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Research Article

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PROVIDONG MONGOLIAN NATIONAL ECONOMIC SECURITY THROUGH DEVELOPING IT'S MINING SECTOR

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ABSTRACT

An economy is the main pillar of an effective national security strategy and a key instrument of national power. Mongolia's geographic position between two political and economic powers (China and Russia) provides both opportunities and disadvantages for Mongolia's economy. Mongolia's economy is currently sustained through exports of raw minerals to its neigh boring countries, which means Mongolia is vulnerable to the mineral market values of those countries. Moreover, highly ambitious natural resource extraction hinders other potentially productive domestic economic manufacturing sectors, which impacts Mongolia's overall economic development. Therefore, Mongolia needs to develop a multi-pillared, sustainable economic structure based on its resources under a strategic institutional management. This research work is explained that economic and national security are inseparable. Therefore, Mongolia must leverage and develop its mining sector to bolster its economic security, further enhancing its national security. The author stresses the importance of developing an economic security strategy in Mongolia and recommend ways to accomplish this..

Keywords: Mongolia, National Security, Economic Security, Mining sector, and Economic Development.

INTRODUCTION

Mongolia's economy is based on agriculture, livestock, and mining industries; but the nation has not developed domestic heavy industries to support its economic growth. According to Batchuluun, the mining industry of Mongolia is responsible for one-fifth of Mongolia's Gross Domestic Product (GDP), two-thirds of its industrial output, three-quarters of export earnings, and one-half of public revenue.[1] In 2014, the mining sector's contribution to the Mongolian economy represented about 26 percent of national GDP.[2] During the last decade, Mongolia's economy has been buffeted by the varying value of the global mineral market with its economic growth fluctuating greatly as a consequence. For example, The World Bank reported that copper concentrations alone constituted 37 percent of total exports and coal constituted 13 percent of total exports in 2014 with copper exports to China projected to account for almost half of total exports by the end of 2017. However, a sharp drop in coal exports to China has been a significant drag on Mongolia's economy and the external accounts for 2015. A 10 percent drop in copper and coal export revenues from the baseline projection would widen Mongolia's current account deficit by more than 3 percentage points of GDP in 2016.[3] This finding affirms that the mining sector is a major component of the Mongolian economy and will remain a vital part of the nation's development. Over the last two decades, Mongolia's mining sector has been identified as the main contributor to its economic growth. Mining Sector Overview reported that there are approximately 600 deposits being exploited, whereas approximately 8,000 individual deposits have been explored in Mongolia. These include over 180 gold deposits, 5 copper and molybdenum deposits, a lead deposit, 5 tin deposits, 10 steel iron deposits, 4 silver deposits, 42 deposits of brown and cooking coal, 42 fluorspar deposits, 12 salt and 10 sodium sulphate deposits, 6 semi-precious stone deposits, 9 crystal deposits and over 200 deposits of minerals used in production of construction materials. Currently, over 200 deposits of gold, copper, coal, salt and other minerals are being exploited.[4]Each key deposit will be discussed below in order to demonstrate the importance of Mongolia is mining sector.

Mongolia's Mineral Institution

Mongolia has been revising the mineral related laws and regulations to foster its economy through the mining sector since 1997.The government agency of the Mineral Resources Authority of Mongolia was formed in 1997. It administers geological and mining surveying, research, registering, and issuing of licenses in compliance with the Law of Minerals. The first law, "The Law of Minerals," was approved in June 1997, with amendments in 2006, 2009, and 2014and it regulates mining exploration, exploitation, and production in the context of economic growth for Mongolia. Most of the amendments are based on investment policy, taxation law, customs law, mining exploration licenses and environmental safety matters. The amendment in 2009 determined the classification of the mineral deposits as strategic, common, and conventional. The government holds more than 50 percent ownership in all the strategically important deposits. These deposits are categorized as strategic because they may impact Mongolian national security, economy and social development. Strategic deposits are those that are in strong international demand and annual mineral production will contribute at least 5 percent of GDP, and final the deposits that can be developed and identified with private funds. Common minerals are those minerals whose concentrations are abundant in sediments and rocks and that might be used as construction material (e.g., iron ore). Conventional minerals are those minerals that are not of strategic importance and are not classifiable as common minerals (e.g., artisanal deposits).[5]

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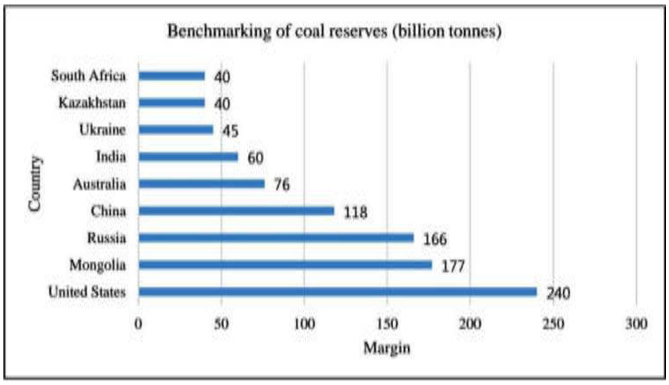
[1] Amrita Batchuluun and Joung Yol Lin, "An Analysis of Mining Sector Economics in Mongolia," Global Journal of Business Research 4, no. 4 (2010).
[2] World Bank Group, Mongolia Economic Update (New York: World Bank, 2014), 8.
[3] World Bank Group, Mongolia Economic Update (New York, World Bank, 2015), 37.
[4] SES Professionals "Overview of Mongolia's Mining Industry," accessed January 18, 2017, http://sesprofessionals.com/overview-of-mongolias-mining-industry/.
[5]Mineral Law of Mongolia, "Article 6," (2009), accessed January 26, 2017, http://www.forum.mn/policyissue/MineralsLawOfMongolia20090919_en.pdf.

