Stride of the 5th Generation

Is Oyu Tolgoi beneficial to Mongolia?

Even though we constantly use our smartphones, we usually do not take note of that this device has revolutionized and changed the lives of Mongolians. Smartphones have already become an inseparable part of our existence, since nowadays no one could imagine their life without a smartphone.

Together with the steady progress in technology designed to transmit digital data, one of the driving forces of this revolution is the fierce competition in the telecommunication industry. Mobicom Corporation, the first Mongolian mobile phone carrier, began providing its services in 1996, and subsequently, carriers such as Skytel, G-Mobile, and Unitel were established. These operators compete and provide services to customers in the Mongolian telecommunications industry.

The next-generation 5G is approaching now. Therefore, we need answers to the following questions: when will Mongolia implement the next-generation technology, are we ready to seize new and incredible opportunities, and what are the ways to utilize this generation more efficiently and sagaciously than 4G?

Generations of Digital Communication

Rapid changes in digital communications keep taking place and revolutionize people's lives without mercy. These leaps of changes are named by their generation, 1G, 2G, 3G, and 4G. The generations of wireless network technologies differ significantly in terms of their data transmission speed, technology, frequency, and capacity. 1G is an analog telecommunication system that only transmits audio signals, but 2G replaced 1G with a digital telecommunication system which enabled both audio and text-based message transmission. Furthermore, 3G enabled video transmission, whereas 4G allowed internet access. In short, each generation brought new features along.
The 5G technology has been implemented in various countries and is about to be introduced in Mongolia, opening up tremendous opportunities, ones we have never dared to imagine. Any device can be linked through the internet (Internet of Things), machines can communicate with, and understand another machine, and autonomously take steps. A new era is approaching when artificial intelligence can replace humans, robots can perform surgery, and self-driving cars can take over the road.

With a higher speed, lower latency and stable connection, the 5th generation network is superior to previous ones. The frequency of 4G reaches below 2.4 GHz (Hertz is one cycle per second for the unit of frequency), whereas 5G reaches from 3.5 to 24 GHz. For instance, to transmit the speed change of a car driving close to your car takes 15 to 25 seconds through 4G, but it only takes 1 millisecond through 5G as if you are experiencing at the same time. However, the waves of high frequency 5G, 24GHz, cannot travel further than a few hundred meters, thus, it requires placing an enormous number of 5G base stations. The first large scale deployment of the 5G network was carried out in South Korea in April 2019, and the US, China, and Japan are vigorously entering this market.

For a landlocked country like Mongolia, the new generation technology provides vast opportunities that allow us to carry businesses into the global market from the comfort of our homes. For consumers, the 5G network brings at least 30 times faster mobile data speed, and therefore an overall greater customer experience. Moreover, a large amount of data is going to be collected, transmitted, stored, and processed as every single device will be linked through the internet.

Entire manufacturing and service industries will be automated when a variety of devices are connected to the internet. According to DBS Group Research, there are 11 billion devices linked to the internet globally, and the number is expected to reach 125 billion due to 5G by 2030. This automation can improve productivity and increase the profit margin by 9%.

To deploy 5G technology 10 times more base stations are required, which equally demands 10 times more investment than 4G. In Mongolia, there are 80,000 business entities registered with the government and 60,000 of them are classified as SMEs. SMEs employ 43% of the total workforce in Mongolia and are only responsible for 2.3 % of total export. Hence, there is a high chance only large entities would reap the benefits and SMEs would be left behind.

On the other hand, Mongolians have just begun to learn how to protect themselves from misinformation and disinformation. Before jumping into a big pool of data, it is necessary to determine how to protect any information concerning privacy and national security, and, how to enforce the laws and regulations.

Each of the Mongolian four mobile phone operators has been building their own infrastructures, thus, the price is not decreasing for customers. Since 2016, the Unitel Group invested 120 billion Tugriks to deploy 4G technology, and it takes time to recoup the cost. The same is true for the Mobicom Corporation. In Mongolia, it’s the right time to put our heads together and discuss how to provide faster, relatively cheaper 5G network infrastructure for customers. If we proceed in the same manner, a massive inefficient investment would be made, costs would keep rising, and technological transformation would be delayed in Mongolia.
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I try here to explain the basic principles of economics relevant for assessing the OT treaty.

