage of Mining sector in GDP



The source: www.mram.gov.mn

Since, "Erdenet Mining Corporation", which is established in accordance with an agreement between governments of Mongolia and (former) Soviet Union, copper has been the major export commodity and has played important role in Mongolian economy. EMC is a Mongolian-Russian joint venture: 51.0 percent of shares are owned by the State Property Committee of Mongolian Government and the Russian Government owns 49.0 percent of shares. At present, it is large complex processing 25 million tons of ore per year and producing over 530.0 thousand tons of copper concentrate and 3.0 thousand tons of molybdenum concentrates annually. Erdenet Mining Corporation is one of the largest taxpayer because the company itself pays income tax around 50-60 percent of total budget to the tax authority.[v] Mongolian GDP has been depending on copper world market price since Erdenet mining was established and operated.

In 2009 Mongolian Government has reached an investment agreement to exploit Oyu tolgoi copper deposit with Ivanhoe Mines and Rio Tinto: GOM estimates that will produce USD 30 billion in revenue. Oyu Tolgoi LLC, is Mongolia's largest copper and gold mining company, which will build and operate the Oyu Tolgoi copper-gold project in Southern Mongolia. It is scheduled to begin commercial production in 2013.[vi] GOM's economic achievement is that specialize mineral product, remarkably copper in the export commodity, however, for small and developing countries taking price is rigorous, for instance, Mongolia's economic growth is totally dependent on copper price in world market. If price takers keep prices high, Mongolia's revenue collection increases. If they suddenly go down – and unpredictability is a feature of every market – the state budget may very well find it has too many empty corners. Erika Weinthal and Pauline Jones Luong also stated that mineral exporters are more likely to incur greater debt, even as world prices soared, and thus forced to commit a significant percentage of their shrinking GDP to debt servicing (Lewis 1984). Mongolia has faced this problem, during 2001-2004, the price of copper had been increased dramatically on world market, at this time Mongolian GDP has increased follow by world market price. In 2005, the price of copper decreased and Mongolian GDP decreased simultaneously. Since 2006, copper price on world market has been increased again and in 2007 Mongolian GDP has reached the highest point ever been (Figure 5). This fluctuation has happened in 2009 again, the copper price was 3060 on world market and GDP of Mongolia has reached the lowest point (Figure 6). Unpredictable revenue flows because widely fluctuating export revenues lead to fluctuating levels in overall government revenues.[vii]

Fluctuation GDP and world market copper price causes the instability of State budget (Figure 7).

The incredible increase of the price of copper in the world market was a bonanza for the national coffers and turned the state budget in the following years into an immense cake waiting to be cut and distributed. In 2005, 2006, 2007 copper price was hit the highest point on world market, simultaneously, there was a positive effect on Mongolian budget, there was a surplus during 2005, 2006, 2007. Surprisingly, Mongolian parliament adopted a windfall profits tax law in May 2006 levying 68 percent tax on the export price of copper and gold if these metals sold for more than US$2,600 and US$500 unit price respectively in the world market.[viii] As a result of this new tax policy, GOM has lost its reputation of political stability among other countries and foreign investors.

Figure 5.