Table 1. Strategically Important Mining Deposits

No	Deposit name	Type of mineral	Location	Reserves & Resources
1	Tavan tolgoi	Fossil coal	Umnugobi, Tsogttsetsii	6,420 million tonnes coal
2	Nariin sukhait	Fossil coal	Umnugobi, Gurvantes	125.5 million tonnes coal
3	Baganuur	Brown coal	Ulaanbaatar, Baganuur	600 million tonnes coal
4	Shivee Ovoo	Brown coal	Gobisumber, ShiveeGobi	646.2 million tonnes coal
5	Mardai	Uranium	Dornod, Dashbalbar	1,104 tonnes at 0.119% U_3O_8
6	Dornod	Uranium	Dornod, Dashbalbar	28,868 tonnes at 0.175% U_3O_8
7	Gurvan bulag	Uranium	Dornod, Dashbalbar	16,073 tonnes at 0.152% U_3O_8
8	Tomortei	Iron	Selenge, Khuder	229.3 million tonnes at 51.15% Fe
9	Oyu tolgoi	Copper, gold	Umnugobi, Khanbogd	2.7 billion tonnes of ore, 25,4 million tonnes of copper , 1028 tonnes of gold
10	Tsagaan suvarga	Copper, molybdenum	Dornogobi, Mandah	10.64 million tonnes oxides at 0.42% Cu and 0.011% Mo, 240.1 million tonnes sulphides at 0.53% Cu and 0.018% Mo
11	Erdenet	Copper, molybdenum	Orkhon, Bayan-Ondor	1.2 billion tonnes at 0.51% Cu and 0.012% Mo
12	Burenkhaan	Phosphor	Khubsugul, Alag-Erdene	192.24 million tonnes at 21.1% P_2O_5
13	Boroo	Gold	Selenge, Bayangol	24.5 thousand tonnes at 1.6g/tonn Au
14	Tomortein ovoo	Zinc	Sukhbaatar, Sukhbaatar	7.7 million tonnes at 11.5% Zn
15	Asgat	Silver	Bayan-Ulgii, Nogoonnuur	6.4 million tonnes at 351.08g/tonn Ag

Source: Susan Wacaster, 'The Mineral Industry of Mongolia," U.S. Department of Interior, June 2014, accessed April 2, 2017, https://minerals.usgs.gov/minerals/pubs/country/2012/myb3-2012-mg.pdf.

Presently, Mongolia has its ambitions based on Oyu Tolgoi and Tavan Tolgoi, the strategically important deposits. Oyu Tolgoi has 2.7 billion tons of copper ore, 45 million tons of copper and 1.8 tons of gold. The potential mine life is a minimum of 50 years at 100 tons a day of ore processing. Mongolia's government owns 53 percent of the deposits while foreign investors own the remaining 47 percent. These deposit accounts for up to 44 percent of the country's exports, with Oyu Tolgoi alone expected to account for one-third of Mongolia's GDP by 2020.[6]Currently, Mongolia exports copper and molybdenum to China, fluorspar to Russia, USA, and Ukraine, and gold is exported to China, USA, and Great Britain. China is the largest export destination and accounts for more than 70 percent of total Mongolian exports, plus it is the main importer of Mongolian coal, copper, and molybdenum concentrate. Russia is the third largest export market and accounts for 11 percent of the total of Mongolian exports and is the main importer of fluorspar concentrate.[7]



Source: Erdenebat Mungunzul, "Foreign Direct Investment in the Mongolian Mining Sector, "International Journal of u -and e-Service, Science and Technology 9, no. 3(2016): 249-258, accessed February 10, 2017, http://dx.doi.org/10.14257/ijunesst.2016.9.3.24.

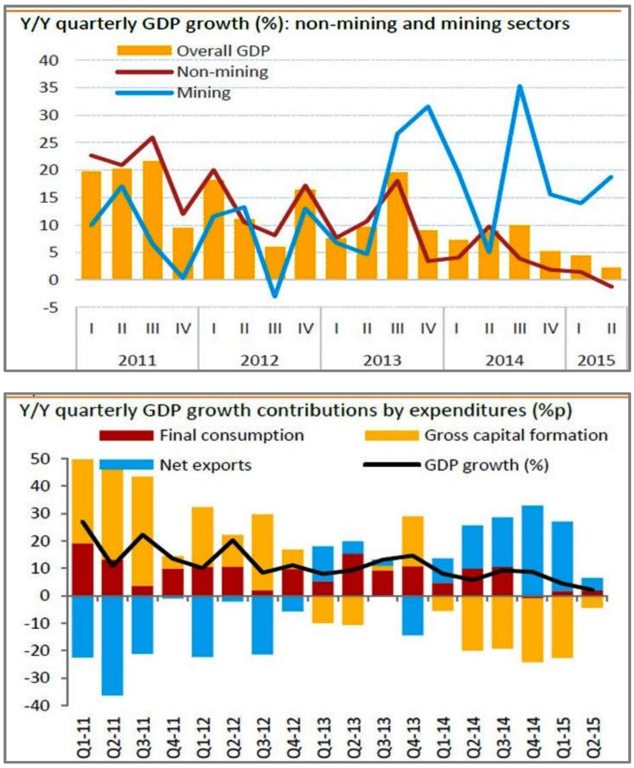
Figure 1. Benchmarking of Coal Reserves

Unfortunately, Mongolia is unable to develop its raw mineral processing industries into value added products, resulting in the economy is benefitting primarily from the revenue of raw mineral exports. Mongolia's mining sector requires comprehensive internal institutions supported by external financial investments, innovation, and new technologies to improve Mongolia's position among the big markets of the world.