• Rio Tinto is a public corporation, i.e a business entity engaged in as efficient as possible stewardship of the financial resources entrusted to it by its millions of shareholders. Therefore, it will invest in Mongolia only when it is feasible to receive at least the “normal” level of profit after recuperating all the costs, given the comparably profitable projects implemented in other countries. That’s why resource-owning host countries deduct from mining companies’ income taxes all production-related costs, including interest rate payments and depreciation expenses and allow them to carry over the loss of previous periods to a later profitable period’s tax assessment. Moreover, if such carry-over period is limited to 20 years in the USA, mining countries such as Australia, UK, Canada, Norway, Chile and Botswana have no such time limitation. Norway even allows deduction of costs of unsuccessful exploration from rent taxation. Ultimately, only the above-normal profits or rent, dependent on the quality and development costs of the deposits, can realistically be shared. Only when the commodity’s price rises increasing the rent, can the mining company, bearing all the risks of the project, share more. Currently, the international copper price is already declining and could fall even further with the intensification of the China-US trade war. As increasing the size of the pie is in the interest of both parties, it makes more sense to cooperate for higher profitability rather than fight over dividing it. Therefore, one should focus on the overall cost-benefit calculations of the whole project cycle and mutually beneficial collaboration, rather than on one-two years’ tax disputes.

• Mining projects require large-scale investment with longer-horizon cost recovery and their profitability is highly susceptible to the volatilities of international commodity prices and host country policies. Therefore, raising the necessary financing and committing the investment resources are possible only if reasonable long-term stability is guaranteed. On the other side of the coin, the contracting partner country is vulnerable to the so-called “time inconsistency” incentive to opportunistically renege on its promise, once the investor has made the lumpy investment. Hence the ancient dictum of business “pacta sunt servanta” is observed and the uncivilized party who breaches the contract ends up bearing the consequences, even if not explicitly as recompense, possibly in the form of a higher “risk premium” on the interest paid or reduced dividends. Otherwise the investor will not enter the contract and the host has to find a mechanism to “tie his hands”, as the Nobel prize economist Thomas J. Sargent has shown on the example of a Central Bank destroying its capacity to control inflation by increasing money supply after businesses have committed to curb their wage and price hiking.

• The benefits the two parties get from a business transaction are determined not so much by which side gets more, but by the difference between the contracted price and the partners’ initial conditions. It is like the differing sizes of the gain from international trade determined by the distance between the world market price and the autarky prices of the countries opening to trade. For an underdeveloped country without the required technology and financial resources, underground natural resources are dead wealth with a negative value equal to the potential cost of exploration and development of the deposits. The technical and fund-raising capacity to make them economically-profitable assets is often concentrated in a few transnational mining companies. Only when conditions ripen for developing the deposits by such a company, does the host country get a chance to cease to be “a beggar sitting on a chest full of gold” and climb one step up the ladder of economic development. The main avenues for expanding the developmental impact of a mining project are fostering linkages with the other sectors of the economy, absorbing the world class technology, management and business practices, and upgrading the skills level of the domestic workforce. For instance, building the power station and railway lines in time to transport...
the mineral products, nurturing supplier SMEs and developing financial markets, taking advantage of the mining boom, are some of the priority tasks a host country can take on.

- Extraction of mineral resources follows the same economic logic whether done by foreign or domestic companies. The opportunity cost of delay keeps rising as long as the rate of international commodity price rise is not faster than the rate of interest (Hotelling rule). From this point of view, the harm from disrupting OT's development due to disagreements about the treaty may far exceed any benefit hoped to be obtained by revising the contract. In the case of Tavan Tolgoi coal deposits, whose price on the international markets is likely to further decline into the future, every passing day marks a big loss.

- Large deposits as OT are developed by many years of efficient investment, whose viability is subject to many unknown future factors. So, fundraising for such a project is based on a relatively optimistic forecast which is made more realistic with the passage of time as things materialize. The absolutely certain and final assessment of net benefits will be clear only after the closing of the mine, including rehabilitation etc. Under such circumstances, one of the major objectives of the treaty is to enable the host country to start receiving in advance its share of the financial benefits from the project without too much negative impact on investment and production processes. The best option might be to pass all the risks to the investor by selling the project for an agreed price if the forecast evaluation of the project were reasonably certain, as indeed was practiced until the 1960s under the “risk service contracts” of the oil industry.