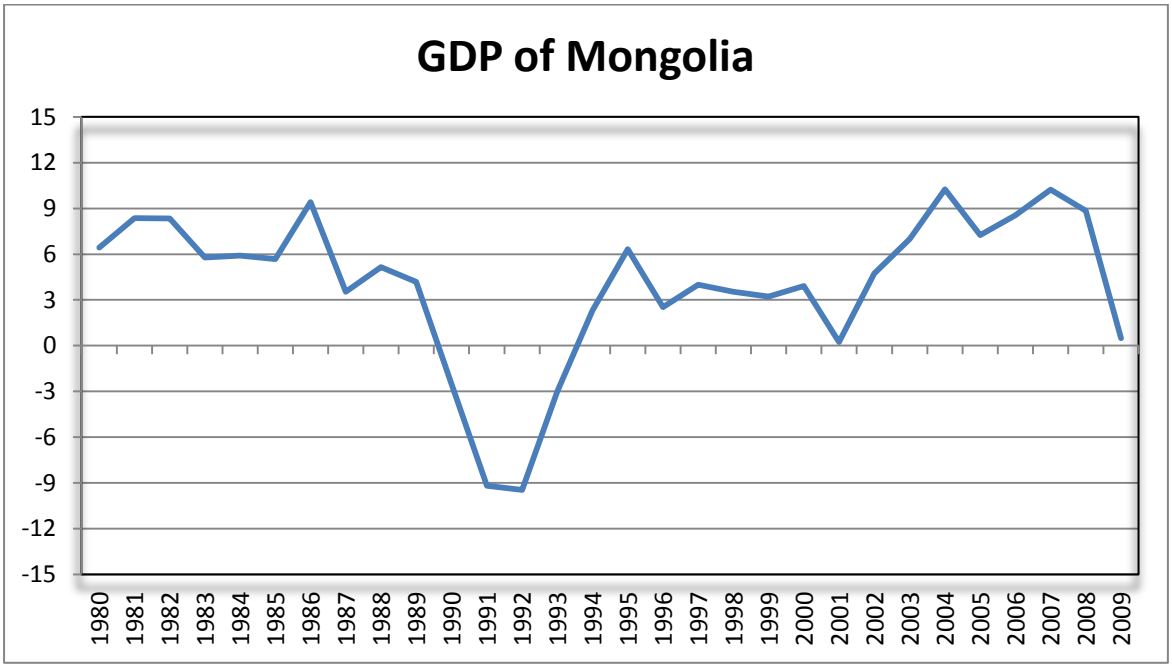


Figure 6. The world market copper price

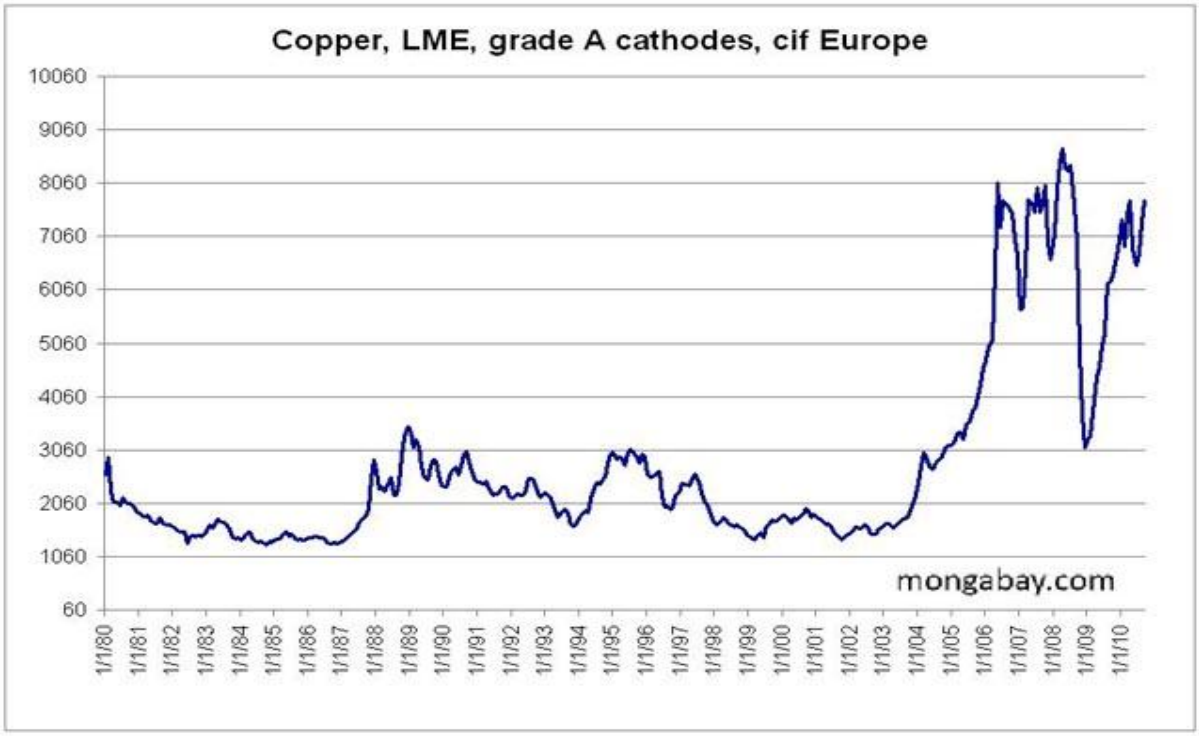
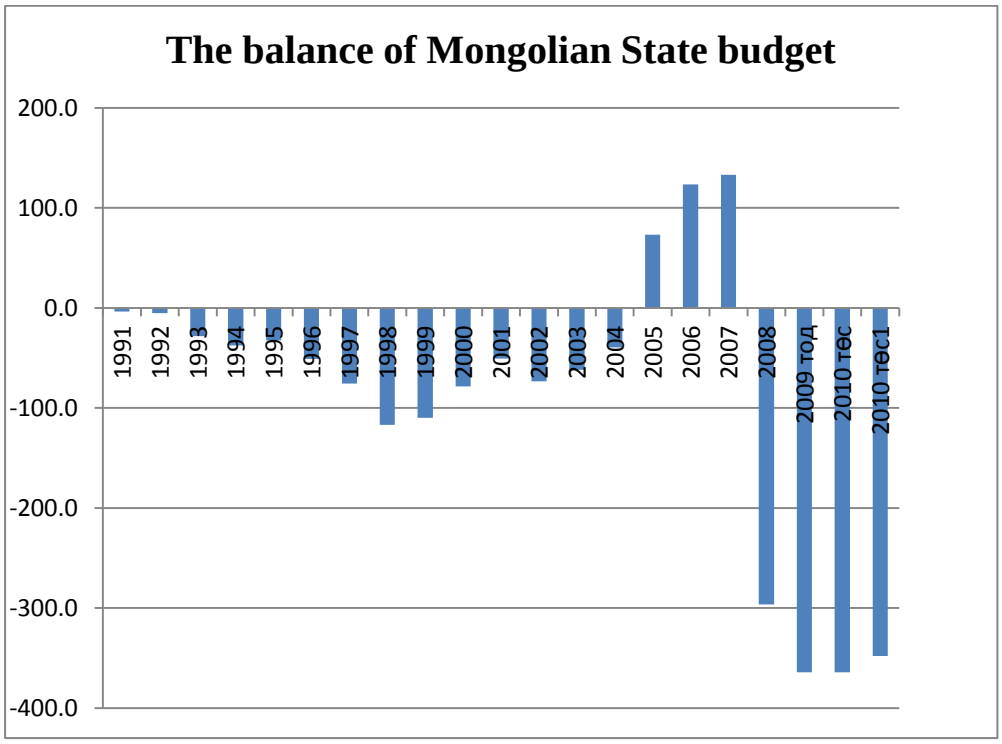