[6]Mongolia's Extractive Industries Transparency Initiative (MEITI).
[7]Ibid.

The Impact of the Mining Sector on Mongolia's Economy

Mongolia's economic growth has been fluctuating in correlation with its mineral exploitation and has been affected by the global market value instability of the past two decades. The mining sector's performance suffered a 26 percent interruption as a result of the global financial crisis in 2009 as shown figure2. The financial crises impacted Mongolia's economy due to the significant dependence on mining sector exports as during the crises, copper prices fell from USD 8700 per ton in April 2008; to USD 3000 per ton in March 2009, a 65 percent reduction. This resulted in a 13 percent unemployment increase and affected other economic factors adversely.[8] This fact alone indicates that Mongolia is significantly dependent on its mining sector export and its economy is highly vulnerable to that market's price fluctuations. In 2014, Mongolia exported 28.5 million tons of coal, 90 percent of which was delivered to China. The proportion of coal extracted in Mongolia for export rose from 44 percent of the total in 2009 to more than 56 percent of the total in 2012. According to mining researchers; Mongolia is the largest exporter of coal to China, surpassing Australia.[9]



Source: The World Bank Group, *The Mongolia Economic Update* (Washington, DC: World Bank Group, 2015), assessed April 4, 2017, http://pubdocs.worldbank.org/en/920971447119845335/meu-nov2015-en.pdf.

Figure 2. Percentage Gross Domestic Product Growth 2011-2015

The World Bank reported that mineral related GDP recorded a 22 percent growth in 2014 largely on the back of a 34.5 percent increase in copper concentrate production, with Oyu Tolgoi copper and gold mine beginning its first full-year commercial production. Copper concentrate production of the Oyu Tolgoi mine accounted for one-third of total mining production and approximately eight percent of total GDP in 2014.In the first half of 2015, production of copper concentrates increased by 24.9 percent year-on-year, a robust but slower growth than the 56.2 percent growth one year before as Oyu Tolgoi mine entered into the second year of full production. Coal

[8]Jiří Mičánek, "Mongolia: Economic Miracle or Another Case of Resource Curse?" (Master's thesis, Mendel University in Brno, 2014), 29, accessed January 16, 2017, https://theses.cz/id/68u409/zaverecna_prace.pdf.
[9] SES Professionals.

production declined by 2.4 percent in the same period, reflecting the continued weak coal market conditions. This resulted largely from China's slowing economy and its drop of steel production, which lead to a reduction in market needs, which pushed coking coal benchmark prices to such low levels.[10] Moreover, the World Bank analyzed that Mongolia's mining sector should expect less coal exports in 2016 and 2017 based on the global market decline. However, from 2018 mineral concentration markets would increase its demand. Therefore, Mongolia needs to improve mineral concentration of ores to recover the predicted market losses in the coming years.[11] Furthermore, in order to analyze Mongolian economic environment, it is important to understand China's economic environment, as its largest trading partners mineral market needs. China is the developing world's second largest economy and is expanding its interests in natural resources beyond its border to gain a greater market value share. This has led to other nations more carefully considering their economic policies including foreign policy with China. Significantly, China has been the biggest trading partner and investor in Mongolia since 1999 and, as elaborated below, currently tries to exert influence over Mongolia's diplomatic relations with other state actors. Therefore, in the framework of developing a domestically sustainable economy, Mongolia should closely monitor China's economic policy and political swings besides just its global economic tendency in order to avoid any undue complications both internationally and domestically.

China's Mining Export Influences over the Mongolian Economy

China practices a socialist market economy based on the dominance of the state owned sector but with aspects of an open-market economy. China's share of the world GDP in purchasing power parity terms reached about 17 percent in 2015, exceeding the United States and the Europeans Union evidencing that China's economy is becoming the strongest in the world.[12] This is confirmed by the Congressional Research Service (CRS) which reported that China's economy is the world's largest economy on a purchasing power, manufacturing, and merchandise trader basis and as a holder of foreign exchange reserves. However, China's economy has slowed in recent years, as GDP fell from10.4 percent in 2010 to 7.8 percent in 2012, to 7.3percent in 2014 and is expected to be slower in the coming years.[13]China's current economic slowdown resulted in some negative political, economic, and social outcomes with challenges reported for government corruption, over reliance on investment and exports, an inefficient, heavily controlled weak banking system and financial policy, and increasing income inequality.[14] However, the CRS reported that China's growing economic power has made it a critical and influential player on the global stage with China carrying out several critical initiatives that could increase its soft power in the world. For example:

