

MARKETING AND TRADING





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ULAANBAATAR, 2018

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EXECUTIVE SUMMARY

The mining sector in Mongolia has been the main growth engine and source of international currency over the last decade. However, there are still worse bottlenecks in the existing commodity export activities. Similar to the exporting process of other goods, mineral commodity exporting consists of the following steps: (i) finding sales outlets, (ii) making sales contract, (iii) financing, (iv) transporting, and (v) closing deal. This study aims to identify the burdens and problems associated with every stage of the trading process of mineral commodities and define ways to addressing those problems.

Each commodity has its own market where pricing and selling mechanisms are different. To gather an insight into specific market issues, the research team conducted interviews with mining companies, association representatives, and sector experts. According to the experts interviewed, coal and iron ore exporters are facing more severe problems in comparison to other mining commodities. As such, the study focused more on the issues faced in the coal and iron ore sectors.

Mongolia's coking coal exporting activities are concentrated at the Tavan Tolgoi and Nariin Sukhait basins with Northern China as the main exporting destination. In addition, the Khushuut mine in Khovd province exports its coal to Northwestern China. Most companies sell their coal through small and medium Chinese traders such as Winsway Holdings as traders are responsible for transport and logistics and offer flexible conditions. There is no problem finding and getting into contact with buyers especially during periods of high commodity prices. Most trading contracts are one – off contracts due to the market risk and limited orders involved. There have only been a few cases of disputes over a breach of contract in the coal sector. For large companies, their contract prices are set to be equal to market prices, but small companies tend to sell at lower prices. Recently, Erdenes Tavan Tolgoi (SOE) started open bid sales at their mining site.

The coal is mostly transported through a network of roads to the Chinese border. For Tavan Tolgoi basin, the distance to the border is 270 km and the railway project has been postponed for long period, leading to higher transportation cost. As traffic is heavy and the capacity of China's border control is limited, it takes a considerably longer time to cross the border. Additionally, the border port is of local status, allowing the Chinese local authorities to arbitrarily put limitations or fees on border crossing and transportation. As for the

other basins, the mines are located closer to the border and there are no traffic or major border crossing issues.

For iron ore exporters, transportation and logistics issues are also the main problems. Bold Tumur Eruu Gol is the biggest exporter of iron ore and ships its commodities via railroad (having built a 70 km railroad from its mine site to the main railroad). The sales target is the steel factories in Northern China. The distance from the mine to the Chinese border is around 1100 km, but tariff rates for long distances and cross – borders are set higher by the Ulaanbaatar Railway, the only carrier operating, to cover its loss from passenger and other domestic freight. Furthermore, the railway from the Chinese border to Bautou, the main consumer steel mill, takes a roundabout route that covers 908 km. An alternative railroad project (~ 318 km shorter) has been planned but the proposal has not been approved.

Depending on the specific characteristics of the commodities and their market development, coal and iron ore exporters face other difficulties such as taxation issues. In particular, there are neither commodity trading platforms nor any commodity exchanges. Additionally, trading contracts are not reliable nor transparent for tax authorities. On the other hand, according to the Law on Minerals, royalty rates for coal and iron ore depend on their benchmark prices at Chinese sea ports and the level of ore processing. The companies interviewed pointed out that the complex tax rate calculation lead to some difficulties regarding tax compliance.

As copper and zinc are traded at global commodity exchanges, copper concentrate from Oyu Tolgoi and Erdenet, and zinc concentrate from Tsairt Mineral are traded by standardized contracts (though not transparent). Erdenet and Tsairt Mineral ship concentrates via railway, while Oyu Tolgoi uses paved road. In general, the trading issues of these commodities are relatively lower than that of coal and iron ore. For zinc concentrate, the main problem is extra time and cost spent at Sainshand station waiting while sending a mandatory sample of the concentrate for examination to the Customs Central Laboratory and Central Geological Laboratory located in Ulaanbaatar.

There are some common issues in most mining companies. Due to their limited research capacity and business model, most mining companies don't conduct any detailed marketing analysis. Another problem is that export financing services including payment and insurance are not well developed in Mongolia. As a consequence, for instance, coal exporters prefer to sell the commodity directly at the mining source

for up to a 30% advance payment before transporting. However, this practice of preferring advanced payment may lower the incentive of traders and buyers and limit the competitiveness of exporters.

Based on the research findings, the following suggestions are made:

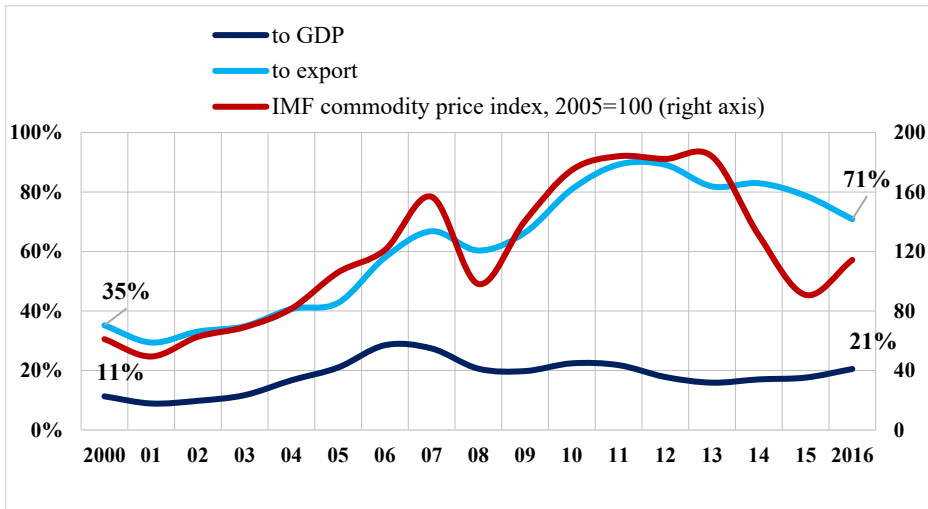
- A commodity exchange or trading platform should be established. Exploratory studies and preparations were already done to some extent
- At the policy level, traders' activities should be supported. A Law on Trade may be needed to regulate and support trading activities.
- Companies in the mining sector, in particular state-owned companies, should make all contracts including sales contracts transparent.
- Export financing mechanisms should be developed. Establishing a Mongolian Export Import Bank could be a potential solution. Detailed policy research is needed.
- Capacity strengthening projects like regular training on contracting, trading, taxation and mining governance issues for mining companies, government agencies and sector specialists should be implemented.
- The participation of mining associations in the policy making process should be increased. Mining associations should also play a crucial role in raising awareness for the industry.

INTRODUCTION

The mining sector in Mongolia has been the main growth engine and source of international currency over the last decade. Its contributions to gross domestic product and total export revenue have been increasing since the early 2000s. These dynamics are highly dependent on mineral commodity prices (Figure 1). However, Mongolia's mining sector has not been able to take advantage of recent opportunities like commodity price hikes (especially, of coal and iron ore) since 2015 or deficits due to interruptions in supply from other competitors. There are still worse bottlenecks in the existing export activities. Therefore, it is important to identify the burdens and problems associated with

the export of mining commodities and define ways to address those problems.

FIGURE 1. MINING SECTOR CONTRIBUTION



Source: National Statistics Office and Bank of Mongolia

On the other hand, there has been an increased demand for transparency of marketing and trading activities in the mining sector in some natural resource dependent countries. According to the Extractive Industries Transparency Initiative (EITI)¹, mining companies should disclose information about shipment and logistics of their commodities. As natural resources are owned by the citizens of a country, the information on the usage of the wealth must be transparent. State-owned mining companies in particular must disclose information related to their sales and marketing. Considering Mongolia's abundance of mineral resources as well as its numerous state-owned enterprises, the transactions made by mining companies are always a salient topic of inquiry. Disclosure of information is not only for income tax purposes but is also an important step in improving the governance of natural resources. As increased transparency could lead to more foreign direct investment, accelerated economic development and lower levels of corruption contingent on the country's civil society, a better understanding of the issues related to mining transactions is crucial.

The purpose of this study is to identify the processes through which Mongolia sells its commodities and the problems encountered by

¹ Requirement 4, Extractive Industries Transparency Initiative Standard, EITI 2016, Oslo

producers in exporting activities. Each commodity has its own market where pricing and selling mechanisms are different. For instance, gold is mostly sold by the Bank of Mongolia to the international market, whereas a fraction of coking coal price is determined by a contract between producers and Chinese buyers and a fraction of coal is auctioned off. Some coking coal producers sell directly from their open pit to Chinese buyers. For coking coal, the Mongolian government promotes a one window policy to ensure that one seller representing all coking coal companies can get a better deal from Chinese buyers. We seek to find out what alternatives are available to different players and what kind of impact such a policy will have on commodity production and marketing.

For copper there are two major sellers, Erdenet and Oyu Tolgoi. It should be noted that Erdenet is wholly – owned by the government, whereas the government has a minority share in Oyu Tolgoi. Both companies mainly sell their commodities to China. Similarly, iron ore is produced mainly by private companies and sold directly to Chinese buyers.

We also conduct cross – country comparisons of how commodity export prices are marketed. We examine the differences between these companies in terms of selling agreements as well as explore the best international practices for similar companies.