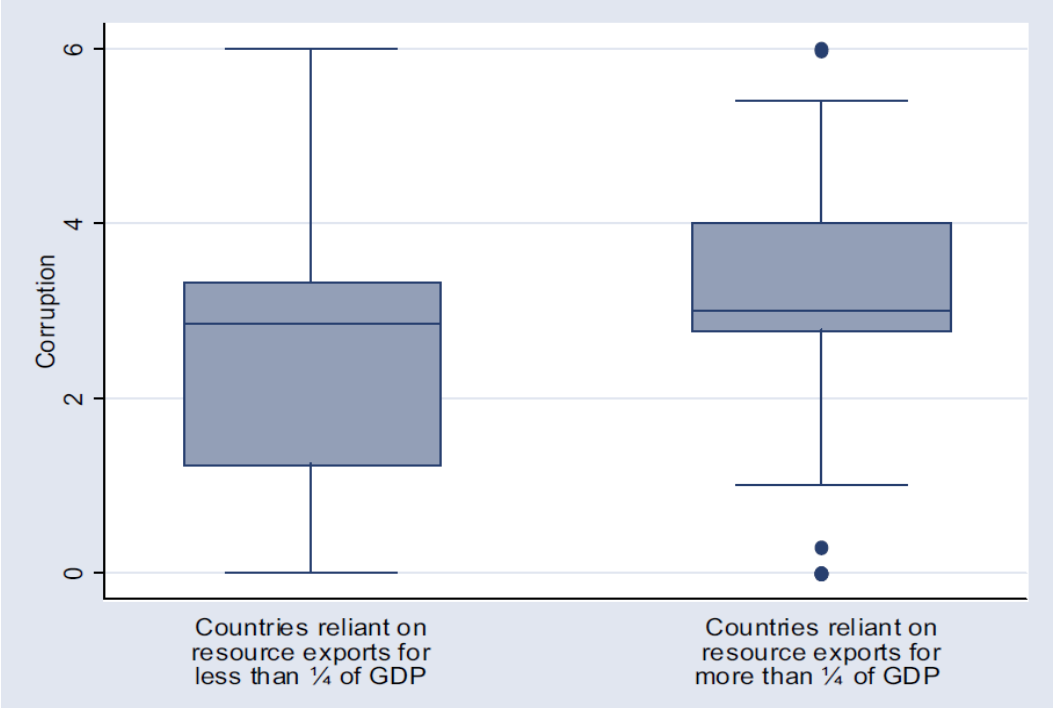
Figure 7



3.2 Bureaucracy and poor institution

Mineral wealth is strongly correlated with poor governance and high levels of corruption. According to World Bank Governance Research Indicators and the Transparency International's Corruption Perception Index, mineral rich countries ranked at the bottom of the list among countries (CPI).[ix] The quality of governance and government institution is the most prominent trend of economic development and fundamental factor that which country economy performance good and which do not. Rodrik, Subramanian, and Trebbi (2002) use as their measure of institutional quality an indicator of the rule of law and protection of property rights (taken from Kaufmann, Kraay and Zoido-Lobaton, 2002). Acemoglu, Johnson, and Robinson (2001) use a measure of expropriation risk to investors. Acemoglu, Johnson, Robinson, and Thaicharoen (2003) measure the quality of a country's "cluster of institutions" by the extent of constraints on the executive. The theory is that weak institutions lead to inequality, intermittent dictatorship, and lack of any constraints to prevent elites and politicians from plundering the country.[x] Of the various possible channels through which natural resources could be a curse to long-run development, the quality of institutions and governance is perhaps the most widely hypothesized (Frankel J, 2010). Other research and papers indicated that poor institution and governance is the major problem of poor development of mineral rich countries. For example: Hodler (2006) and Caselli (2006), Leite and Weidmann (1999) found and stated about how poor institutions reflected natural resource curse. In accordance with Amber's research, countries reliant on natural resource tend to have weaker governance and institutions. While this correlations are not strong, countries whose resource export account for more than 15% of GDP score significantly worse in terms of corruption, civil liberties, political rights and democracy.

Figure 8 Comparison of corruption level



Amber explains Figure 8 that the weak relationship between resource wealth and governance could be interpreted as supporting the criticism of resource dependence as a measure of natural resources. If countries are dependent on these revenues because they fail to institute policies protecting the economy and institutions against the detrimental impacts of rent-seeking, if countries with weak institutions tend to have weak economies that result in reliance on resource revenues, or if those in power in countries with weak institutions choose to retain political control by promoting reliance on the resource sector, these findings would make sense: we would expect countries dependent on resources to also have weak governance and would expect resource wealth to have a weaker relationship with governance.

According to the final report of project "Public Monitoring of corruption in the Mongolian mining sector" the rapid expansion of mining sector has increasingly become a major source of corruption (WWF, Mongolia Program office). Mongolia has ranked 120th

out of 180 countries by corruption estimation of Transparency International to identify where

corruption blocks good governance and accountability, in order to break its corrosive cycle (Transparency International, 2009). Mining boom in Mongolia is one of the major derivation of corruption which main indicator of good governance. This poor institution's symptoms of natural resource curse have happened among Mongolian Political circumstances.

In 2008, the state budget showed a surplus, for the first time ever, thanks to the substantial increase in the international price of copper. The end of 2007 Mongolian parliament discussed the shape of next year's state budget and drawing up the framework of Mongolia's socio-economic growth until 2008. Instead of debating issues from a broad national standpoint, the members of parliament however seem more inclined to spend the money on a social awards system that they promised to institute when campaigning for the parliamentary election of 2004. They have already decided to give Tg100, 000 annually to every child under the age of 18. In their wisdom, politicians thus have turned the surplus funds into giveaways. This will certainly earn them good publicity, but the fund which was established by GOM to allocate the revenue actually not meant to be used for creating jobs in a national effort to reduce unemployment and poverty, or for improving the infrastructure in various sectors. Many analysts have sharply criticized our legislators for scattering public money in all directions. Furthermore, members of the ruling coalition as well as some opposition MPs supported a move to allocate Tg250 million to every electoral district of parliament under the name of "investing in the rural population". The Democratic Party strongly condemned this proposal, saying it would destroy the basic principles of a democratic election. Analysts have called this move "legalized corruption". A true welfare state does not give cash handouts to sections of society, but instead uses up the nation's

resources equitably to set up a socio-economic structure where such handouts will become redundant.