- In July 2014, China, along with Brazil, Russia, India, and South Africa, announced the creation of "New Development Bank."
- China announced plans in 2013 for a Silk Road Economic Belt and a 21st Century Maritime Silk Road (together, referred to as the "One Belt, One Road initiative").
- In October 2014, China launched the creation of a new $100billion Asian Infrastructure Development Bank aimed at funding infrastructure projects in Asia.
- In November 2014, China promised to contribute $40 billion to a new Silk Road Fund to improve trade and transportation links in Asia.
- In April 2015, China publicized that it would invest $46 billion in infrastructure development in Pakistan under the umbrella of China-Pakistan Economic Corridor.[15]

Chinese domestic output increased 3.3 times, while imports of iron ore rose 8.5 times, from 52 M. tons to 444 M. tons. As a result, China's iron ore dependence on imports gradually rose from 31.6 percent in 1998 to 54.8 percent. In fact, China has been the largest steel producer for over a decade, producing nearly one-third of the world's steel, which is more than three times the output of Japan and the United States, the second and third largest producers respectively. By 2008, China's share of total world steel production had risen to 47.4 percent. Steel production in China nearly doubled during the 1990s, and it tripled during the 2000s, rising at an average annual rate of over 22 percent in 2008 and 72.9 percent in 2009.[16]China's copper smelting industry also grew fast, quickly increasingly since 2000 when its annual growth rate was 10 percent. The average growth rate of smelting (14.3 percent) has been more than twice as high as that of mining output (6.6 percent), reflecting increased reliance on copper ore imports. China's copper demand rose from 0.7 M. tons in 1990 to 6.6 M. tons in 2007.Since1990, China's annual average copper growth rate is close to 14 percent, well above the rate of increase of domestic copper output. In 2007, China imported high volumes of copper-related products included 4.5 M. tons of copper ore; 0.2 M. tons of crude copper; 1.4 M. tons of refined copper; 0.6 M. tons of copper products; and 5.6 M. tons of scrap copper. The deficit of copper trade was equivalent to US$30.1 billion. China's dependency on copper imports is very high, as around two-thirds of world, mined copper ore is used in China.[17] The geographic contiguity of Mongolia to China gives it an enormous opportunity to leverage this situation. China is the world's largest coal-powered economy even as it has continued to develop high volumes of nuclear and renewable energy. China's heavy industrialization and an increase of population and urbanization are quickly raising its coal demand. If demand increases continue, national reserve estimates indicate a coal deficit is likely to emerge, bringing with it concerns for China's energy security. Nathaniel Aden reported that in 2006, the power generation sector, iron and steel, and cement accounted for 71 percent of coal consumption. He further noted that future coal use is likely to come from the burgeoning coal liquefaction and chemicals industries. China estimated that demand for coal to liquids and coal to chemicals might add up to 450 million tons of coal by 2025, and annual coal demand will reach 3.9 to 4.3 billion tons by 2025.[18] China's high coal demand, increasing coal prices and domestic resource shortages will influence its political, economic, and social stability, which may affect the regional and global economic and political landscape. A global resource deficiency coupled with a rising China coal demand may bring about high competition with other coal importing countries in Asia Pacific, including Japan, South Korea, Taiwan, and India. Bedeski writes that

[10] Mongolian Mining Corporation, Annual Report 2015 (Wanchai, Hong Kong: Computershare Hong Kong Investor Services, 2015), 20, accessed January 16, 2017, http://www.mmc.mn/upload/2016-04-25eng.pdf.

[11] Ibid.,34.

[12] Lee Jong Wha, "China's Economic Growth and Convergence" (Asiatic Research Institute, Korea University, Korea, April 2016), accessed January 21, 2017, http://econ.korea.ac.kr/jwlee/papers/China 2020160426.pdf.

[13]Wayne M. Morrison, China's Economic Rise: History, Trends, Challenges, and Implications for the United States(Washington, DC: Congressional Research Service,2015), 2, accessed January 21, 2017, https://fas.org/sgp/crs/row/RL33534.pdf.

[14] Ibid., 38.

[15] Morrison, 2.

[16] Yongzhen Yu, "Identifying the Linkages between Major Mining Commodity Circle and China Economic Growth-Implications for Latin America" (Working Paper, International Monetary Fund, April 2011),8, accessed January 21, 2017, https://www.imf.org/external/pubs/ft/wp/2011/wp1186.pdf.

[17] Ibid., 10.

[18] Nathaniel Aden, David Fridley, and Nina Zheng,*China's Coal: Dema, Constraints, and Externalities* (2009), 1, accessed January 21, 2017, http://www.circleofblue.org/wp-content/uploads/2011/02/coal_bohai_report.pdf.