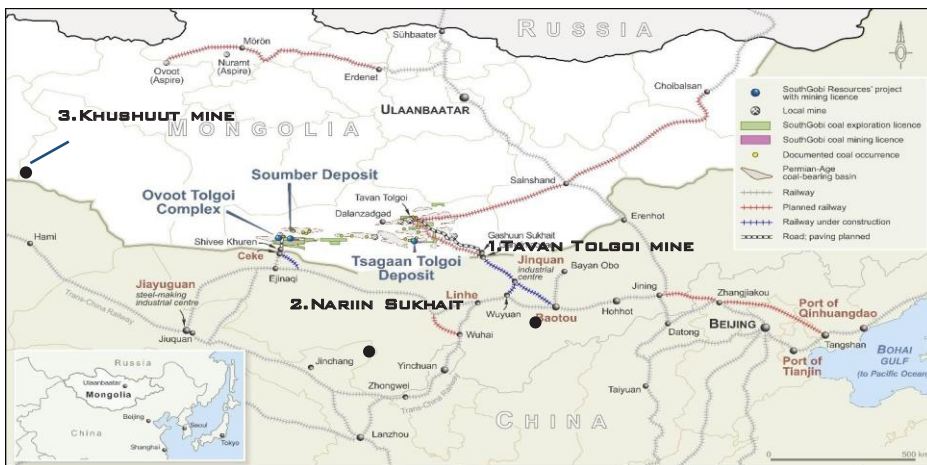
To gain insight into this sector, we held in – person interviews with 8 mining companies, of which 7 are coal exporters and 1 is a zinc concentrate exporter, and 9 sector experts and NGOs in the field. Major commodity exporters such as Erdenet and Oyu Tolgoi, and government agencies such as Tax Authority and Customs Office declined to participate in the study. Bold Tumor Eruu Gol, the main iron ore exporter, answered just a few questions by telephone. The list of interview respondents is available in Appendix 1 and the interview question guide is provided in Appendix 2. We also reviewed all related policies, research documents and other relevant materials.

MARKETING AND TRADING IN COAL EXPORT

The two largest coal² mines in Mongolia are Tavan Tolgoi and Nariin Sukhait mines with 6.4 billion and 125–380 million tons of coal reserve, respectively (MRAM, 2016). In addition, the Khushuut mine in Khovd province has a coal reserve of about 171 million tons and exports its coal to China's steel production company, Baosteel Bayi.

Currently, the major mining companies extracting from the Tavan Tolgoi mine are Erdenes Tavan Tolgoi, Tavan Tolgoi JSC (local), and Energy Resources LLC in addition to various smaller mining companies. On the other hand, the major mining companies associated with the Nariin Sukhait mine are the Mongolian Alt Corporation (MAK), Chinhua MAK, Usukh Zoos, and South Gobi Sands. Of these, Tavan Tolgoi JSC, a locally owned company, has been active the longest since 1996, while the newest addition, Usukh Zoos, began extracting in 2014. In terms of coal grade, the Tavan Tolgoi mine produces higher grade coal allowing the companies that operate there to export high quality coking coal; meanwhile, only a third of the Nariin Sukhait mine consists of coking coal, making its coal of a lower grade.

FIGURE 2. LOCATION OF MONGOLIAN MAJOR COAL MINES



Source: Economic Research Institute, 2017

Note: in Nariin Sukhait mine, there are Soumber Deposit and Ovoot Tolgoi Complex

² Also called metallurgical coal. The companies also export thermal coal; however, the amount is paltry.

In terms of infrastructure, the coal is transported through a network of roads to the Chinese border. Fortunately, the government initiated the "New railway" project and its phase 1 destination was from Tavan Tolgoi to the Gashuun Sukhait border, spanning 270 kilometers. This and other railway phases are shown in the map above, are marked with a red line.

In this study, we surveyed seven mining companies (Erdenes Tavan Tolgoi, Tavan Tolgoi JSC, Energy Resources, Mongolian Alt Corporation (MAK), Chinhua MAK, Usukh Zoos, and South Gobi Sands) which are currently mining and exporting coal from the Tavan Tolgoi, Khushuut, and Nariin Sukhait mines, as well as some experts in the sector. We found that based on the mining location, type of coal, transportation logistics, and organizational structure, there were common and specific issues for each company at every stage of the trading process. An in–depth analysis of each issue is conducted below.

1. COOPERATION WITH END-USERS AND TRADERS

Mongolia is a producer of coal and exports 98 percent of its exporting coal to China, making it a partner of Chinese companies. Most Mongolian coal companies sell their coal through traders or intermediators; while some coal companies send their coal to the end users first hand. For instance, Mongolian coal companies are partnered with Chinese steel companies such as the Baotou iron company, the Chalco aluminium company, and other coal refining and coking coal companies while companies such as the Chinese–Inner Mongolian Winsway company operate as traders with local companies. In some cases, tenders are announced and large conferences are utilized to decide on buyers for government owned companies. The firm is chosen from companies decided upon during the local citizens' representative or board meetings. In cases where the stockpile of commodities is too large, there is also an option to sell online.

According to some industry experts, small and medium Mongolian coal companies interact with traders because traders can assist with the issue of transport and logistics as well as offer flexible conditions. Experts also say that trading legislation for traders should be implemented as the coal companies cannot solve the trade and logistics challenges alone and traders with sufficient financial means could offer much needed financial support. A draft law on trade has been discussed over the past few years at the government level. According to the draft, the law aims to regulate and clarify the

requirements of domestic and foreign trades, traders' rights and responsibilities, participation of government agencies and NGOs, trade registration, and provide an electronic information database, and support and discounts from the government. However, the draft is yet to be discussed at the parliament.

Moreover, it was mentioned that a commodity exchange is a favorable and competitive option for all parties and could be established with suitable regulations.

In addition to maintaining relationships with established customers, companies are constantly conducting research on markets, potential customers, and traders. Larger firms, especially, either have their own research and marketing departments or collaborate with research institutes. Few companies have the resources to access the SX coal portal of the aggregate Chinese coal industry, including shipments in ports, prices, and other detailed information. Conferences, seminars and fairs are not considered a significant way to connect with potential trading partners and end-users. Overall, in-depth field researches are needed for coal companies in order to facilitate industry development and build the capacity of coal companies' employees.

2. CONTRACT AND PRICING

Though it is more beneficial to establish long term contracts with business partners, due to market instability and order amounts, most trade contracts last for a year or less. When negotiating contracts, advance pay agreements are a way to mitigate risk.

When the two parties of the contract negotiates price, the sell side (mines) considers and bases its decision on the following factors:

- Global examples with a focus on Australian and Chinese port prices.
- Competitors' prices
- Other factors such as quantity and advance payments.

For each of the factors listed above, companies conduct detailed research and the difference between their prices and world market prices is due to each company's specific transportation costs. According to industry exports, commodities exported through sea ports and coal exported from Mongolia should not be compared as export taxes and transportation costs vary greatly. For the same reasons, the coal exported from each area is likewise different. For

example, as of October 2017, Erdenes Tavan Tolgoi's coal sold for 68 USD. This price is taking into consideration factors such as transportation and cleaning costs, and relative to world market prices, experts conclude that this price is competitive.

On the other hand, Mongolian companies are supportive of the government's "one window" policy which exports Mongolian coal under a single unified price. Company managers find that Tavan Tolgoi JSC's (local) commodity being priced too low negatively affects the overall market as well as market competitiveness. As Chinese buyer makes their decisions based on prices, it is vital for mining companies to reach a consensus.

3. TRANSPORT AND LOGISTICS

In Mongolia's case, the location of each coal company as well as different port destinations lead to differing transportation issues. (Figure 2)

The Shivee Khuren port has minimal traffic issue, entering through the border is quick and the 56 kilometer road from Nariin Sukhait has been improved and is paved, leading to minimal overall transportation issues. Likewise, the port in Bulgan is only used to export the commodities of one coal mining company causing no traffic or border issues. On the other hand, the Tavan Tolgoi mine is 267 kilometers from the border port, with about a third, around 100 kilometer, of the road consisting of heavy traffic as of late 2017. The congestion of traffic is causing a serious transportation challenge. The traffic is not only caused by Mongolia's border control and inspection but also directly affected by Chinese policy on the other side. The issues on the Chinese side are a result of the quota from the Chinese government which makes the coal companies unable to export their commodities. Despite the measures taken to make border crossings more efficient, such as speeding up inspections, checking vehicles via x-ray, and reducing the inspection process by one stage, the difficulties related to loading and unloading supplies, queuing and transportation are still a major challenge. In addition to transporting cargo through the border, Chinese and Mongolian drivers must also be checked and go through immigration processes. This creates an extra hindrance in the clearance process.

In terms of infrastructure, though there have been plans to create a 270 kilometer railway from the Tavan Tolgoi mine to Gashuun Sukhait since 2011; however, due to political instability and financing issues,

completion of the railway has been postponed from 2016 to 2019. With the construction of the railway, not only would the traffic burden decrease, it would be more environmentally friendly, the transportation cost would be cut in half, and the constant operation would be possible. Despite the fact that the railway is a new alternative for transportation, all the mining companies we interviewed agreed that it would be impossible to completely switch from road transport to railway. The main reason for this is the fact that the total capacity of the railway is calculated to be around 20–30 million tons while the production capacity of the mines is estimated to be around 60 million tons, meaning that the excess coal need to be transported by road. As such, mining companies assess road conditions as the top infrastructure priority.