3.3 Dutch disease in Mongolia

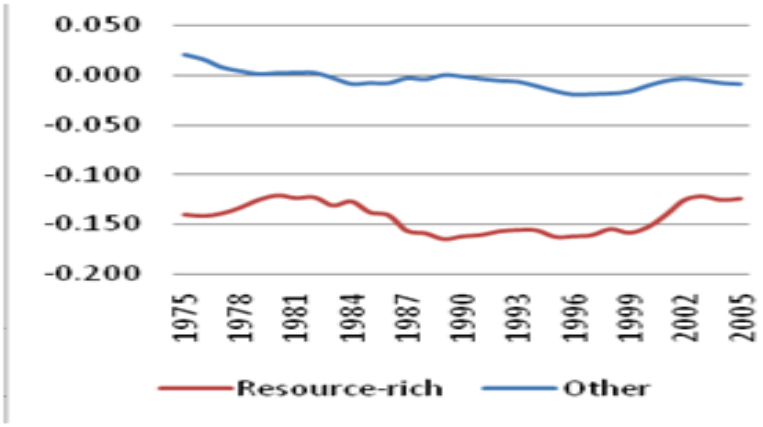
The Economist magazine defined that "The Dutch Disease refers to some possibly unpleasant side effects of a boom in oil or other mineral and agricultural commodities". The Dutch Disease can arise from commodity booms due to the discovery of new deposits or some other expansion in supply, leading to a trade surplus via exports or a capital account surplus via inward investment to develop the new resource.[xi] International economists use the term to explain the deindustrialization of a nation's economy that occurs when the discovery of a natural resource raises the value of that nation's currency, making manufactured goods less competitive with other nations, increasing imports and decreasing exports. The term originated in the Netherlands after discovery of North Sea gas. In the early 1960s, when the North Sea gas reserves were discovered, the Dutch economy was provided with a relatively cheap and reliable source of energy for its domestic needs, while the reduction of oil imports and the export of the gas contributed to a positive international trade balance. The enormous rise in revenues meant the Dutch were able to set up and sustain a generous welfare state. However, with the newfound wealth causing the Dutch guilder to rise in value, the country's exports of manufactured goods suffered in the harshly competitive world market. In the 1970s, the same thing befell the British economy. With the exploration of oil off the coast of Scotland, Britain became an overall exporter of oil while it had previously been a net importer. The pound soared in value, but the country fell into recession when British workers demanded higher wages and exports became uncompetitive. Generally, all resource rich

countries tend to be less developing rather than resource poor countries, therefore there is

evidence that resource rich countries have more Dutch disease (Figure 9).

Some politicians and economists seriously criticize about Dutch disease in Mongolia, which the cause of booming FDI in mining sector since 2000. They argue that we could see several symptoms of Dutch disease in Mongolia.

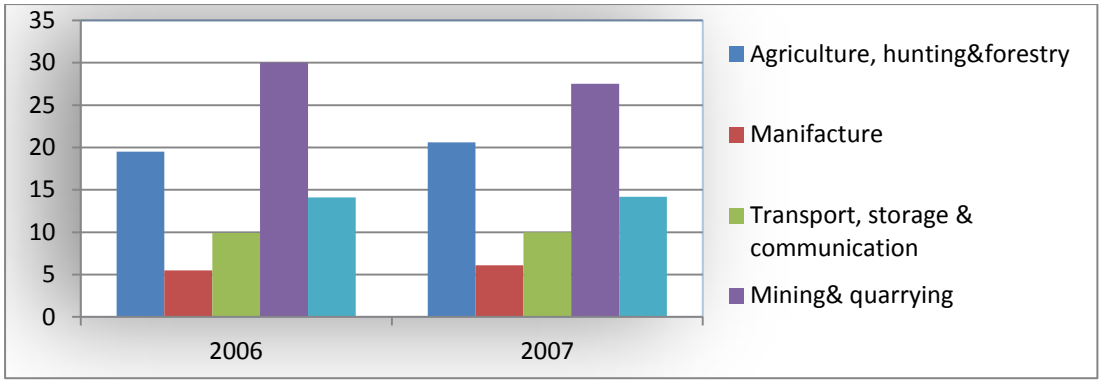
Figure 9. Dutch disease measure for resource rich and other countries



Source: Chenery and Syrquin (1975)

Mongolia's economy is in same situation of Dutch disease. Complacency with mineral prices is encouraging us to concentrate on mining exploitation, and the national manufacturing sector is becoming less and less competitive. The mining sector grew at more than double the rate of the country's average economic growth in 2002-2005. In the same period the manufacturing sector grew by 19 percent in 2002, showed no growth in 2003, and then declined by 24.1 percent in 2004, according to official statistics (Figure 10).

Figure 10 The comparison the Mining sector and other sectors



Source: National Statistic Office of Mongolia

Table1. Manufacturing sector's vulnerability

Resource extraction	Manufacturing
Capital intense	Not capital intense Labor intense
Large returns to scale	Smaller returns to scale
Doe not catalyze human capital development	Catalyzes development of human capital
Because external actors import the technology to extract most minerals and fuels, doe not catalyze technological progress	Catalyzes technological progress
Assets highly specific	Assets less specific
High barriers to entry	Low barriers to entry
Few connections to other sectors of the economy	Connected to upstream and downstream sectors

Employment, human capital and innovation are underscored as important benefits of the manufacturing sector (Table 1). For manufacturing sector human capital and labor force is important, in opposite for extractive industry the same is not necessary true. In fact, capital intensity of the extractive sector may crowd out demand for domestic labor, particularly since it is often dominated by foreign investment and transnational corporations (Ross 2003). The lower labor demand, and thus lower wages, in resource centric economies leads to reduced incentive for individuals to seek education. Mongolia is in the same condition that Dutch

disease has occurred on labor force too. More and more Mongolians are working for foreign-invested mining companies than in the national manufacturing sector. In the last three years, the number of workers in the minerals sector has gone up by around 10,000 people while the manufacturing sector suffers from a lack of manpower. The reason of labor force shift to mining sector is relatively high income comparing to other manufacturing sector.

