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Study of Coal Trade between Mongolia and China, its Effect in Mongolian Coal Market

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Abstract. The Mongolian economy is based on the mineral production of its territory, there is the case of Coal that had become the most important product to support the national financial system during the last years, the absence of this important mineral can cause a big predicament not only due to the many internal uses of the product, but also to the effect on the income for exportations. This relevance support the fundament to direct this research on this topic, where the financial factors will be analyzed in order to determine the position of the Mongolian Coal market and put forward the potentially of this sector on the national economy.

Keywords: coal; coal market; export.

Introduction. Mongolia has 20 billion tons of proven coal reserves and estimated resources totaling 150 billion tons, mostly of them is low-rank brown coal, but remains undeveloped due to a lack of infrastructure. According to Mongol coal association data, copper production was the key of GDP. Coal will define Mongolia's economic prospect in recent years. Specialists view coal would contribute define percentage of GDP in Mongolia in the next few years instead of copper that occupied 40 % of mineral resources export. Such reserves include the huge Tavan Tolgoi deposit in the south Gobi, which contains over 5 billion tons of coking coal, but lies more than 400 km from the nearest railway. The typical coal resources mined and used now are in Baganuur and Shivee Ovoo deposits. Mongolia's current coal production is about 5.3 million tons, and consumption is projected to reach up to 6.4 million tons in 2010. Coal quality in Mongolia varies from hard coking coal to high ash thermal coals, often multiple seams in the same mine and almost all coal will be benefit from wet washing. China is the world's largest consumer of coal and consumption is expected to double over the next 20 years. With Chinese imports growing rapidly, Mongolia is on the verge of becoming a major exporter of coal into this growing market. China is the primary, and arguably currently the only, market for Mongolian coal. Almost all Mongolian coal exports to China are currently trucked to the Mongolia/China border and the coal sold into the Chinese province of Inner Mongolia, Gansu and Xinjiang through the three main border crossing points of Ceke, Gants Mod and Erenhot. Much of the growth in Mongolia's coal production in the next years is expected to come from the exiting major coal producers and exporters including Mongoliin Alt Group, Tavan Tolgoi JSC, MMC and Southgobi Resources, and Big Tavan Tolgoi. Although china's coal exports are expected to continue henceforth, the volume of exports will vary in accordance with the actual conditions of supply and demand and the difference between domestic and foreign prices, with ceiling applicable to the export license volume notified following scrutiny of the domestic supply and demand of coal. One of the key goals of reforms in transition economies is to improve industry productivity and efficiency, and thus create production units that can work viably in competitive

markets (Suwala and Labys, 2002). Therefore, technical efficiency of firms can be used as an indicator to evaluate the efficacy of policy and reforms. The abundant literature on the coal industry in western contexts has not contributed to those issues of the coal industry in transition economies. Studies of efficiency and productivity in coal mining industries in OECD economies, such as Anton (Anton, 1981), Humphris (1999) and Kissell (2000), and particularly on the US case, e. g., Darmstadter (1999), Ellerman et al.(2001), and Smith (2004), focus mostly on technical and management issues, while in transition economies, key issues are impacts of reforms and policies. Those extensive studies of productivity performance of China's economy have not addressed much to the coal industry, too (see Jefferson et al. (1996) and Shiu and Heshmati (2006) for a review).

Materials and method. This work consists of studying the ratio of coal market price and analyzing it, as well as comparing Mongolian and China's coal export price for the determination of the economic effects of prices and coal exports on the world market. For the research process, scientific methods will be used including a systematic and logical analysis of price, cost comparison, generalization and analysis of collected data, and use of simple regression equation with SPSS software. Published data for coal prices and coal export in the years 2007–2011 will be studied in detail.

Result. Export prices from China and Mongolia were compared, considering 3 countries as China' major customers (Japan, South Korea and Taiwan), the comparison was conducted during a period of five years (2007–2011), as well as based on a model summary the variables like exchange rates were find out to be analyzed. Table 1 As a result of the analysis, a sample fit for the regression line and the significance test can be performed. R squared is 0.615 62 % of the cases used for statistical analysis of the sample can be said to be suitable for the regression line, the variable exchange rate and Japanese export prices are the same as the square of correlation coefficient. If all the measurements, on the sample regression line R square line R-square is 1, between the dependent and independent variables do not exist any linear relations R squared is zero. R value is 0.784, which is the correlation coefficient between two variables. R square for the model shows how well population can be the basis of the estimate R squared is 0.609, as modified, ie, $0.609=1-[(1-0.615)*(N-1)/(N-1-1)]$ of the population in order to best fit this model R squared will be modified.