China has possible eyes on Mongolia with the same long-term re-incorporative lust as it views Taiwan. He stated that China invested US 2.3 billion in Mongolia in 2009, which is more than 60 percent of total foreign investment and as such, this is a significant reason why Mongolia cannot afford deterioration in relations with China.[19] Michael Swain argues that China's increasing dependence on foreign market and external economic factors could result in increased pressures for expanding China's ability to control events beyond its border.[20]Therefore, Mongolia has an effective geo-economic leverage, being the second largest producer of coal, and can balance its national security equation in this context. Mongolia is also seeking policies designed to limit China's economic influence such as the Strategic Entities Foreign Investment Law that sought to limit Chinese state-owned enterprises' ownership of and operation in the country's key mining sites.[21] China is growing its economic dominance over Central Asia through SCO offerings. Sebastian Peyrouse observed that the Central Asia's rich mineral resources are increasingly important for China's economy. Beijing is avaricious to get access to Caspian oil and gas reserves. Therefore, China is increasing its economic supremacy and immigrants' numbers to Central Asia. In particularly, Kyrgyzstan, Tajikistan, and Uzbekistan are benefiting from Chinese economic dynamism and geo-strategic influence, but also fearful of its potential demographic and cultural power.[22] Such a Chinese pushy policy makes Russia often disappointed as Russia still has a former hegemony mentality over Central Asia. Tugsbilguun writes that Russia promotes its Central Asian interests through Eurasian Economic Community (EUASEC), which includes Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Belarus. China egoistically seeks to establish a free trade zone with EUASEC rather than SCO without concern for Russian political and economic interest in these areas.[23] Mongolia has abundant reserve minerals which in cooperation with an appropriately behaving China market can bring huge prosper it to the economy of Mongolia if managed well. Mongolia's mining sector needs to be developed under feasible institutions, law, regulation, and judicious intervention of the government for its potential to attract reasonable Chinese investments in capital and human recourses to the advantage of both countries. Importantly, Mongolia needs to consider building manufacturing based industrializations to process raw minerals and support macro and micro economic factors and constructing infrastructures to increase the variety of mining based exports for partners like China, thus supporting the underlying national interest for both Mongolia and its trading partners.

Mongolian Economy's Role in National Security

Neu Charles concluded that national security is a consequence of economic policies, in other words, national security centers on the use of economic means to achieve traditional national security ends. He has debated that national security problems have resulted from economic factors such as trade restriction, embargos, freezing of financial assets, and so on.[24] Similarly, Losman writes that economic goals for national security objectives are the making and implementation of national security strategy and core national security ends.[25] Mongolia's economic development is inseparable from its politically significant shift from communism to democracy. Mongolia's National Security Concept determined that National security shall be assured through the interrelationship among the "security of the existence of Mongolia", "economic security", "internal security", "human security", "environment security" and "information security". It shows that economic security is vital part of the national security of Mongolia. Prior to 1991, 80 percent of Mongolia's trade was with the former Soviet Union, and 15 percent was with other Council for Mutual Economic Assistance (CMEA) countries. Mongolia was heavily dependent upon the former Soviet Union for fuel, medicine, and spare parts for its factories and power plants. The former Soviet Union served as the primary market for Mongolian industry. In the 1980s, Mongolia's industrial sector became increasingly important. By 1989, it accounted for an estimated 34 percent of material products, compared to 18 percent from agriculture. However, minerals, animals, and animal-derived products still constitute a large proportion of the country's exports. Principal imports included machinery, petroleum, cloth, and building materials. In the late 1980s, the government began to improve links with non-communist Asia and the West, and tourism in Mongolia improved. Despite its external trade difficulties, Mongolia has continued to press ahead with reform. Privatization of small shops and enterprises was largely completed in the 1990s, and most prices have been freed. Privatization of large state enterprises has begun. Tax reforms also have begun, and the barter and official exchange rates were unified in late 1991. Further, between 1990 and 1993, Mongolia suffered triple-digit inflation, rising unemployment, shortages of basic goods, and food rationing. During that period, economic output decreased by one-third. As market reforms and private enterprise took hold, economic growth began again in 1994 and 1995.Unfortunately, since this growth was fueled in part by over-allocation of bank credit, especially to the remaining state-owned enterprises, economic growth was accompanied by a severe weakening of the banking sector.GDP grew by about 6 percent in 1995, in response to the increase of copper prices. Average real economic growth leveled off to about 3.5 percent in 1996 through 1999 due to the Asian financial crisis, the 1998 Russian financial crisis, and worsening commodity prices, especially copper and gold. Mongolia's GDP growth fell from 3.2 percent in 1999 to 1.3 percent in 2000 due to the loss in the mainstay agricultural industry of 2.4 million livestock which died because of bad weather and natural disasters. Unfortunately, prospects for development outside the traditional reliance on nomadic, livestock-based agriculture are constrained by Mongolia's landlocked location and lack of basic infrastructure.

Thus, agriculture, livestock and other major industries have been declining ever since. By 2003, private companies made up 70 percent of Mongolian GDP and 80 percent of exports. Consequently, the mining industry's development and subsequent contribution to FDI amounted to a total of almost 25 percent in 1999 from zero in 1990.Mongolian economy, being heavily dependent on exports, received a setback due to 2008 and 2009 economic crises. With the sharp decrease in metal prices, especially copper prices down 65 percent from July 2008 to February 2009, exports of its raw materials withered. Just as the economy started to recover, Mongolia was hit by a Zud (natural disaster) over the winter period of 2009 and 2010, causing many livestock to perish and severely affecting cashmere production, which accounts for a further 7 percent of the country's export revenues. This was especially severe, because beginning in 2004, Mongolia promoted an export-oriented economy based on raw and unprocessed materials such as meat, fur, leather, oil, and mining productions, which left Mongolia's economy vulnerable to external and internal market value fluctuations. Rowland has declared mining a political business, and nowhere else is this more evident than in Mongolia. Situated between two significant economic and political powers, Russia and China, Mongolia owns colossal mineral wealth, but even at the greatest of the commodities cycle in the world market, Mongolia was incompetent at develop its mining industry to any

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19 Bedeski and Swanstrom, 220.
20 Michael D. Swaine, *Interpreting China's Grand Strategy: Past, Present, and Future* (Santa Monica, CA: Rand, 2000), 144.
21 Ibid.
22 Bedeskiand Swanstrom, 92.
23Ibid., 187.
24 Neu and Wolf, 7.
25 Losman, 5.