4. CHILE IS COMBATING AGAINST NATURAL RESOURCE CURSE

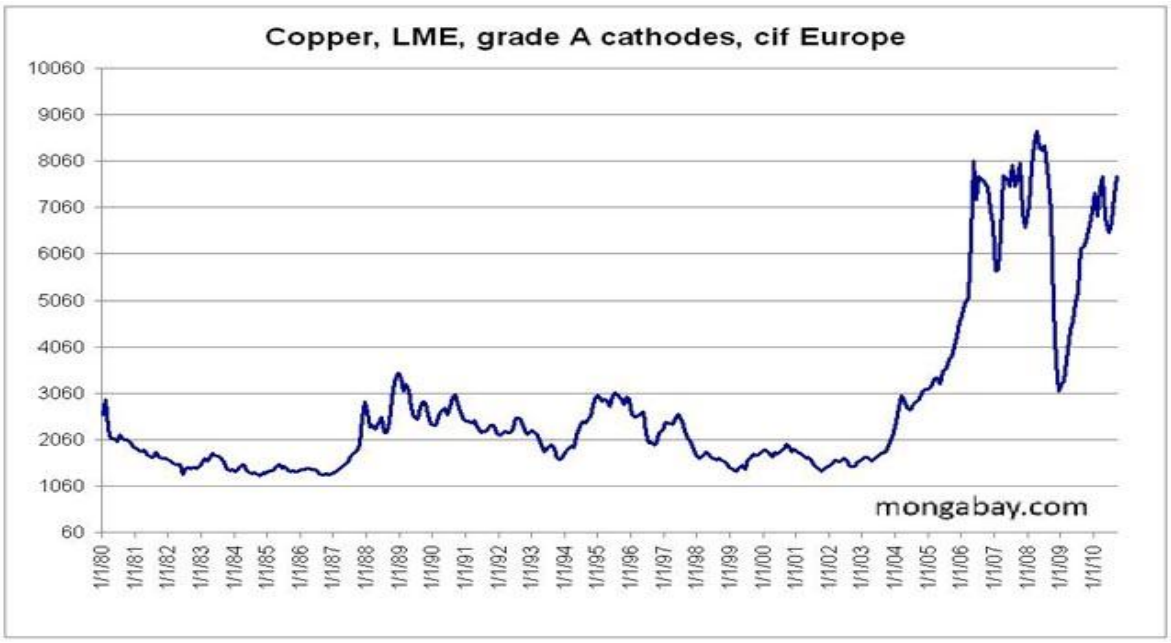
Chile is a country in east America and it is the largest copper producer country in the world, supplying 43 percent of world copper exports. Therefore, Chilean Government also face the challenges how to allocate this big revenues from export of copper. Some related questions this case study cites are: How is the Chilean Government managing this boom in copper revenues? How have this rising price effected the non-copper sectors? How have the fiscal rule and the stabilization fund for copper helped to manage these revenues? How Chile combat natural resource curse?

According to Alex A. Ruehle and Kishore G. Kulkarni stated that Chilean economy is not really affected by the negative effect of natural resource curse by using regression analysis.

Copper is the major top commodity product and in 2000 copper accounted 40.5% of export earnings and 25 % of GDP. In the decade leading up to 2000, when the country's GDP grew by an annual 7% making it one of the world's fastest-growing economies mining accounted for 8.5% of Chile's GDP and 47% of exports. In 1973, copper alone accounted for 80% of foreign exchange; the government has since implemented a policy of export diversification. Demand for copper remained strong, and exports in 2000 earned $7.3 billion, up from $5.9 billion in 1999. The mineral industry employed 46,150 in 2000, or 2% of the

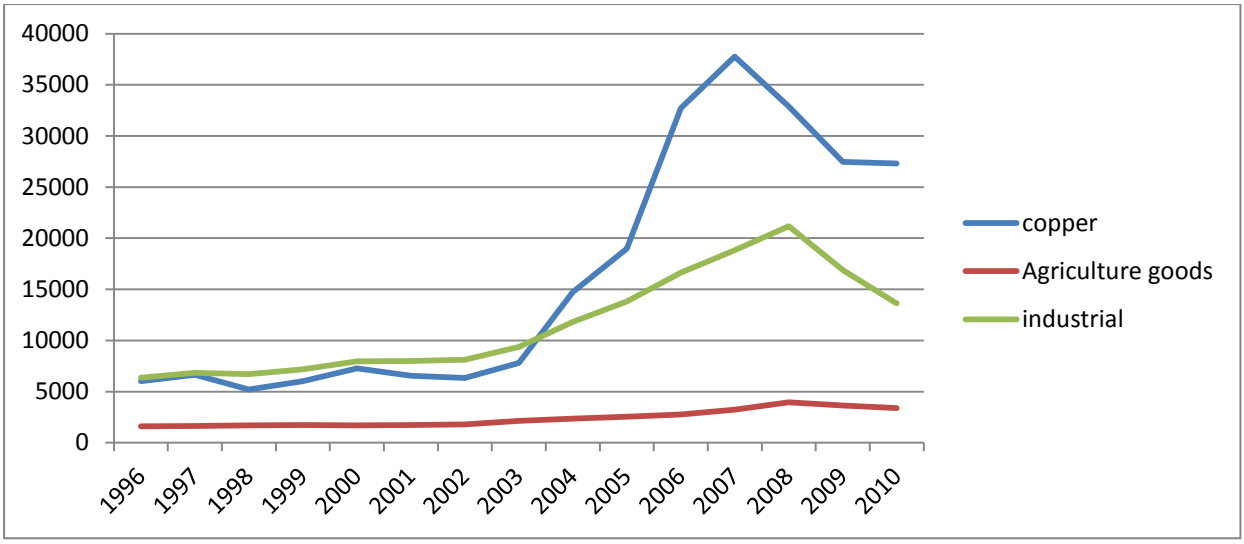
labor force, with 38,034 workers in the metals sector 31,849 in copper mining and 5,313 miners in the industrial minerals sector. During the 1990s, investment in mining activities accounted for 34.9% of foreign investment in Chile. In 2000, investment totaled $1.36 billion, and it was expected to reach $1.94 billion in 2001, owing to a number of expansion projects. Copper output totaled 4.6 million tons in 2000, 4.8% above the 1999 level and up from 3.1 million in 1996—2000 saw a significant recovery in the price of copper and a strong drop in metal stocks.[xii] During 2003-2007, copper price has increased eight-fold (Figure 11). This copper price increase could be expected the boost of export to the copper industry.

Figure11. The world market copper price



This is can be observed in next Figure, which shows comparison of Chilean copper export volume, the agricultural goods export volume, and the industrial manufacturing exports (Figure 12).

Figure 12. The Chilean copper, agriculture and industrial goods



Alex A. Ruehe and Kishore G proved that Chilean economy is not really affected by Dutch disease, in other word Chilean Government carried out policy successfully against natural resource curse. Alex A. Ruehe and Kishore G. Kulkarni compared before copper booming Chilean economy and after booming economy by analyzing Correlation matrix of key Chilean economic sectors (Table 2).