An important aspect of the transportation challenge is related to trade conditions. The agreed–upon trade conditions are different for each company with the Nariin Sukhait mining companies operating according to EXW, FCA terms, meaning that beyond loading the commodities at the mine, the buyer is responsible for its transportation. This is a convenient option for Mongolian companies that do not own transportation vehicles.

Internationally, such as in Japan, consumers tend to buy mostly on CIF³ (Cost Insurance & Freight) terms. According to the International Coal Trade estimation, more than 50 percent (by volume) of European consumers are flexible in terms of buying CIF or FOB, while the bulk of the volume is still sold to final consumers on CIF or DES terms.

4. FOREIGN RELATION AND OTHER ISSUES

Arbitration. Of the companies we surveyed several have mentioned that in cases where there is a dispute over breach of contract, arbitration is the favored resolution method. The reason for this lies in the fact that arbitration usually has lower transaction costs compared to court cases and there is no chance for the case to continue onto a court of appeals. While breach of contract cases are rarer now due to better contract practices, arbitration is still a valuable alternative to resolving disputes in court.

Arbitration in Mongolia is conducted according to the “Mongolia Arbitration Law,” which was amended in 2017 in order to make it more

³ Cost Insurance & Freight— The seller is responsible for goods from warehouse storage to the port of destination, afterwards delivery to final destination is buyer's responsibility.

accessible for companies and citizens while also keeping up to date with international standards. Arbitration in Mongolia is resolved through the Mongolian National Arbitration Court (MNAC) founded in 1960. It is part of the Mongolian National Chamber of Commerce and Industry and the first arbitration law adopted by parliament was in 1995 (MNCCI, 2011). The law was replaced by the 2003 Mongolian Arbitration Law which closely followed the example set forth by the UN's arbitration law but was not recognized as conforming to international standards (Lkhagvaa, 2017). This then led to a working group consisting of MDSKhanLex LLP and Sidley Austin LLP, which has been working since 2013 under the instruction of the Ministry of Justice, in order to renew the arbitration law to better comply with international standards (AmCham Mongolia , 2017).

Though there has been a fairly limited number of arbitration cases in Mongolia, with 41 cases in 2014, 70 cases in 2015 and 58 cases in 2016, arbitration is still lauded for being more efficient in terms of time and costs (Lkhagvaa, 2017). For foreign investors, international arbitration is also an important safeguard, especially for disputes in relation to a contract concluded with a state authority in Mongolia (Allens Law Firm, 2016). The recent changes have made it so that arbitration in Mongolia is more effective, giving it "better ways to be effective at both resolving disputes and securing an appropriate compensation for a grieved party seeking redress" (Lkhagvaa, 2017). As such, we expect the role of arbitration to increase as Mongolian laws become more developed and clear cut.

Economic condition. In addition to infrastructure and transportation challenges, a vital factor that affects coal exports is the Chinese economy. Due to the slow –down in border clearance from the Chinese side, coal mining companies are unnecessarily burdened. China's stricter environmental regulations dampened the import of coal and the Chinese government has implemented policy to reduce air pollution by cutting down the use of coal, further affecting mining companies.

Regarding the Mongolian economy, the government should take policy initiatives to support economic supply while also trying to improve the customs clearance process. For instance, while Exim banks are an option to support export financing, there is currently no legal regulations for such banks in Mongolia, and there are ongoing issues related to the size of loans given.

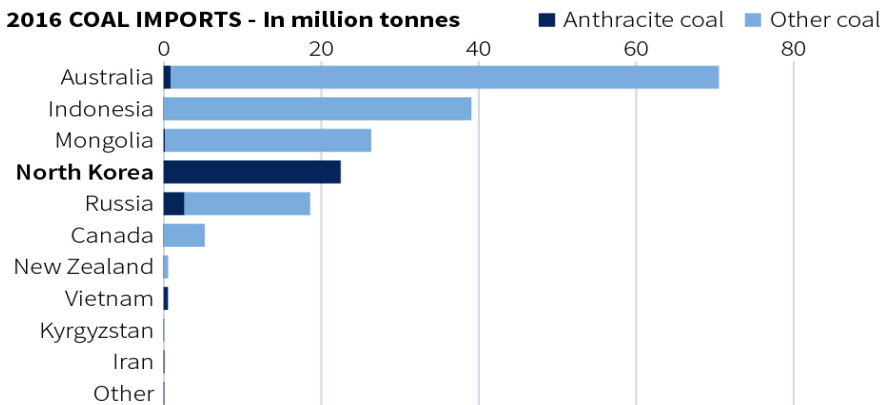
While mining companies have looked into exporting to third party markets, Mongolian companies are not chosen due to the limited perceived economic benefits. For example, according to an expert from Erdenes Tavan Tolgoi, 67 percent of the coal exports to Japan are supplied by Australia, with the rest supplied mainly by Russia. However exporting from Mongolia is economically unprofitable for some countries as exporting from countries such as Australia that ship coal by ocean freight is more cost effective.

International case

As for worldwide coal trading, Asia is a key region with China, India, Japan and South Korea importing an immense amount of thermal and coking coal from the major exporting countries such as Australia, Indonesia, USA, Mongolia and Russia.

China consumes around half of the world's coking coal and this level of consumption is likely to continue in upcoming years (Carbon Bried Clear on Climate, 2016). The volume of Australian (coking) and Indonesian (thermal) coal exports have jumped greatly since the beginning of the 21st century. The following graph below indicates that Mongolia is the third largest exporter of coal to China, followed by North Korea and Russia.

FIGURE 3. CHINESE COAL IMPORT BY COUNTRIES



Source: Thomson Reuters; Ministry of Commerce of the People's Republic of China

In addition, the UN recently announced that China extended its ban of imports of anthracite coal and other products from North Korea. Therefore, the ban should cause coal imports from Russia, Australia and Mongolia to increase substantially (ERI, 2017). As the world's top

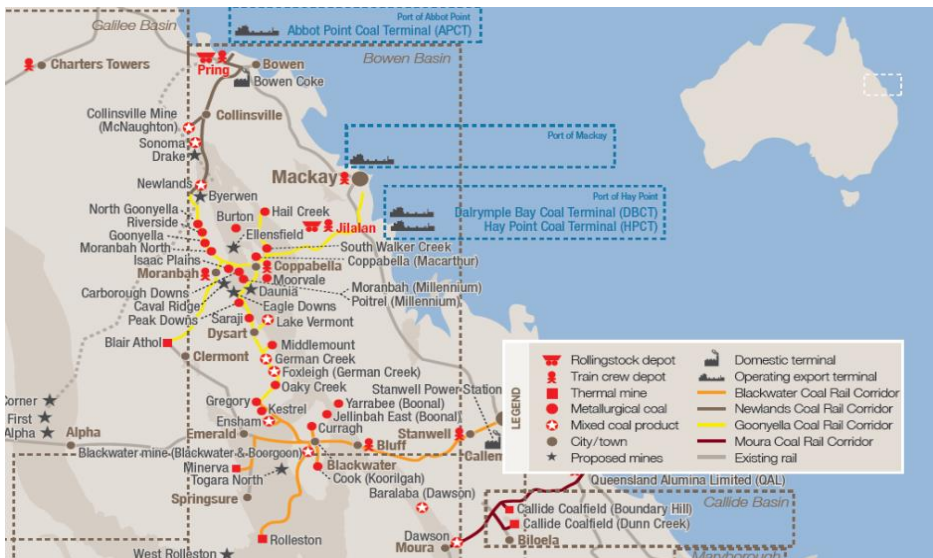
importer and the main user of Mongolian coal, trading of coal in China is discussed in detail below.

TRANSPORTATION OF EXPORTING COAL AND PORTS

Australia's major exporting ports are Newcastle, Gladstone (Queensland's largest multi-commodity port) and Kembla. Queensland, in particular, has a vast reserve of high-quality coal in addition to advanced infrastructure (Binns, 2012). Generally, railways are used for coal transportation. For instance, in Queensland, coal is the single most valuable rail freight item and the installation of new tracks and rolling stocks is funded by the mining companies themselves. A significant innovation in Queensland at the beginning of nineteenth century was the construction of aluminium wagons which reduced unloading time.

QR National and Pacific National are the main railway companies which operate in Queensland, New South Wales and South Australia. A map of coal mines and ports in central Queensland is shown in the figure below. There are four big ports or export terminals as well as rail corridors connecting coal mines to cities.

FIGURE 4. COAL MINES AND PORTS IN CENTRAL QUEENSLAND



Source: (ABC, 2017)

For mines which are located further from the rail facilities, trucks are used to haul to rail loading facilities via road. The Australian coal

industry is conscious of the impact of road transport on local communities and actively seeks to reduce the negative environmental impact by selecting the least inhabited routes to improve vehicle safety, noise and cleanliness. (Minerals Council of Australia, 2017)

TRADING AND PRICING IN CHINESE COAL MARKET

A majority of international coal trading is sea-borne, while the remaining residual coal is sold through border trade. In 2015, the global volume of coal was 1.2 Bt, of which roughly 93 percent was sea-borne trade, consisting of 833 Mt of steam coal and 271 Mt of coking coal, respectively (Schernikau, 2016).

Although historically, auctions were the common trading method, advancements of information technology have led the commodity trading towards new derivatives such as swaps and futures via exchange and online platforms. For instance, mining in Australia is increasingly becoming more sophisticated and hi-tech. Continuous improvements in mining technology, occupational health and safety and environmental performance have ensured Australia position as an efficient and reliable producer of high quality thermal and coking coal for the international market.