Table 1

Model summary

Model	R	R Square	Adjusted R Square	Standard error of the estimate
1	.784(a)	.615	.609	16.299

a. predictors: (constant), Yuan
b. dependent variable: Japan(1ton)

Table 2 and 3 has the same previous explanation for table1, with the only difference expressed on the amount for R 0.736, R Square 0.541, Adjusted R Square 0.533, Standard error of the estimate 18.033 and R 0.838, R Square 0.703, Adjusted R Square 0.698, Standard error of the estimate 10.625 for table 2 and 3 respectively.

Table 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.736[a]	.541	.533	18.033

a. Predictors: (Constant), Yuan
b. Dependent Variable: Korea(1ton)

Table 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.838[a]	.703	.698	10.625

a. Predictors: (Constant), Yuan

b. Dependent Variable: Taiwan(1ton)

Table 4

Showing data regarding 2007 the exchange rate was 7.8 Yuan per U.S. dollar when the launched dollar. From July 2008 to July 2010, china kept the exchange rate of RMB at roughly 6.8 Yuan to the dollar. The Yuan strengthened 2011 to reach an all-time high of 6.4 against the U.S. dollar

Exchange rate of currency: China Y-$												
	1	2	3	4	5	6	7	8	9	10	11	12
2007	7.8	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.5	7.4	7.4	7.4
2008	7.2	7.1	7.1	7	6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.8
2009	6.8	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2010	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.6	6.6
2011	6.5	6.5	6.5	6.4	6.4	6.4	6.4	6.3	6.3	6.3	6.3	6.3

Source: Bank of Mongolia

Table 5

Showing data regarding in august 2007, the first sharp depreciation of MNT against USD was observed for last years

Exchange rate of currency: Mongolian T=$												
	1	2	3	4	5	6	7	8	9	10	11	12
2007	1166	1164	1164	1164	1164	1164	1164	1164	1164	1163	1174	1188
2008	1169	1171	1171	1168	1164	1161	1157	1155	1150	1146	1144	1180
2009	1167	1380	1470	1487	1424	1428	1435	1454	1422	1425	1418	1445
2010	1430	1450	1425	1355	1365	1380	1372	1348	1300	1320	1278	1235
2011	1230	1235	1245	1245	1245	1220	1260	1251	1237	1265	1297	1237

Source: Real Time Currency Exchange Rate

Conclusion. The coal business situation between China and Mongolia were compared, not only highlighting the China active market, but also the Mongolia potentiality when their only collector center is China the production offers good chances to open new markets, as well as the faculty of produce an excellent quality coal with affordable prices.

The current Mongolia's coal market shows clearly that is not developed yet, So China as the leading coal producer becomes the model to be learn about. Based on the Chinese experience, the Mongolia Market already adopt a new plan and still developing new strategies in order to become a strong potency in the coal's export field.

The simple regression equation shows the results of the analysis for each independent variable increases by year, due to the trend of multi-collinearity among the independent variables, becoming very significant the use of a simple regression analysis used.

Another difficulty that Mongolian trade fights to improve the market is expressed by the currency weakness, expressed in economy terms the Chinese RMB is an stronger currency, compared to Mongolian T (Togrog), based on the Dollar imposition in the world trade, the RMB

will always have more advantages than T, which allows to fight inflation by making imports cheaper, but the T position hurts the exports and employment by making the goods more expensive in foreign markets. (Table 4, Table 5)

Reference:
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Исследование угольной торговли между Монголией и Китаем, и ее воздействие на монгольский рынок угля

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Аннотация. Монгольская экономика базируется на территории добычи полезных ископаемых угля, которые стали наиболее важным продуктом для поддержки национальной финансовой системы в последние годы, отсутствие этого важного минерала может привести к большой затруднительном положении не только из-за многочисленных внутреннего использования продукта, но и о том на доход для промыслы. Это отношение поддерживают фундамент направлять исследования по этой теме, где будут проанализированы финансовые факторы для определения положения монгольских угольного рынка и выдвинул потенциально из этого сектора на национальную экономику.
Ключевые слова: уголь; угольный рынок; экспорт