Table 2 . Correlation matrix of key Chilean economic sectors (1997-2001)[xiii]

	Agricultural production	Copper mining	Total manufacturing	Construction	Public administration
Agricultural production	1.000				
Copper mining	.172	1.000			
Total manufacturing	-3.37	.317	1.000		
Construction	.071	-.460	-.005	1.000	
Public administration	0.59	.947	.480	-.380	1.000

This table shows that before copper booming, copper mining correlates strongly only with public administration, the reason is that in fact, 10% of government revenues are directly attributable to the copper industry.[xiv]

Table 3 shows that during copper booming period copper mining, construction, manufacturing and public administration industries became strongly correlated. Agricultural production, however, remained uncorrelated with copper or any other economic activity, maybe the result of seasonality of agricultural production. The important fact that manufacturing sector performed well during this period. The strong correlation between manufacturing and mining sectors indicated that de-industrialization did not take place.[xv] This means that Chile has not been suffering of negative effects from its booming copper industry.

Table 3. Correlation matrix of key Chilean economic sectors (2001-2006)[xvi]

	Agricultural production	Copper mining	Total manufacturing	Construction	Public administration
Agricultural production	1.000				
Copper mining	-3.14	1.000			
Total manufacturing	.062	.648	1.000		
Construction	.222	.601	.734	1.000	
Public administration	.160	.539	.937	.845	1.000

Besides Alex A. Ruehe and Kishore G's research, there is a bunch of empirical data which indicate that Chilean Government's monetary and fiscal policy was efficient against Dutch disease. The robust copper price boom of the last three years has put the fiscal

framework to the test. Due to continued adherence to the structural budget surplus rule, which was maintained by the current administration upon taking office in March 2006, the consolidated (central government and central bank) budget surplus rose to nearly 8% of GDP in 2006 (Ministry of Finance, 2006a). Consistently, the gross consolidated public debt-to-GDP ratio came down to less than 25% of GDP at end-2006 as a result of several years of robust fiscal performance. Owing to this reduction in gross indebtedness, coupled with a further accumulation of assets during 2006, the consolidated net debt is now negative. The level of indebtedness of the public-enterprise sector is also declining gradually to around 5.5% of GDP on a net basis at end-2006, as is the stock of publicly guaranteed debt (about 1.5% of GDP at end-2006) and recognition bonds (about 12% of GDP at end-2006) associated with the pension reform of the early 1980s (discussed in the *2005 Survey*; OECD, 2005).

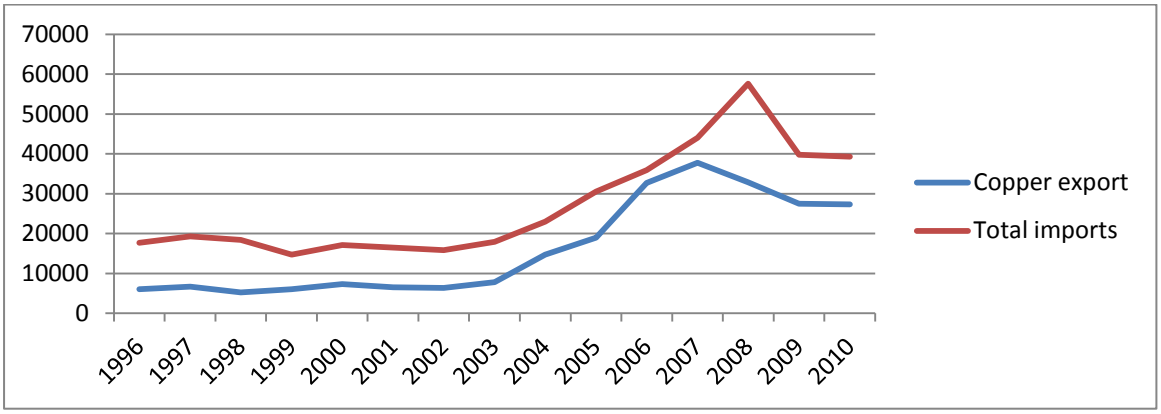
1. Recent Policy actions

The enactment of the Fiscal Responsibility Law in September in 2006 was the most important step. The FRL embeds the structural budget surplus rule in law and introduces explicit formal mechanisms for capitalizing the central bank and for dealing with pension-related contingencies, as recommended in the OECD (2005). At the same time, the methodology for calculating the structural budget surplus target was adjusted to include revenue from molybdenum – a copper derivative that Chile exports in large amounts and whose price has been volatile in international markets, thereby affecting public finances – and those accruing from the taxation of privately-owned mining companies [xvii]. This fiscal responsibility legislation was introduced OECD area and Latin American countries as an integral part of institutional reform in the fiscal area. Furthermore, Chilean Government used some fiscal discipline in the face of rising tax revenues and copper royalties.

At the same time booming copper export, Chilean Government has decided to diversify its export commodity. Chile's positioning and response is consistent with IMF advice: "policymakers need to manage the inevitable structural changes in the economy so as to ensure economic stability. They may also want to continue to diversify exports to reduce dependency on the booming sector and make them less vulnerable to external shocks, such as a sudden drop in commodity prices." Due to these factors, Chile has achieved prosperity in the face of Dutch disease.

Further, as Chilean's national income increased due to the copper boom, the Chilean import increased proportionally (Figure 13). Alex A. Ruehe and Kishore G argued, increasing import would have limited money supply growth in Chile and mitigated the effects of Dutch disease (Ruehle et al).

Figure 13. The Chilean copper export



For instance, rather than spending increased copper revenues and expanding the money supply, the Chilean government elected to retire debt and invest overseas to sterilize the boom revenue. The approach is, not to bring all the revenues into the country all at once, and to save some of the revenues abroad in special funds and bring them in slowly. Sterilization will reduce the spending effect. Another benefit of letting the revenues into the country slowly is that it can give a country a stable revenue stream, rather than not knowing

how much revenue it will have from year to year.[xviii] Chile has successfully set up monetary discipline and fiscal policy to mitigate the severity of Dutch disease within its borders.