Exchange trading is a common form of coal trading in Australia. The CME Group is the exchange of choice for trading and clearing both thermal and coking coal futures as well as options. They offer a comprehensive product slate of both thermal coal and coking coal covering Europe, South Africa, Australia, Indonesia, China and the US, taking risk management to a global scale (CME Group, 2017). With the use of straight-through processing technology for clearing transactions through the CME ClearPort, the CME Group continues to work with the markets to drive forward complete products and solutions for producers, consumers and traders worldwide. Currently, CME offers three types of Australian coal products— Australian Coking coal (Platts) Low Vol Futures, FOB Australia Premium Hard Coking Coal (TSI) Futures, and FOB Australia Premium Hard Coal (TSI) Average Price Option.

The benefits of trading through exchange are the following:

- Long history of proven reliability through CME ClearPort, backed by the strength of CME Clearing
- Competitive fee schedule
- Customer risk systems

- Efficient margins in the portfolio of products cleared through CME ClearPort
- Futures contracts cleared through CME Clearing offer full regulatory protection

Companies need to fulfill the requirements and transportation qualifications in order to trade future contract on the exchange. (see Appendix 1. Dalian Commodity Exchange sample contract)

GlobalCoal is one of the world's well-known platforms, offering Standard Coal Trading Agreements (SCoTA) aimed towards providing the lowest price risk and fastest transportation (globalCoal, 2017). In order to trade coking coal, companies need to meet the criteria and standards such as the Australian FOB coking coal in the two markets, Branded and Unbranded. Similarly, China has six transaction modes for the information platform. IAOT is the most important transaction method for large customers. In addition, LT is a major transaction mode for routine online coal trading. A list of other trading options are:

1. Inviting Agreement for Ordering Transaction (IAOT)
2. List Transaction (LT)
3. Competing for Purchase Transaction (CPT)
4. Competing for Selling Transaction (CST)
5. Auction Transaction (AT)
6. Bidding Transaction (BT).

Trading with futures can prevent volatility of price risk and future uncertainties as the hedge derivative has three main features – volume, volatility and value. All traders, consumers and producers participate in terms of the price. For instance, seaborne coking coal trade in 2013 is estimated to have been at 270 million tons, half of which is accounted by Chinese domestic production. The Dalian Futures Exchange launched two contracts – Coke Futures and Dalian Coking Coal Futures. There are now three indices against which coking coal swaps can be traded. (Freight Investor Services, 2017):

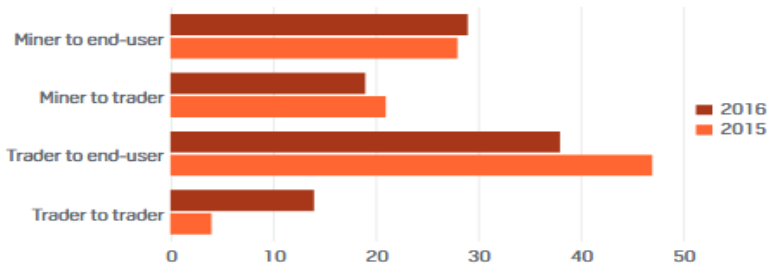
- Australian Coking Coal (Platts) Low Vol Futures
- Australian Coking Coal (TSI) Premium Coking Coal FOB East Coast Australia.
- China Coking Coal (TSI) Premium Coking Coal, CFR Jingtang.

TRADERS

Traders play a main role between mines and end – users. There are two types of traders – well – known corporations and small players. In most cases, the small and medium coal companies are partnered with traders in order to benefit from flexible conditions which include transportation and logistics.

In the first half of 2016, seaport coking coal trading in the Asia – Pacific region grew by 9 percent to roughly 31 million Mt due to high demand from China and number of re – trade cargoes. Moreover, due to growth in trading, trading house services have increased as well.

FIGURE 5. ASIA-PACIFIC COKING COAL VOLUMES BY COUNTERPARTY TYPE, %



Source: Platts (S&P Global Platts, 2016)

Even though coking coal sales from traders to end – user fell by 10 percent, it remains the leading type of trade, accounting for around 40 percent of trade volume.

Looking at the top coal traders, Glencore is not only a coal producer but also the predominant physical trader. Other recognized traders are Gargill, Peabody Energy and Noble Group, headquartered in Hong Kong. Coal has been attracting other heavyweight oil traders such as Vitol, Trafigura and Mercuria. In addition, Macquarie Group, Goldman Sachs, Morgan Stanley and other banks are increasingly becoming more active in physical trade (Thomson Reuters, 2009). Big trade companies have been setting up offices all over the world to set up operations in foreign countries; for instance, Trafigura and Noble Group representative offices are located in Ulaanbaatar, Mongolia.

Trading provides benefits for both mines and end – users as it allows them to hedge the price risk and help ensure transportation safety. According to the FIS, the buy side is less inhibited in terms of finance options and traders are also able to reduce risk for suppliers, which

encourages suppliers to accept flexible terms rather than fixed price contracts. (Freight Investor Services, 2017)

FREE TRADE AGREEMENTS

One of the most crucial ways to encourage a nation's coal import are free trade agreements (FTA). For example, Indonesia and China had a FTA where there is no import tax on imported coal from Indonesia. Likewise, Australia has commercial relationships with trading partners, leading to increased trade and investment opportunities, bringing money into the Australian economy and helping create jobs. As Asia's rapid economic growth continues, closer trade ties with major Asian economies are essential to Australia's continued prosperity. The Chinese and Australian FTA includes terms for lower import tariffs for coking coal and thermal coal, of 3 and 6 percent, respectively.

MARKETING AND TRADING IN IRON ORE EXPORT

Current situation and problems

Mongolia is rich in iron ore with total geological reserve of around 1.7 billion tons as of 2016 (MRAM, 2016). In total, 63 deposits (16.5% to 55.6% Fe, magnetite type) are registered. However, until recently, there was no activity in iron ore mining. Since late 2000s, iron ore price have been sharply increasing in the global market and substantial investments were put into local mines as production and export of iron ore became more active. In 2013, iron ore exports reached a record level, constituting 15 percent of total export. Since then the amount of export decreased as world prices fell. In 2016, iron ore export constituted 5 percent of total export.

The end-user of iron ore is the steel making industry. In Mongolia, there are five registered steel plants including Darkhan Metallurgical Plant. All of them are small in terms of capacity and struggling to compete with Chinese and Russian quality and price. Domestic market of steel is limited as well. So, developing the domestic steel production industry is not considered as a viable strategy for Mongolia (Wuperman, Zorig, Erdenebulgan, & EPCRC, 2015). Therefore, the main sales target of iron ore is miners is Northern China, not the domestic market. According to a recent iron ore study (ERI, 2017), Northern China's iron and steel producers, such as Baosteel Group Bayi Iron and Steel Co. Ltd., Baotou Iron and Steel Group, and Shougang Mining Investments Co., are the main consumers of

Mongolia's iron ore. Baotou Iron and Steel Group is the largest steel, state – owned enterprise in Baotou, Inner Mongolia, China.

Mongolia's total iron ore production capacity is 11.5 million ton. The main producer is "Bold Tumor Eruu Gol" LLC (BTEG) and its operation has been stable for last few years despite declines in price. In 2016, four iron ore miners were operational and their total production was 7.5 million ton which is only 65% of their total capacity.

According to the BTEG, the main issues in iron ore export are benchmark price definition for royalty tax and tariff for local railroad transport. In the Law on Minerals, the royalty rate for iron ore depends on its benchmark prices and the level of ore processing as shown in the table below.

TABLE 1. ROYALTY RATE FOR IRON ORE

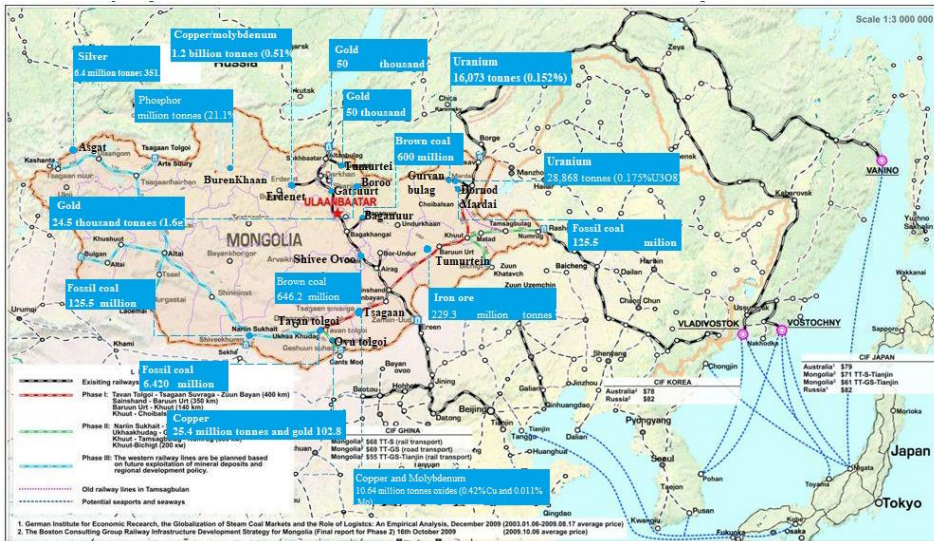
Benchmark price, in USD per ton	Additional rate on the basic rate, 5.00, depending on the level of processing		
	Ore	Concentrate	Final product
0 – 60	0.00	0.00	0.00
60 – 70	1.00	0.70	0.40
70 – 80	2.00	1.40	0.80
80 – 90	3.00	2.10	1.20
90 – 100	4.00	2.80	1.60
above 100	5.00	3.50	2.00

Source: The Law on Minerals

During implementation stage, tax office uses FOB price at the Damper/Hedland port between Australian producers and Chinese steel making companies as a benchmark price. Like other mining companies, BTEG says that the benchmark price has been always much higher than the actual selling price. Also, difficulties in identifying the processing level between concentrate and ore sometimes make defining tax rates problematic. So, the tax rate and compliance with tax laws impose heavy burdens on iron ore exporters. However, from the tax office side, it is difficult to use actual selling prices when imposing tax as there is still a lack of transparency in sales contracts, especially in the mining sector. Establishing a commodity exchange, trading commodities on the exchange and using exchange prices is a possible solution for the issue.