significant extent.[26] Even now disharmony associated with parliamentary elections, coupled with the downturn in global commodity demand, are likely to keep Mongolia's mining industry development in the slow lane. Mongolia's macroeconomic performance continues to be strongly linked to that of China with the mainland economy accounting for approximately 90 percent of the demand for Mongolia's exports.[27] Therefore if China challenges Mongolia over raw mineral exports, the Mongolian government will face significant difficult internal challenges to sustain the economy over the coming years. For instance, in the last three, China's economy has been slowing down and thus China has reduced its imports in order to support its domestic economic producers. Such a slowdown and the subsequent knock on effect to China's needs for Mongolian exports reveal Mongolia's lack of economic diversification. The World Bank reported that China absorbed 87.9 percent of Mongolia's total exports which contributes 35 percent of GDP in 2014.Copper concentrates alone constituted 37 percent of total exports in 2014 and is projected to account for almost half of total exports by 2017.A sharp drop in coal exports to China was a significant drag on Mongolia's economy and the external accounts in the first nine months of 2015.A 10 percent drop in copper and coal export revenues from the baseline projection would widen Mongolia's current account deficit by more than 3 percentage points of GDP in 2016.[28] Batsuuri writes, "Given falling GDP, an increasing budget deficit, decreasing foreign reserves and other negative macroeconomic indicators, experts agree that Mongolia is in economic recession, if not in crisis."[29]The IMF reported that Mongolia's total foreign debt grew quickly to US$20.98 billion or 175 percent of GDP now, with private debt making up 25 percent and the remaining 75 percent being public debt.[30] The International Monetary Fund prepared a Debt Sustainability Analysis (DSA), which assesses public debt, including general government debt. Euro bonds issued by the Development Bank of Mongolia (BOM), the drawing of the People's Bank of China (PBOC)swap line by the BOM, and also borrowing by, and government guarantees for state-owned enterprises, which were not included in the previous DSA as such data were not reliably available at the time. The report revealed that external public and publicly guaranteed debt (PPG) reached more than 56 percent of GDP by the end of 2014, and key external debt indicators have been breached, or are projected to breach, the relevant indicative thresholds: debt-service ratios spike in various years when external bonds mature, and some of these breaches are significant in magnitude and persist for extended periods under both baseline and stress tests. Public debt stood at 77 percent of GDP and will stay above the benchmark for almost the entire projection period of 2015 to 2035. Total external debt rose to 170 percent of GDP reflecting, in large part, intercompany lending in the mining sector undermining the economy's resilience to external shocks. The elevated debt ratios have also raised market concerns, the credit rating agencies have downgraded Mongolia's sovereign rating several times since the issuance of Eurobonds in late 2012, and they have maintained a negative outlook with Mongolia's sovereign spreads being among the highest of all frontier economies.[31]Importantly, with no legal limit, foreign, public and private debt has a significant impact on the national security through the potential to lead to economic instability. Mongolia's government manages public debt through a combination of two laws: the "Fiscal Stability Law" adopted in 2010 and renewed in 2015, and the "Debt Management Law" adopted in February 2015.Batsuuri writes that the present value of Mongolia's government debt, excluding borrowings of state-owned enterprises, is 40 percent of GDP and would be up to58.3 percent in 2015.[32]This debt includes the amounts of US$250 million which the government borrowed in the form of a tax prepayment from the controversial Oyu Tolgoi and US$350 million of another interest-bearing tax advance the government received from TavanTolgoi. In addition, the Chinese and Mongolian central banks have a supplementary currency swap arrangement; signed bilaterally for15 billion yuan (US$2.44billion), an approximate 4.7 trillion togrog swap agreement, which ends in 2017.[33] Mongolian economy is heavily dependent on exports of raw materials as explained in this chapter. It is resource-rich country but lacks infrastructure, industries, and technologies to process value added products, and human capital to develop its mining sector. Moreover, the country is overly reliant on its exports to China and thus lacks diversity in its economic base. Mining thus attains a central stage in Mongolian economy. The country is so far unable to exploit the full potential of its natural wealth as it failed to develop a broad-based industry to support its mineral resources. The economy is one of the national power instruments as it affects national security. A weak and dependent economy means weaker national security. The situation is further exacerbated, as Mongolia does not have a strong competent military power to defend itself, especially as compared to its two neighbors, China and Russia. Both China and Russia actively seek natural resources relating to their increasing demand and population and try political and potentially military engagement to obtain resources. Therefore, Mongolia needs to enhance its national security through developing a sustainable economy to lessen these threats.

CONCLUSION

As Mongolia's economy is dependent on its raw mining export, its national security is vital but also vulnerable to its major trading partners and global market fluctuation. The mining sector is the backbone of Mongolian economy and is vital for national security. This research highlights ways to address the vulnerabilities of this critical aspect of the Mongolian economy (e.g., the mining sector):

- Develop global mineral market analysis for coming decades, particularly focusing on the world economic and political leading player countries' needs and requirements.
- Invest in local human capital, such as policy makers, subject matter experts, technical specialists, and a mass manufacturing labor force to support industrialization.
- Improve the institutions of the mining sector and maintain stable policy in order to encourage value added mineral production, and attract foreign and domestic investment by promoting feasible political and economic conditions.
- Develop infrastructure, particularly a road network system and transportation assets to support microeconomic factors.
- Improve mining sector institutional management, through innovation, natural environment, financial, and technical analysis.
- Increase the number of trading partners both domestically and importantly internationally in order to avoid single trader hegemony.
- Improve production quality as per international standards and requirements to attract and maintain stable customers.