5. SUGGESTION AND CONCLUSION

The most recent and popular suggestion and solutions are emphasize macroeconomic policies, economic diversification, natural resource funds, transparency and accountability, as direct distribution as mechanism for managing mineral wealth wisely.[xix] Based on other resource wealth countries 'experience for combating natural resource curse Michelle Sieff delivered two basic ways to reduce the thread of Dutch disease: : by slowing the appreciation of the real exchange rate and by boosting the competitiveness of the manufacturing sector. Chilean economic policy against natural resource curse is the most appropriate model for Mongolian economy. The reason I suggest Chilean model against natural resource curse and Dutch disease for Mongolia is both of these countries economy is totally relying on world copper price. IMF advice was to diversify export and encourage other export commodity, therefore, Chilean Government diversified export commodity after booming copper export. Secondly, as I mentioned before, Chilean Government carried out fiscal discipline and monetary policy. Based on that, my suggestion is first, Mongolian Government should encourage diversifying export commodity, however, copper export percentage is not really big comparing Chile. Nevertheless, "Oyu tolgoi", the strategically important deposit of copper and gold, will operate copper from 2013 and GOM predicts that it will produce 450,000 tons copper per a year, thus, Mongolian copper export will increase dramatically. Moreover Erika Weinthal and Pauline Jones Luong proposed economic diversification. With the endorsement of developmental economists and international organizations, such as United Nations Conference on Trade and Development, the United Nations Economic Commission,

and the World Bank, from the 1960s until the early 1980s most mineral rich countries made considerable investments in promoting other economic sectors.[xx] In other hand, good institution and governance is prominent for mitigating the negative effect of natural resource curse. Concentrating on strengthen governance and diminishing corruption among governance organization is crucial.

In terms of monetary policy, proportionally, if copper export increase dramatically, money reserve will increase. International reserves held by Banco Centrel de Chile throughout the copper boom and preceding years. Chilean Government limited money supply by purifying the cash inflows: exercised monetary discipline, rather than spending the revenue from copper, Chilean government was tended to retire debt and invested overseas to sterilize the boom revenue. As Michelle Sieff explained, it is crucial that not to bring all the revenues into the country all at once, and to save some of the revenues abroad in special funds and bring them in slowly. Sterilization will reduce the spending effect. Another benefit of letting the revenues into the country slowly is that it can give a country a stable revenue stream, rather than not knowing how much revenue it will have from year to year. As same as Chile did, GOM invest overseas to sterilize boom revenue.

Another suggestion that, GOM must spend the revenue from export of mineral commodity wisely, rather than allocate cash to the public, investing to improvement of infrastructure and education is radical. Michelle stated that investing in education and infrastructure is able to increase the competitiveness of the manufacturing sector. An alternative is that a government can resort to protectionism, that is, increase subsidies or tariffs.

Many economists and politicians suggest establishing the Fund. Stabilization funds aim to reduce the impact of commodity price volatility on the economy and, in turn, improve

budget predictability by stabilizing spending patterns.[xxi] Many countries established Funds such as Government Pension Fund in Norway, the Stabilization Fund of the Russian Federation or the State Oil Fund of Azerbaijan or the Future Generations Fund of the State of Kuwait established in 1976. Actually, to beat the resource curse, Mongolia's government has proposed a law based on a Chilean measure that will save surplus revenue from mineral royalties when prices are high to stabilize the budget when they fall. Therefore, GOM has established Human development fund in 2009, right after reach the agreement of exploiting "Oyu tolgoi" with English and Australian companies, to distribute the revenue from mining to citizens. However, the empirical evidence also indicates that natural resource fund is ineffective in corrupted and poor institutionalized countries. This suggestion is truly related to strengthening capacity of institutions; by reason of the empirical evidence indicated that widely absent of institutional capacity is the most urgent reason of suffering mineral rich countries. The improvement and strengthening the institution capacity of this Human development fund is one of my suggestions.

Louis-Philippe Beland and Raaj Tiagi suggest that resource wealth countries should improve the rule of law to protect rights, encourage investment and reduce corruption (2009). Without proper mechanism of settlement of disputes and security of property rights, many mutually beneficial exchanges are prevented, thus undermining the market-exchange system. Second, trade barriers should be removed. Developing nations tend to have smaller domestic markets and therefore could benefit from opening their markets to international trade while gaining access to bigger markets. Thirdly, resource wealth countries should simplify business regulations by encouraging investment and business creation by eliminating unnecessary regulatory barriers, reducing corruption, and therefore decreasing the administrative costs on business. Reforming legal system and enacting efficient legal regulation that could control

spending state revenue is the first step to implement in.

In conclusion, Mongolian economy is affecting by natural resource curse: there are several signals such as GDP dependency on world commodity price especially copper price; natural resource endowment induces poor governance and institutions and Dutch disease, finally, it causes civil war and these signals alarmed us that Mongolia has started to suffer from natural resource curse. This paper analyzes Chilean economy, which is not really affected by natural resource curse, and what Chilean government did against natural resource curse and Dutch disease. Chile is now considered the country which could turn the natural resource curse into blessing. Mongolia still has an opportunity to turn the curse into blessing: this paper's purpose is to suggest some recommendation to avoid and mitigate the curse based on Chilean experience. Mongolian development is really based on how to use natural resource efficiently, how to turn natural resource curse into blessing.

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APPENDIX 1 NATURAL RESOURCE OF MONGOLIA

Natural Resource	Number of Deposits
Gold	511
Copper	6
Molybdenum	3
Lead	4
Zinc	4
Tin	12
Tungsten	17
Iron	29
Coal	85
Fluorite	83
Limestone	48
Clay	81
Sand and Gravel	84
Sand for construction materials	53