Road transportation is costly, so many iron ore mines located far from the China's border or railroad are not economically viable. So, Mongolian iron ore is mainly shipped by railroad to Chinese steel mills. However, railway tariff is relatively high in Mongolia and no significant discounts for long distance transportation given by the only operating carrier – Ulaanbaatar Railways, a joint – stock company owned 50% by the Government of Mongolia and 50% by the Russian Railways. For example, the distance between the mine site of BTEG, the main producer in Northern Mongolia, and the Chinese border is 1,100 kilometers long (Figure 6) and it costs around 17 USD per ton only for domestic transportation. Cross – border transportation also takes significant additional cost because Ulaanbaatar Railways has established higher tariff for cross – border transportation to cover losses from domestic freight and passenger transport (ERI, 2017). BTEG has been trying to lower the railroad tariff burden for last few years by submitting requests to the Government and initiating multi – party meeting with the Government, Ulaanbaatar Railway, and Custom's Office, but the problem still has not been addressed.

FIGURE 6. EXISTING AND PLANNED RAILWAY NETWORK



Source: Ministry of Road, Transportation, Construction and Urban Development of Mongolia

Another way of reducing the railway cost and improving the capacity of transportation is to build an alternative iron ore transporting railroad from Zuunbayan to Khangai border port. As Khangai port is located between Zamiin – Uud and Gashuun

Suhait ports, it is much closer to the Baotou metallurgic company than Zamiin – Uud border, the only existing rail line to China. If the market demand increases, the capacity of existing railroad is not sufficient. So, the planned railroad is going to ease the burden of the railway traffic on the border to China. The current iron ore transport route is quite long, 908 kilometers. As shown in Figure 6, it starts from Sainshand city through Zamiin – Uud border port, then crosses the border and the raw materials are transshipped from one train to another at Erenhot port. Then, it goes through Jinin and Huhhot cities, and finally reaches Baotou metallurgic complex. In contrast, once the 281 kilometers long railroad is built and connected to Chinese railway, the planned route will be 318 kilometers shorter than the existing route. It will also save unnecessary mediation costs. However, the project is not included in the integrated railroad plan in Figure 6 and has not approved by the Government yet.

International case

Trading and pricing in Chinese iron ore market

Until 2010, iron ore price had been set annually by the negotiations between three major steel – making companies and three major iron ore suppliers in the world. Negotiations used to take a while and go through several phases. It was started by a series of general conferences and informative discussions and finalized by rounds of detailed meetings. If at least one pair of supplier and buyer reaches agreements on the price of the deal, other companies must accept this fixed price as the market price next year. The buyer will not purchase from other sellers at a higher price, the seller will not sell to other purchasers at a lower price. The annual benchmark price of iron ore was FOB price, not including freight and other charges (Liu, 2011).

The old price system was broken down with the rise of China's steel demand. To keep up with rising demand, some Chinese steel – mills started to secure iron ore from neighboring India because Australia, Brazil and China's traditional suppliers were tied by the fixed one – year contracts. During the financial crisis, some Chinese steel makers defaulted as contract prices were

higher than market prices. In May 2009, a number of large private traders set up China's first non – official iron ore trading platform in the port city of Rizhao and planned to publish the country's first iron ore index. But the China Iron & Steel Association shut the center down, saying it would introduce speculation and destabilize the historic benchmark mechanism. In 2010, suppliers and buyers agreed on shorter index – linked contracts. China now buys its iron ore based on monthly average prices and monthly averages are based on the daily prices set by price assessment agencies such as the Steel Index and Metal Bulletin (FT, 2016).

In 2012, China Beijing International Mining Exchange (CBMX) launched the first physical Chinese iron ore trading platform to strengthen its pricing power over the commodity whereas, before, it was dominated by a few large foreign suppliers (Reuters, 2012). Hoping that Chinese steel makers would choose the new platform, the exchanged aimed to compete with the GlobalOre trading exchange backed by the BHP Billiton which was based in Singapore as well. CBMX also introduced a new pricing index to reflect actual market equilibrium and to avoid potential speculation and manipulation.

The spot market, iron ore futures, over – the – counter swaps and options contracts are traded against a benchmark iron ore price index around the world. For example, Singapore Exchange, CME Group, LCH.Clearnet, NOS Clearing and the Intercontinental Exchange all cleared the Steel Index – based iron ore contracts. Volume of iron ore cleared by derivatives has increased dramatically. In 2013, volume cleared in the mentioned commodity exchanges was 300 million tons while this size of iron ore was cleared only in first half of 2014 which was more than 30 percent of world production of iron ore in the same period (TSI, 2014). In the financial market, iron ore products are traded in standard contracts. For example, one of the standard contracts in the financial market is 'Iron ore fines 62% Fe – CFR Tianjin Port (China)' which requires concentrate of 62% Fe, 8% moisture, 3.5% alumina, 4% silica, 0.07% phosphorus and 0.05% sulphur,

minimum lot size of 20,000 metric tons, and loading within 4 weeks and delivery within 8 weeks of transaction.

Even before the break-down of fixed annual pricing mechanism, traders were important players in iron ore market. According to Metal Bulletin, China's traders are moved large volumes of the commodity into the country. However, as prices of the commodity have dropped, trading enterprises, and especially smaller Chinese domestic traders struggled to stay in the market because as a trading business as their strategy of buying low and selling high did not work in a bear market. However, many large Chinese traders survived to remain major players in the market. As of 2014, the privately-owned Rui Gang Lian Group (annual trading volume is 120 Mt), the state-owned China National Building Materials & Equipment Import & Export Corp. (60 Mt), the state-owned Tianjin Material & Equipment Group Corp. (43.05 Mt), China Minmetals Corp, an international enterprise (40 Mt) and H&C S Holdings (40 Mt) are the five largest traders in China (Zhu, 2015).

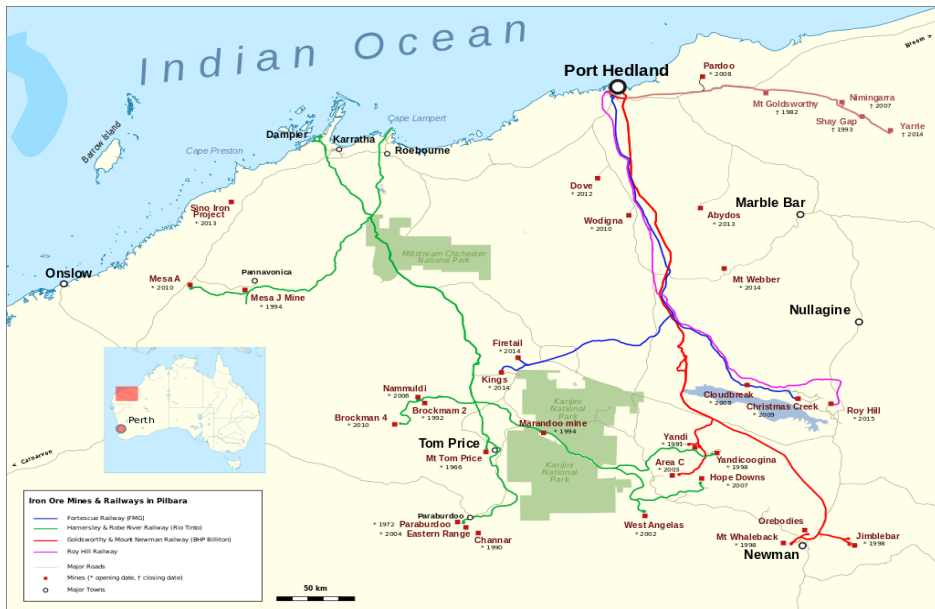
Integrated mine-rail-port production system and a story of the Pilbara railways

Railway is the main means of transport used for transporting bulk materials such as iron ore and coal to the sea port. In case of land locked resource rich countries, it is also the main means of commodity exporting to border ports. However, building and operating railways is complicated everywhere as we can see in current disputes and debates over railroad projects in mining regions in Mongolia. Here, to show a lesson from past in mining transportation, we select a story of the Pilbara railways which were built for transporting iron ore from Western Australian mines to the sea port

Western Australia's Pilbara region is one of the largest producers of iron ore in the world, exporting most of its production to China, Japan and South Korea. The largest producers are BHP Billiton and Rio Tinto, each of which operates a number of mines. Fortescue Metals Group (Fortescue) has become, in the last decade, a major producer. Also, Roy Hill mine started operation

in Pilbara in 2015. These companies all operate privately owned railways to transport iron ore from their mines to ports at Port Hedland, Dampier and Cape Lambert. There are six railways in this area with three ports located 265 kilometers away. The three railway lines of more than 150 kilometers to Port Hedland are parallel as shown in Figure 7. From an economic perspective, it is very inefficient.