[26] Jonathan Rowland, "Mongolia: The Slow and Bumpy Road," World Coal, March 7, 2016, accessed January 16, 2017, https://www.worldcoal.com/special-report.
[27] Ibid.
[28] The World Bank,Mongolia Economic Update, 2015, 1.
[29] H. Batsuuri, "Original Sin: Is Mongolia Facing an External Debt Crisis?" The Northeast Asian Economic Review3, no. 2 (October 2015): 1, accessed January 22, 2017, http://www.erina.or.jp/wp-ontent/uploads/2015/11/naer32-1_tssc.pdf.
[30]International Monetary Fund,IMS Country Report No. 15/109, Mongolia(Washington, DC: International Monetary Fund, 2015),accessed January 22, 2017, https://www.imf.org/external/pubs/ft/scr/2015/cr15109.pdf.
[31]International Monetary Fund.
[32] Batsuuri, 1.
[33]Ibid.

The mining sector has a direct bearing on not only the national security but also the socio-cultural and political outlook of Mongolian society. The following facts have been identified as relevant to recommended strategies in this thesis:

- Linkage to GDP, FDI, per capita income.
- Need to diversify the economy through industrialization to broaden tax revenues.
- Need to develop sustainable monetary and fiscal policy to support the economy and reduce dependence on raw materials.
- Direct bearing on the employment and middle and upper middle-income social classes.

Recommendations

This thesis repeatedly emphasized the importance of economic development for national security. Mongolia's government should set conditions essential to successful economic development such as law and order, a national development strategy, effective economic policy, infrastructure development, and appropriate investment in human capital and industrializations. With a view to developing a sustainable multi-pillared economy to support its national security, Mongolia needs to formulate a comprehensive economic security strategy. This strategy must aim to:

- Provide an overview of the economic setting for the next 20 years of development.
- Determine a vision for the economy and examine the implications to improve and increase the resiliency of the economy.
- Promote economic and national security to enhance domestic and international interest.
- Reduce the high dependency on one specific country or on one certain particular resource, which may make national security vulnerable to internal and external adverse occurrences.

There are several primary objectives to formulating a comprehensive economic security strategy for Mongolia. First, Mongolia must improve its mining sector through industrializations in order to promote economic diversification and reduce dependency on unprocessed materials by the enhancement of value-added processes, increasing the standard competence of employment through human capital investment, and enhancing productivity through technological innovation. Second, Mongolia must develop infrastructures in order to support national assets and national capabilities domestically and internationally to enhance national security. The ultimate goal of formulating a national economic security strategy must provide potential reassurance against being overtaken by other developing countries. If this occurred, Mongolia could not self-sustain itself in the face of worldwide economic stagnation or decline. The mining sector thus attains the status of a lifeline not only for Mongolian economy but also for its larger national security interests.

REFERENCES

1. Aden, Nathaniel, David Fridley, and Nina Zheng. "China's Coal: Dema, Constraints, and Externalities." 2009. Accessed January 21, 2017. http://www.circleofblue.org/wp-content/uploads/2011/02/coal_bohai_report.pdf.
2. Batchuluun, Amrita, and Joung Yol Lin. "An Analysis of Mining Sector Economics in Mongolia." Global Journal of Business Research4, no. 4 (2010): 91-93.
3. Batsuuri, H. "Original Sin: Is Mongolia Facing an External Debt Crisis?" The Northeast Asian Economic Review 3, no. 2 (October 2015): 3-15. Accessed January 22, 2017. http://www.erina.or.jp/wp-content/uploads/2015/11/naer32-1_tssc.pdf.
4. Bedeski, Robert, and Niklas Swanstrom. Eurasia Ascent in Energy and Geopolitics. New York: Routledge, 2012.
5. Brown, Harold. Thinking about National Security. Boulder, CO: Westview, 1983.
6. Cable, Vincent. "What is International Economic Security?" International Affairs 71, no. 2 (April 1995): 305-324.
7. Capra, Fritjof. The Web of Life: A New Scientific Understanding of Living. New York: Anchors Books, 1996.
8. Cohen, Benjamin J., and Eric M. P. Chiu, eds. Power in a Changing World Economy: Lessons from East Asia. New York: Routledge, 2014. Accessed April 1, 2017. http://www.gbv.de/dms/zbw/745954626.pdf.
9. Collier, Paul. "Economic Causes of Civil Conflicts and their implications for Policy."World Bank, June 15, 2000. Accessed January 12, 2017. http://siteresources.world
10. bank.org/DEC/Resources/econonmic_causes_of_civilwar.pdf.
11. Embassy of Mongolia. Mongolian National Security Concepts. Accessed October 1, 2016. http://www.nsc.gov.mn/sites/default/files/images/NationalSecurityConcept20of20Mongolia EN.pdf.
12. Government of Mongolia. Economic Growth Support and Poverty Reduction Strategy. Washington, DC: International Monetary Fund, 2003. Accessed January 21, 2017. https://www.imf.org/external/pubs/ft/scr/2003/cr03277.pdf.
13. Gulf Times. "China says Mongolia Learned Lesson after Dalai Lama Visit." January 25, 2017. Accessed January 25, 2017. http://www.gulf-times.com/story/530355/China-says-Mongolia-learned-lesson-after-Dalai-Lam.
14. Gupta, Pranav Bin Grace Li, and Jiangyan Yu. "From Natural Resource Boom to Sustainable Economic Growth: Lessons for Mongolia." International Monetary Fund Working Paper, 2015. Accessed April 3, 2017.http://www.imf.org/
15. external/pubs/cat/longres.aspx?sk=42851.0.
16. Jamasmie, Cecilia. "Mongolia Readies to Revive its Giant Tavan Tolgoi Coal Mine." Mining.com. September 9, 2016. Accessed January 20, 2017. http://www.mining.com/mongolia.
17. Jong-Wha Lee. "China's Economic Growth and Convergence." Asiatic Research Institute, Korea University, Korea, April 2016. Accessed January 21, 2017. http://econ.korea.ac.kr/~jwlee/papers/China%2020160426.pdf.
18. Karimi, Bijan. "Applying the Economic, Homeland and National Security Analysis Framework." Homeland Security Affairs 12, Essay 4 (May 2016). AccessedFebruary 17, 2017. www.hsaj.org.
19. Lawrence, Susan V. Current Politics and Economics of South, Southeastern, and Central Asia; Hauppauge. Washington, DC: Congressional Research Service, 2014.
20. Lorenz, Andreas. "China's Environmental Suicide: A Government Minister Speaks." Open Democracy. April 5, 2005. Accessed November 1, 2016. https://www.opendemocracy.net/globalization-china/article_2407.jsp.
21. Losman, Donald. "Economic Security A National Security Folly." Policy Analysis 409 (2001): 5. Accessed March 16, 2017. https://object.cato.org/pubs/pas/pa409.pdf.
22. Mongolian Mining Corporation. Annual Report 2015. Wanchai, Hong Kong: Computershare Hong Kong Investor Services, 2015. Accessed January 16, 2017. http://upload.mmc.mn/financial report/ANNUAL REPORT2015eng.pdf.
23. Mongolian-way.com. "History of Mongolia." Accessed November 23, 2016. http://www.mongolian-ways.com/history.htm.
24. Mungunzul, Erdenebat. "Foreign Direct Investment in the Mongolian Mining Sector."International Journal of u -and e-Service, Science and Technology 9, no. 3 (2016): 249 -258. Accessed February 10, 2017. http://dx.doi.org/10.14257/
25. ijunesst.2016.9.3.24.