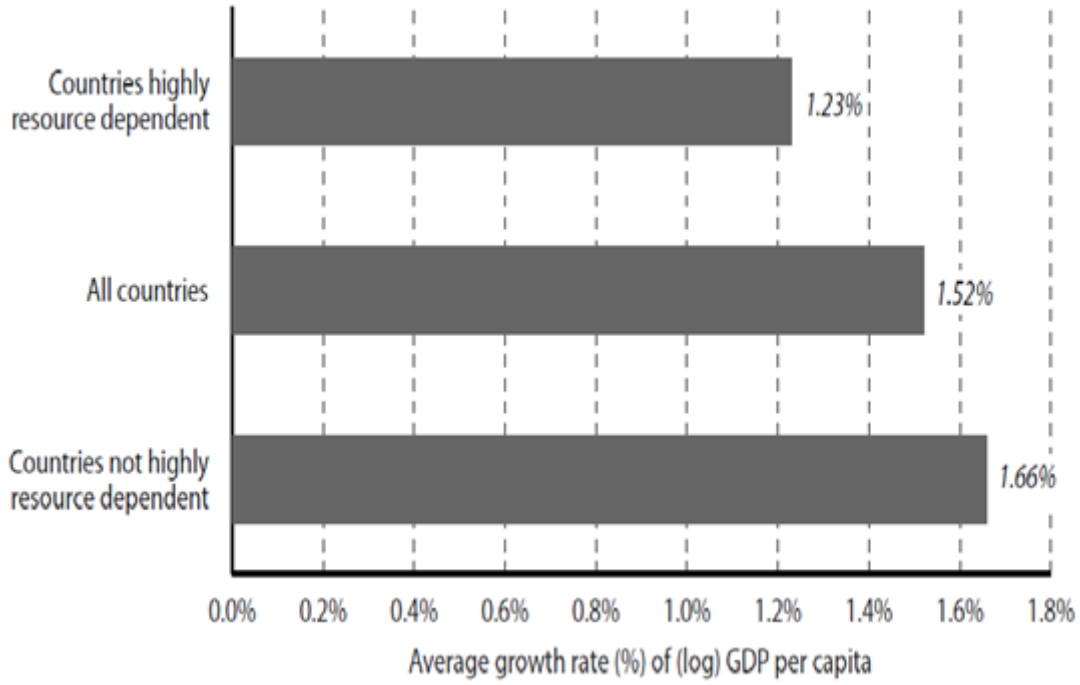
APPENDIX 2

CORRELATION BETWEEN RESOURCE DEPENDENCE AND OUTCOMES OF INTEREST

	GDP	**GDP Growth**	**Stability**	**Corruption**	**Democracy**
Resource Dependence	-.11	-.06	-.33	.12	-.24

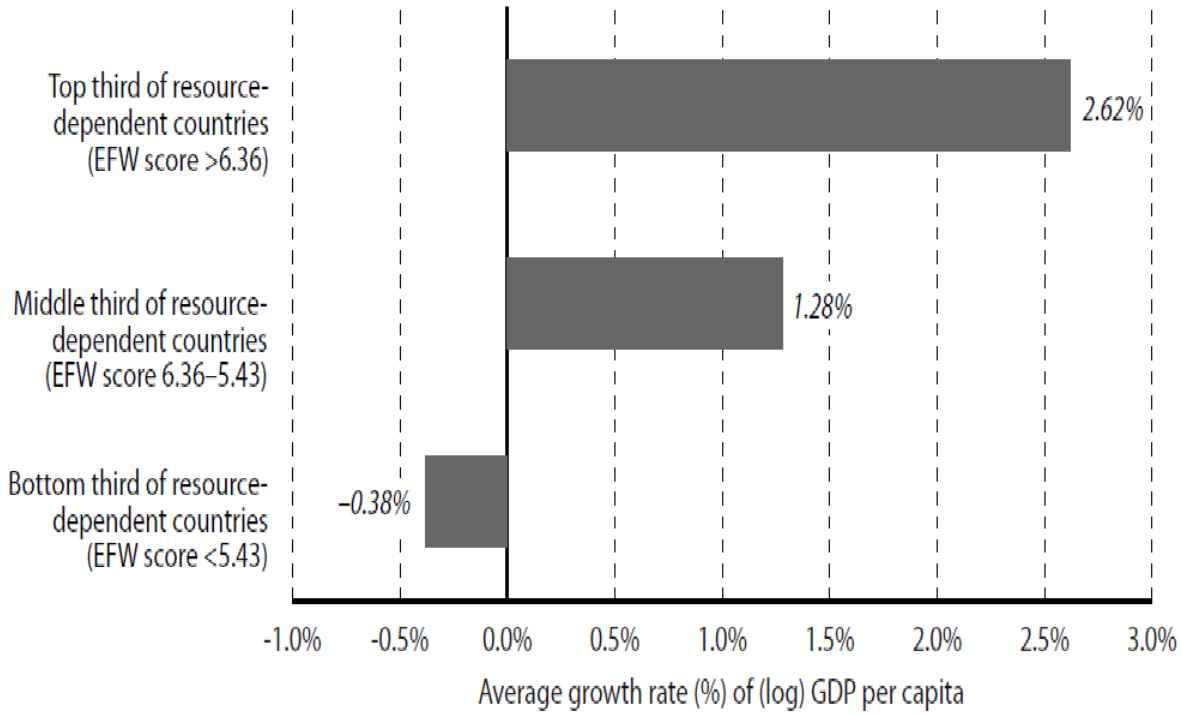
APPENDIX 3

AVERAGE GROWTH OF (LOG) GDP PER CAPITA, BY DEPENDANCE UPON NATURAL RESOURCES, 1970-2006



APPENDIX 4

AVERAGE GROWTH RATE OF (LOG) GDP PER CAPITA OF THE 26 HIGHLY RESOURCE-DEPENDENT COUNTRIES, BY LEVEL OF ECONOMIC FREEDOM, 1970-2006



APPENDIX 5

Social Fund feature	Costs and Hazards	Benefits
Participatory	- Difficult to reach the poorest - Risking elite capture of process - Externalities not considered by individual communities - Free-riding - Can slow down process	- Accountability - Reduces informational asymmetries - Can help build civil society capacity - Encourages civil development of intermediaries, including NGOs
Multisectoral	- Broad purview places heavy demands on executing agency -	- Encourages local initiative - Allows funds to be spent where there is greatest demand
Autonomy	- Makes transfer of lessons learned to line agencies more difficult - Diverts attention and resources from reforming line agencies - More difficult to coordinate consideration of externalities	- Flexibility - Speed of implementation - Responsiveness to local needs - Funding decisions more insulated from political influence from above - Where formal government institutions are extremely weak, can fill the gaps - Can reduce funds available for sovereign capture - Social funds "model" more efficient procedures for the public sector - More difficult to coordinate rent-seeking

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