- In modern times, the main instruments of advance benefit sharing with the host country are royalties based on the production volume, corporate income taxes based on profit or excess profit taxes based on the rent, usually linked to the increase in the commodity's price. Royalty payments start earliest and are more assured, but negatively affect investment and production expansion, so should be set at a relatively low levels, while the corporate income tax is set at a level similar to other sectors in order to avoid distortions. Both are used in Mongolia, in addition to equity participation. Equity sharing gives right to dividend, but is regarded as risky as it might result in more loss rather than profits, as shown by the bitter experience of such countries as Nigeria which incurred losses due to its borrowing to increase its equity share. From the project's view, it is equivalent to a tax on dividend, even if it is awarded “free” to the host country. Therefore, insisting on increasing the equity share is fraught with additional risk of future losses. Anyway, for a successful operation, plowing back the dividend into expansion is more beneficial than distributing it.

- The total benefit received by the host country from the overall operation of a mining project covering all its stages is measured by the share in the net cash flows, which in Mongolia’s case is shown to be at a similar average level of other countries in a recent book (p.78) by G.Uyanga who works for ESCAP. This shows the importance of protecting the smooth operation of OT by responsible partnership and good faith implementation of the contract obligations in order to maximize the yield of the whole project, instead of disruptions by hasty criticism before even the early stage benefits are realized fully.

- Transnational companies are able to shift profits using transfer pricing and the countries who try to control it tend to lose revenue. So, the Financing for Sustainable Development Office, UN, developed in 2011 the UN Model of Double Taxation Convention Between Developed and Developing Countries, in 2012 UN Practical Manual on Transfer Pricing for Developing Countries, and is working now on a Manual on Extractive Industries Taxation. The IMF Institute of Capacity Development launched two weeks ago a free online course on Macroeconomic Management in Resource-rich Countries. Our politicians and the general public would greatly benefit from them and maybe a training on natural resources management could be organized in Mongolia with the IMF cooperation, using the case study of OT.

April 2018
INCIDENT WITH COAL BRIQUETTE

Residents will utilize coal briquettes this winter but 6 people have already died from carbon dioxide poisoning as a result of its use. These incidents have caused an uproar from people and every major media outlet has turned their attention towards them. We are not used to utilizing these briquettes and the six cases of death are being investigated with the police receiving 86 calls regarding coal briquettes of which they have registered 81. The need for the utilization of briquettes arose from the ban on the transport of raw coal into Ulaanbaatar.

The briquettes are produced at Tavan Tolgoi, near Umnugovi Aimag. In the instances of death, carbon monoxide was released into the house, leading to the unfortunate outcome. Korea was facing the same issues in the 1960s and their statistics demonstrate that 3,500 individuals died as a result of carbon monoxide poisoning within a 10-year timespan, more than deaths caused by infectious diseases during the same period. In Korea, the system of heating is different in that houses are heated from the floor with the carbon monoxide travelling under the floorboard and coming out as smoke. Leakages of carbon monoxide caused significant issues and the government undertook efforts to register and certify the state of these systems.

Mongolia will hopefully undertake the same efforts to register all chimneys to ensure that each stove operates in a safe manner. At the moment, the government is looking into providing the 220,000 households in the ger district with carbon monoxide measurement tools. Also, as in previous years, those households will receive free electricity from 9PM to 6AM. The cost of this electricity will be around 20 billion MNT and it will be subsidized from the state budget. These are the main solutions that Prime Minister Khurelsukh is undertaking and the air in Ulaanbaatar is relatively clean as a result of these measures.

Unfortunately, the death of the six individuals have been highly politicized with many people calling for reparations as a result of these incidents. It is worth remembering however that these incidents were not perpetrated on purpose and that strengthening safety measures is necessary. The statement by the President has caused issues surrounding the operation of the only site that produces those briquettes with some individuals losing their willingness to work and some even leaving their jobs. If the pressure on the production of coal briquettes is not relieved, this initiative may be abandoned even before the end of the year.

There are costs involved in the use of briquettes and the free electricity which are more expensive than raw coal. However, the costs of utilizing raw coal in terms of pollution and child health is significantly higher. Therefore, Mongolia has to undertake various measures to minimize air pollution until each household is provided with adequate housing and the need for burning coals is eradicated.