26. Neu, C. Richard, and Charles Wolf, Jr. The Economic Dimensions of National Security. Santa Monica, CA: Rand Corporation, 1994.
27. Pankov, Vladimir. “Economic Security: Essence and Manifestations,” International Affairs [Moscow] 57, no. 1 (2011): 199.
28. Peckham. Vince. “These 10 Mines Will Set the Copper Price for the Next Decade.” Mining.com. November 3, 2015. Accessed January 20, 2017. http://www.mining.com/mongolia.
29. Reeves, Jeffrey. “China’s Unraveling Engagement Strategy.” The Washington Quarterly (2013): 139-49. Accessed April 3, 2017. https://csis-prod.s3.amazon
30. aws.com/s3fs-public/legacy_files/files/publication/TWQ_13Winter_Reeves.pdf.
31. Ronis, Sheila. “Economic Security Is National Security.” Lecture, National Defense University, Washington, DC, October 1997.
32. Rotberg, Robert I., ed. When States Fall: Causes and Consequences. Princeton, NJ: Princeton University Press, 2004.
33. Rowland, Jonathan. “Mongolia: The Slow and Bumpy Road.” World Coal. March 7, 2016. Accessed January 16, 2017. https://www.worldcoal.com/special-report.
34. Schwandt, Thomas. The Sage Dictionary of Qualitative Inquiry. London: Saga Publication, 2015.
35. SES Professionals. “Overview of Mongolia's Mining Industry.” Accessed January 15, 2017. http://sesprofessionals.com/overview-of-mongolias-mining-industry/.
36. Sharma, Ruchir.The Rise and Fall of Nations: Forces of Change in the Post-Crisis World. New York: W.W.Norton and Company, 2016.
37. Siefert,Chris.“Religious Freedom, International Law and the People's Republic of China.” Accessed January 25, 2017.http://www.memoryhole.net/~chris/research/govt326_religiousfreedom.html.
38. Siew Mun Tang. “Rethinking Economic Security in a Globalized World.” Contemporary Politics 21, no. 1 (2015). Accessed January 23, 2017. http://www.tandfonline.com/doi/abs.
39. Stake, Robert, E. The Art of Case Study Research. London: Saga Publication, 1995.
40. State Great Hural (Parliament) of Mongolia. Resolution, Endorsement of the Millennium Development Goals (MDGs)-based Comprehensive National Development Strategy of Mongolia. 2008. Accessed January 24, 2017. https://www.adb.org/sites/default/files/linked-documents/cps-mon-2012-2016-oth-01.pdf.
41. Tang, Siew Mun. “Rethinking Economic Security in a Globalized World.” Contemporary Politics, 2015. Accessed January 23, 2017. http://www.tandfonline.com/doi/abs.
42. Thakchoe. Tashi. “Mongolians Hope for His Holiness the Dalai Lama’s Visit.”Tibet Information Office, Australia. January 4, 2017. Accessed January 25, 2017. http://tibetoffice.com.au/mongolians-hope-for-his-holiness-the-dalai-lamas-visit/.

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