FIGURE 7. RAILWAYS AND MINES IN PILBARA



	Goldsworthy Railway	Hamersley Railway	Mt Newman Railway	Robe River Railway	Fortescue Railway	Roy Hill Railway
Location	Mt Goldsworthy to Port Hendland	Mt Tom Price to Dampier	Mt Newman to Port Hendland	Pannawonica to Cape Lambert	Cloud Break to Port Hendland	Roy Hill to Port Hendland
First Iron Ore Railing	May 1966	June 1966	January 1969	August 1972	April 2008	August 2015
Initial main track length	112 km	288 km	426 km	168 km	260 km	344 km
Owner	BHP Billiton	Rio Tinto	BHP Billiton	Rio Tinto	Fortescue	Hancock Prospecting

Source : An Engineering Heritage Western Austraia, 2015 ; www.nrw.com.au ; Western Asian Legistation, 2010

In the early 1960s, the Commonwealth Government ended an embargo on the export of iron ore, stimulating mining development in the Pilbara region which became the start of a major export with great economic importance to Australia. Because the distance from the mines to the sea ports were far, railways were built. The first railways were Mount Goldsworthy Railway, Hamersley Railway, Mount Newman Railway and Robe River Railway, which were then owned by BHP Billiton and Rio Tinto. The most recent railways were built parallel, very close, to the Mt Newman Railway line.

Before construction of Fortescue railway (between June 2004 and January 2008), Fortescue sought access to these railways to run its own trains over the existing railway lines to National Competition Council. With some simplification of the process, the NCC declared all four lines open for use. However, the Treasurer in 2006 declined to declare the Mt Newman line as accessible, which was then followed by the Treasurer's decision in 2008 to declared the Goldsworthy, Hamersley and Robe lines, allowing access to three out of the four lines.

But many of the facilities providing railway services have monopolistic characteristics. BHP Billiton and Rio Tinto Iron Ore was against the NCC decision. Then, Fortescue applied to have the decision not to make the Mt Newman service accessibly reviewed once more.

The Tribunal (2010) found that:

- For many mines, rail may be the only viable, or at least the most cost effective, means of transporting iron ore.
- Both BHP Billiton and Rio Tinto operate on a 'run when ready' basis, rather than a scheduled basis, constantly adjusting their usage to needs at mines and ports. This makes it potentially difficult for third parties to fit in with the owners' modes of operation, particularly on sections of the lines where demand is intense.
- Except for the Goldsworthy service, if access was not granted, new railways would be built which could be used by junior mining companies that might otherwise seek access to the owners' lines. Fortescue had already constructed its own railway running roughly parallel to the Mt Newman line for a considerable distance and planned to construct others.
- New lines could be built, but it does not necessarily mean that it would be efficient to build them. A substantial level of potential third-party demand for each service meant that

expansions were likely to be needed. Except for the Mt Newman line, the cost of expansion would be significantly less than the cost of constructing a new line.

The point made by the owners that the railways are part of an integrated mine – rail – port production system has potential access ramifications and the decision by NCC is declined and Fortescue built its own railway parallel to the Mount Newman Railway. For the same reasons, Roy Hill mine built its own railway parallel to the Mt Newman too.

Now the railways are considered to be socially and economically inefficient by many experts. Some of the criticisms are:

- Privately owned railways are restricting competition of the iron ore market in this area.
- It is generating great cost for building and raiing in economy
- The railways generate risk to human health and safety
- It significantly harms the environment

One of the most important themes identified as emerging from this case is that a monopoly causes inefficiencies in the markets for all sectors.

MARKETING AND TRADING IN OTHER MINERAL EXPORT

Copper trading

Copper (10.8 Kt, with a value of 60.9 million USD) and copper concentrate (981 Kt, valued at 1032.2 million USD) exports account for one-third (34%) of total export and 48 percent of total mining commodity export value in 2016. Mongolian copper concentrate exports are mainly from the Oyu Tolgoi (OT) and Erdenet mines, while copper cathodes are (copper plates with a purity of 99.99% copper) from Erdmin and Achit Ikht. Copper concentrate export accounts for more than 95 percent of total copper export. According to the Mongolian Customs office, Mongolia exports all copper concentrate to China.

OT is the largest producer of copper concentrate in Mongolia. The OT production and trade process is as followed:

1. Copper ore from OT mine is crushed and fed into the concentrator.
2. The large concentrator machines processes and creates copper concentrate containing 25–30% copper and small amounts of gold, silver and molybdenum.
3. Independent testing of the concentrate ensures it is of good quality, and the Government knows exactly how much of each metal will be sold.
4. Paperwork is signed to sell the concentrate to customers at international prices.
5. The concentrate is driven to OT's border warehouse and shipped to customers after payments are received.
6. Royalties are paid to the Government.

Globally, copper is traded at three metal exchanges, in New York (the United States), Shanghai (China), and London (England), which operate electronically. For Mongolia, the LME price is usually used in trade agreements. Trading of Codelco, the largest copper producer of world, is the best example of copper trading.

Codelco copper trading

We will briefly describe the Codelco trading process as a example of copper trading. Of the 18.5 million metric tons of copper produced worldwide per year, 5.75 million are produced in Chile, making them the largest producer of the world. Codelco is the largest copper producer in the world, with approximately 1.8 million or 10 percent of the world production.

Codelco uses open outcry trading. The company uses LME price as a benchmark price. When Codelco sells copper to China, it will charge the market price (LME) plus a premium for cathodes or a discount for concentrates. When Codelco makes a sale of cathodes to a customer in China, this is done using the average prices determined on a daily basis in LME during the month and following month of shipment from Chile, as the ship takes approximately 30 days to reach the port of destination. A "premium" is added to that value, which is an extra amount negotiated with the client and is related to the logistic and administrative expenses incurred in by the producer to ship the metal to the port requested by the client. If it is a sale of copper concentrates, the price is determined in the same way but considers the average price of the fourth month after shipment, because it is necessary to take into account the time that the smelter and the refinery take to turn that concentrate into cathodes. Moreover, instead of premiums for

cathodes, discounts are set to treat and refine this concentrate into cathodes. These are called treatment and refining charges.

Every year, Codelco negotiates the sales for the following year, customer by customer, both for copper concentrates and cathodes. In the specific case of copper concentrate, Codelco sells directly to smelters in different countries and they produce copper cathodes. Negotiations for the sale of cathodes are standard, while the negotiations for the sale of concentrate are more ranged as quality varies.

It should be noted that although Codelco has very traditional and regular customers, these customers have several suppliers. This is because the annual world consumption of refined copper is approximately 25 million tons, of which 18.5 are produced in different copper mines around the world, and the balance is obtained from recycled scrap. Codelco produces 1.8 million tons, sells 85 – 95% of its output in long – term contracts according to market conditions, and the balance is sold month by month in spot sales.

Zinc concentrate trading

Zinc is the one of main mining products of Mongolia. Mongolia exported 126 thousand tonne (4.1% of total mineral product export) zinc to China in 2016.

Mongolia's biggest zinc mine is Tsairt Mineral LLC (hereafter Tsairt Mineral). In 1998, Mongolian "Metal Impex" Co.,Ltd and China Non – ferrous Metal Industry's Foreign Engineering and Construction Co.,Ltd (NFC) established the joint venture Tsairt Mineral LLC and successfully implemented the Tumurtiin – Ovoo project in 2005.

Tsairt Mineral sells all of its produced zinc concentrate to China Non – ferrous Metal Industry according to a long term sales agreement. They use LME price as market benchmark price in trade. Tsairt Mineral is responsible for transporting, enrichment and other costs such as loading and insurance. The zinc is transported across 350 kilometers of paved road from Sukhbaatar to Sainshand and railway from Sainshand to the final user (China Non – ferrous Metal Industry). The company is responsible for road transport. There is a requirement to use local transport from the local administration, so Tsairt Mineral cooperates with a local transport company. They use open account payment terms according to a trade agreement.

After transporting to the Sainshand station of the Ulaanbaatar Railway, the Customs Office takes samples from the ready-to-export products and sends it to the Customs Central Laboratory and Central Geological Laboratory to evaluate the content in the zinc concentrate. The Central Geological Laboratory is located in Ulaanbaatar, which makes the delivery timely and costly. This is a problem in the zinc trading process.

Fluorspar trading

As of 2016, Mongolia ranked third in world with 49.3 million tons of geological reserves (A+B+C)⁴, 8.5 % of global fluorspar reserves. According to Mongolia's Customs Office, 201.8 thousand tons of fluorspar was produced and the 38 fluorspar mining companies exported 248.8 thousand tons of fluorspar, worth around 59 million USD to Russia (69% of total fluorspar export) and China (31% total fluorspar export) in 2016.

Fluorspar is a non-exchange product as are coal and iron ore. In other words, fluorspar trade is carried out based on agreements between buyer and supplier companies. The price, payment term and other terms of trade are determined by the agreement. 85.5 percent of total fluorspar export is based on DAF (Delivered at Frontier) conditions.

Mining companies transport fluorspar through paved roads and railways. Lack of wagons in Mongolia is a major issue in the fluorspar trade. Some user companies in Russia are responsible for transport costs and sends their own wagons to buy Mongolia's fluorspar. For Chinese buyers, exporting companies are responsible for transport and its related costs.

There are some issues related to the local business environment, especially in regards to the current tax calculation system.

- Informal artisanal miners are another issue in the fluorspar market. These artisanal miners extract fluorspar and sell it to individual traders who have no formal authorization and do not pay taxes to the government.
- The government sets the benchmark price based on Tianjin's FOB (www.indmin.com) in the Law on Minerals and royalties are based on the benchmark price while the most export prices are often based on DAF conditions. The FOB-Tianjin price

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includes the following costs in addition to the DAF conditions price:

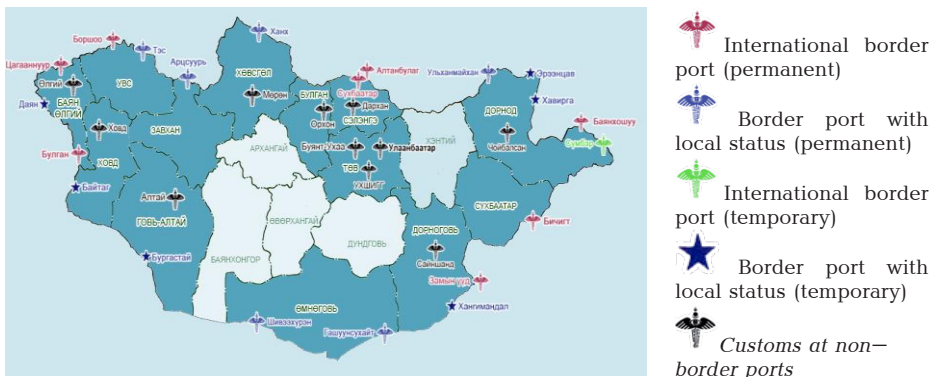
- Costs related to the border – crossing
- Tax payments to Chinese
- Cost of transportation from Eren to Tianjin (1050 kilometers)
- Loading, discharging and warehouse costs

The tax calculation system in fluorspar poses as a negative factor that expands the informal economy. From the fluorspar miners' view, royalties create a heavy tax burden on those who have formal authorization and government support is needed to improve the fluorspar trade. In particular, it is necessary to improve the legal environment.

OTHER ISSUES

One of the difficulties affecting the coal exporting process at the border is the local status of the border ports. Border ports with local statuses are vulnerable to policy changes as well as to the restrictions placed by neighboring countries in the region. In other words, local political risks are higher for those border ports. Most notably, most of Mongolia's coal exports pass through Gashuun Sukhait, a border port with local status located in Khanbogd soum, Umnugobi aimag, 1050 kilometers away from Ulaanbaatar. This border port has been operational since August 17, 2009 in accordance with the "Agreement between the Government of Mongolia and the Government of the People's Republic of China on Chinese and Mongolian border ports and their regimes" and is currently operating on long – term coal export routes. Mongolian border ports, along with their status are shown in the figure below.

FIGURE 8. MONGOLIAN BORDER PORTS



Source: Mongolian Customs Office

Another issue is related to the royalty tax on the mineral commodities. The Mongolian government approved the "Law on Minerals" in 2006. The purpose of this law was to regulate the exploration, mining and exploitation of minerals within the territory of Mongolia and ensure the protection of the environment. The government set the royalty rates for use of minerals in Article 47 of the law. In this article, it is stated that a mining license holder shall pay a royalty for use of mineral resources to the state from the sales value of all products extracted, sold, or used for mining. The sales value shall be calculated according to the following procedure:

- If the product is exported, then the mineral royalty shall be based on the international market price of the product or similar products based on the principle of determining the monthly average recognized in international trade.
- If the market value of products can not be determined, the sales revenue reported by the license holder shall be determined.

The table below shows the royalty rates on different commodities.

TABLE 2. ROYALTY RATES

Commodity	Royalty
Coal sold in domestic market	2.5% of sales value
Gold sold to Bank of Mongolia	2.5% of sales value
Other commodities	5% of sales value

Source: *The Law on Minerals*, www.legalinfo.mn

Additionally, depending on the market price and refinement level (ore, concentrate or final product) of the product, another royalty rate is imposed in addition to the percentage stated in the table above.

The benchmark price used in determining the value of the royalty is one of the issues hindering the trading procedure. When our research team conducted the survey, some employees at mining companies stated that the benchmark price is higher than the actual market price, particularly for fluorspar. We tried to clarify the information about the benchmark prices and other difficulties faced during the marketing and trading procedure of mining commodities from the tax. To properly capture this information, we prepared a different questionnaire for the tax and customs officials in addition to the survey

we took from mining companies. Unfortunately, the government agencies declined to participate in the survey.

Transparency in the mining sector is another important issue. According to the Extractive Industries Transparency Initiative (EITI), an estimated 80 to 90 percent of the world's oil reserved, and about three quarters of the world's crude oil outlook are controlled by state owned enterprises (EITI , 2017). In addition to oil, about 60 percent of the world's undiscovered reserves are in countries in which state owned enterprises have exclusive access to resources (EITI , 2017). For example, according to a report by the Natural Resource Governance Institute (NRGI), from 2011 to 2013, the total value of sales by national oil companies from the top 10 producers of oil in Africa was equal to 56 percent of their combined government revenue (NRGI, 2016). Yet despite, how significant this value was, there is no information available on the exact transactions that took place, leaving the possibility for potential corruption and negligence unchecked. These practices let governments hide how much revenue they receive, making it difficult to assess exactly how they use their funds for public goods (NRGI, 2016). Thus, the revenue states receive from mineral resources, either because the state or the state owned enterprise operates or owns shares in a producing license, has a production – sharing contract, or when companies make payments in physical commodities rather than in money, is an area of perceived corruption and limited accountability (EITI, 2014).

While the corrosive effects of corruption are apparent and widely studied, there still remains questions regarding the effectiveness of implementing transparency measures. Corrigan found that while joining the EITI has had a significant and positive effect on economic development in member states since its creation, its effects have not yet led to significant improvements in the mitigation of corruption (Corrigan, 2016). Likewise, Oge found that joining the EITI correlated to higher foreign direct investment in member countries, making it a good economic tool increase investment attractiveness (Oge, 2016). On the other hand, Etter found that being a member of the EITI led to lower corruption in Peru but had negligible effects in Mali (Etter, 2014). He attributed this difference in effectiveness to the civil society in place in the countries studied, finding that the EITI was only effective when there was already a functioning civil society in place beforehand (Etter, 2014). Rustad et al. takes a more moderate stance, finding that the EITI has been quite successful in setting up standards for auditing, reporting, and civil society involvement in stakeholder

groups, however they maintain that it would be lacking to evaluate the EITI as whole as a success or as a failure based on only one or two aspects of the initiative (Siri Aas Rustad, 2017).

The studies done on the effectiveness of transparency policies point towards a need to first know the current state of mining transactions in the respective country. As increased transparency could lead to more foreign direct investment, more economic development and lower corruption contingent on the country's civil society, an understanding of the issues around mining transactions need to be highlighted. By understanding how mining contracts are conducted, how prices and buyers are determined, we hope to illuminate problem areas that the government should focus on in order to better mining transactions and lead to more transparency in the future.

In Mongolia's case, both the NREGI and EITI are currently active, with the EITI recently collaborating with the Mongolian government to take steps to promote beneficial ownership disclosure. This initiative has led to a general roadmap until 2020 that includes new government legislation to support beneficial ownership disclosure as well as assistance in implementing government anti-corruption initiatives included in the National work plan for 2016–2018, the National 2017–2023 program to combat corruption and the State Policy on the Mineral Resources Sector 2014–2025 (EITI, 2017).

Last but not least, the role of Mongolia's mining sector associations in policy making is another important issue. Mining associations play a major role in raising awareness for the mining industry. Currently, several mining sector associations such as the National Mining Association of Mongolia and the Coal Association are active in their efforts towards promoting sectoral development. However, their engagement in policy making process has been limited. Some experts criticized that policymakers don't discuss with sectoral associations in decision making and, as a result, those important decisions are not effective.

CONCLUSIONS AND POLICY RECOMMENDATIONS

Mongolia's extractive sector has been facing major problems in its marketing and trading activities which are the consequences of not having an effective, long-term policy. Especially, depending on specific characteristics of their products and market situation, coal exporters along with iron ore and fluorspar exporters encountered more severe risks and burdens than other mineral exporters. In case of copper concentrate, gold, oil and zinc, there are only a few suppliers that have already established long-term relations with their customers, or prices are set in the global exchanges, and raw materials can be shipped with a standardized quality. In contrast, the local markets of the other commodities such as coal and iron ore have different characteristics. Therefore, in this study, we focused more on the marketing and trading issues of coal and iron ore exporters.

Basing on our research findings, we have made the following conclusions:

- Most coal exporters directly sell the raw material to buyers at the mining site. They also prefer and actually sell their raw materials with payments in advance, but this practice is not favorable for end-users or steel making companies. In this case, trading houses provide flexible financial services and share the risks as a professional mediator. In China, for example, many traders run intermediary businesses between steel mills and mid-tier or small coal and iron ore mining companies. Globally, in terms of sales volume, commodity trading businesses are considered larger than mining sector itself.
- Many coal and iron ore exporting countries have already established commodity exchanges and trading platforms. Mongolia also desperately needs to establish its own commodity exchange or, at least, an electronic price board at mining sites. Likewise, companies can sell their commodities through open auction like Erdenes Tavan Tolgoi does. The modern trading system has many advantages. First, they provide price setting mechanisms based on bidding. Second, supporting infrastructure under the exchanges (clearing, settlement, payment etc.) will lower trading related risks and financial costs. Third, because the prices are set explicitly and in a timely manner at the exchange, it would be clearer and

easier to pay taxes and royalty. Fourth, because the exchange system requires the quality standard from commodity suppliers, mining companies tend to process raw materials and add value to their commodities, for example, by building commodity concentration factories. Most coal and iron ore exporters already have such factories. Another advantage is that standard contracts in the commodity exchange protect suppliers and buyers from price volatility.

- According to mining companies and industry experts, almost all Mongolian mining companies don't conduct in-depth market research. This is partly due to their business model. For example, coal mining companies such as Shinhua MAK and MAK at Nariin Suhait basin are controlled by Shinhua Energy, one of the largest Chinese companies while Dachin Tamsag oil company is owned by the oil refinery company at Dachin industrial complex, China. Also, Tsairt Mineral, the zinc mining company, is controlled by China Non-ferrous Metal Industry's Foreign Engineering and Construction Co., Ltd. However, the main reason behind lagging market research is that mining companies don't have the research capacity or don't understand the importance of research and intelligence activities. In particular, mining companies would benefit from conducting in depth analysis of trading and contracting practices between main buyers like steel makers or traders and mining companies from Australia, Indonesia, Brazil and Russia.
- In Mongolia, export financing services including payment and insurance are not developed. Commercial banks and other financial service providers don't have financial products for commodity exporters. This part of the business hasn't been studied well, so there is not any policy or plan yet.
- For coal and iron ore exporters, the issue of transport and logistics is a bottleneck. Building new railways from mining sites to border ports is one solution among others such as improving road conditions, speeding up custom clearance, or negotiating with China's officials for lifting the import quota on Mongolian coal. However, feasibility studies of potential railway routes are not available. For example, economic feasibility of new railway from Sainshand city to the eastern borders was studied a decade ago at a very general level. Although its preliminary conclusion was that the route is not economically feasible due to its low utilization, it is necessary to study in detail again as the previous study was not officially finalized

and the market situation has changed greatly since then. In addition, a detailed study of the railway route from Mongolia's northern border to Nahodka, a Russian sea port, is not available.

Accordingly, we suggest the following comments as policy recommendations:

- The commodity exchange is the core market mechanism in commodity trading as the price system directly reflects demand and supply forces. It must be independent of strict government controls because overregulation by rigid administrative measures distort the market price and lead to inefficient outcomes. Following the common practices in other countries, it should be managed through a private and public partnership. The exploratory studies and preparations were done to some extent and the preliminary concept of the law on commodity exchange was approved by the Government. But, in terms of legislation, the specific law may not be needed because it can be regulated through current laws after some changes and amendments. It should be optional for mining companies to participate in the exchange as the commodity standard of some companies may not be qualified or they might not want to sell their raw material at the exchange.
- Traders' activities should be supported at the policy level as they are important players in any market and provide intermediary services which reduce marketing and financial risks and alleviate some of the burdens from both producers and consumers. Some experts suggest that the Law on Trade is to regulate and support trading activities.
- Companies in the mining sector, in particular state – owned companies, should make all contracts including sales contracts transparent.
- Export financing mechanisms should be developed. For example, establishing Mongolia's Export Import Bank could be a potential solution. On top of that, a special insurance company is needed to protect from risks in foreign trade. Detailed policy research is needed in this direction.
- During the data collection section of the study, some respondents from mining companies seem to have little knowledge of basic economic concepts such as taxation,

royalty, market price system and competition etc. Additionally, the lack of skills and knowledge on trading, contracting or negotiations seem to be common throughout the sector. Therefore, organizing capacity strengthening projects like regular training on those issues for mining companies, government agencies and sector specialists should be implemented in cooperation with international organizations.

- Mining associations should play a crucial role in policy making and raising awareness for the industry. Therefore, participation of non – government organizations such as the National Mining Association of Mongolia, the Mongolian Coal Association, and the Fluorspar Association, should be increased in the policy making process.

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APPENDIX 1. LIST OF RESPONDENTS

- N. Alгаа, President at Mongolian Mining Association
- N. Ariuntuya, Editor at Mongolian Mining Journal
- S. Ashidmunkh, Chief Investment Officer at Erdenes Tavan Tolgoi LLC
- S. Batbileg, Manager at Tavantolgoi LLC
- O. Battsetseg, Financial Manager at Usukh Zoos LLC
- B. Battur, General Manager at Market Research and Sales Support department of Energy Resource LLC
- D. Dalaibayar, Director of Trading department, Mongolian Gold Corporation LCC
- B. Delgermaa, Communicational Manager at EITI Mongolia
- N. Dorjdari, Director at Natural Resource Governance Institute (NRGI) Mongolia
- Ch. Khashchuluun, Expert and Researcher
- E. Odjargal, Journalist at Mongolian Mining Journal
- G. Oyuntuya, General Manager at Tsairt Mineral LLC
- M. Sukhbaatar, Vice director at Bold Tumur Eruu Gol Co., Ltd, Secretary at Mongolian Association of Metal Producers
- S. Tsevegmid, Head of Fluorspar Association
- Sh. Tsolmon, General secretariat at Extractive Industries Transparency Initiative (EITI) Mongolia
- P. Ulziinaran, Project Manager at MoEnCo LLC
- Anonymous government official

APPENDIX 2. SURVEY QUESTION GUIDELINE

For mining companies

The following survey is conducted by the Economic Research Institute (www.eri.mn) in collaboration with the Ministry of Mining and Heavy Industries and the Japanese International Cooperation Agency (JICA).

The purpose of this survey is to clarify the issues that occur at every stage of the marketing and sales process of mining companies and propose a plan for possible solutions.

The information collected during the survey will be only be used for research purposes and will be kept confidential in accordance with Mongolia's laws on Corporate Privacy and on Statistics.

Participant's information

- 1.1. Name of Organization
- 1.2. Name of participant, position
- 1.3. Mining commodity
 1. Copper 2. Coal 3. Gold 4. Iron ore 5. Zinc
 6. Crude oil
- 1.4. Year of initial production

Finding sales outlets

- 1.5. How does your organization sell its export products?
 % is sold to final consumers ,% is sold to intermediaries.
- 1.6. How does your organization conduct research on the export market for raw materials, final consumers, intermediaries, and competitors? How in – depth is the research conducted? With what frequency is it done?
- 1.7. What are some issues you face when doing market research?
- 1.8. How does your company choose its end consumers and intermediaries? Do you choose among the buyers and intermediaries that contact you or do you contact them yourselves? Did industry trade fairs, conferences or any public organizations help in facilitating contact with potential buyers and intermediaries?

- 1.9. Who are your main buyers and or intermediaries?
- 1.10. Does your company advertise its products in the world marker? If so, how and through what mediums?
- 1.11. What were some issues you faced when trying to find and contact possible buyers?
- 1.12. What policies should government agencies implement and what assistance should they show in order to aid in finding and contacting buyers?

Making sales contracts

- 1.13. How long are the sales contracts typically made with buyers of your goods? What do you think this is related to?
- 1.14. Does your company conduct any research on sales prices? How do you settle on a price in a contract? Do you use any prices as benchmarks? If so, what trade center or port prices do you use?
- 1.15. What product and quality standards are required in the sales contract? Are there any specific packaging and transportation requirements?
- 1.16. What are some of the issues you face when creating a sales contract with a buyer?

Transportation

- 1.17. How does your company transport its export goods and through what port?
- 1.18. What are some of the issues you've faced when transporting your goods and going through customs and border control?
- 1.19. How do you reduce the risk involved with loading, transporting and clearing goods through customs? Is there a section in the contract that accounts for such risks?
- 1.20. What trade terms (incoterm: CIF, FOB...) do you usually follow in your contracts? How do you divide transport, tax, and insurance costs? Why do you usually choose these conditions?
- 1.21. What policy or assistance is needed from government and non-government organizations during the transportation stage?

Financing

- 1.22. Are there any issues with financing when selling your goods?
- 1.23. What payment conditions (letter of credit, credentials, guarantees, transfers) do you usually choose when selling your goods? Do you receive your payments in advance, afterwards or in segments? Why do you usually choose these conditions?
- 1.24. How do you protect against exchange rate risk?

Contract Disputes

- 1.25. How often is there a violation of the contract made with the **buyers** and **intermediaries**? What is the main risks? How is the dispute resolved? Who do you get assistance from?
- 1.26. How often is there a breach of contract with a **carrier, financier, or insurer**? What is the main risks? How is the dispute resolved? Who do you get assistance from?

Other issues, possible solutions

- 1.27. Any other issues with exporting mining commodities?
- 1.28. When exporting your products abroad, what are some issues that arose in the domestic market?
- 1.29. When exporting your products abroad, what are some issues that arose in the foreign markets?
- 1.30. What policies should government and non – government organizations conduct and what assistance and support should they provide in order to improve export sales and marketing?