The root of the issue is poverty, particularly in rural areas with minimal opportunities for employment or entrepreneurship. This forces people to flock from rural areas to Ulaanbaatar, aimag centers and cities such as Darkhan and Erdenet. This in turn is a manifestation of the poor development policy pursued by the government with rural administrators being given minimal financial freedoms with all collected taxes coming to Ulaanbaatar and a small portion going back. If at least a quarter of the taxes collected at the aimag level were returned to them, it would allow them to solve their own issues. Therefore, we should increase taxes going back to aimags, provide aimags part of the mining royalties from operations being conducted within their territory in order to develop Mongolia in a balanced manner. The main issue in Mongolia is unique in that it has a population of 3.2 million inhabiting a territory the same size as Germany, Spain, Portugal and France combined. This makes infrastructure expensive but sound management has to ensure that people in rural areas are provided with adequate living conditions and opportunities.
MONGOLIAN PEOPLE’S REVOLUTIONARY PARTY PREPARING FOR ELECTION

Last week, the Mongolian People’s Revolutionary Party promised an apartment to every household and started registering people. We discussed the proposed “Trust loan” proposals during last week’s review and this seems to be little more than a political stunt as well. This initiative is not feasible but it is a sign of an election coming. The Mongolian People’s Revolutionary Party is headed by former President, Mr. Enkhbayar and they are knowingly disseminating false promises which is illegal. It may possibly come to them withdrawing their candidacy for next year’s election as promises of money and material things prior to an election is prohibited. Next year’s election will be interesting that Mongolia is going to become one constituency rather than 76. This in theory, may make it difficult for smaller parties and independents to gain seats in Parliament but Mongolians are becoming increasingly disillusioned with the two parties that have been running the country independently or in a coalition since the democratic revolution.

Despite this, the initiative went forward and 6,000 people of the promised 20,000 registered last week. The General-Secretary of the party, Erdenejamiyan stated that the provision of those apartments shall be at the top of the agenda should the Mongolian People’s Revolutionary Party come into government. He also stated that 12 billion USD was required to apartment everyone in the country which is easy to raise for Mongolia but this is simply not the case.

If we look at Oyu Tolgoi, it took them a significant amount of effort to raise 14 billion USD in two installments. The promise of apartments strikes a nerve with many of the 220,000 families living in the ger district but it is little more than a lie. The issue of housing in Ulaanbaatar is a paradoxical one in that there are 220,000 families without apartment but that there are also 40,000 empty apartments. This issue has to be solved from the demand side.

There are also talks of reinvigorating the mortgage loan system began by the Democratic Party in 2013 which provided 8% loans for housing following a 30% down payment but this is not a sustainable policy in an economy where the market loan rate hovers around 20%. As a result of this, the Bank of Mongolia has reached a decision to cease the provision of these loans beginning January.

It is difficult for people to not believe in promises as more often than not, they have an attitude of “What if it is true, I have nothing to lose”. This mindset has driven 15,000 or so people to register for apartments with the Mongolian People’s Revolutionary Party. This cycle of politicians promising the world prior to elections will only be stopped once poverty is eradicated in Mongolia. Currently a third of Mongolians live under the national poverty level.

Escape from poverty lies in education and the acquisition of competencies by the people. However, the state needs to be significantly smaller and not involved in operations which private companies can otherwise undertake. Moreover, state-controlled prices provide misleading information to businesses and these remnants of the communist system are significantly hindering Mongolia.

PROTECTION OF CULTURAL HERITAGE

It was revealed this weekend that cultural landmarks such as the Natural History Museum, National Academy of Drama Theater, National Academic Theater of Opera and Ballet and the National Library are no longer operational. People were shocked to hear that they would be demolished in order to make room for new infrastructure. This comes at the heels of the Memorial Museum for the Victims of Political Repression.
The two theatre's in particular are a part of our culture in that previous generations created culture and values within those buildings. In any functioning country, the decision would have been made to restore the buildings rather than demolish them. This would take significant effort and time but a new cultural center can be opened in Ulaanbaatar in the meantime. During my studies in Denver, Colorado, there was one cultural center which encompassed 10 or so theatres. Therefore, all performances can be moved to a new cultural center while the buildings are undergoing renovations.

Those renovations need to be adequately funded and in instances where the buildings are in a state of disrepair, a mockup of the building can be constructed within the existing structure or at the very least, one wall can be preserved as a historical reminder of the building. Unfortunately, it is within our character to neglect buildings and roads until they enter a state of disrepair. It does however raise the question of how those historic structures can be neglected to the point that their foundations are compromised. The unstable political environment with political parties changing power at alarming rates with overhauls of the bureaucracy being implemented with each change is a significant contributor to the issues as well.

A new 22 story high riser will replace the Memorial Museum for the Victims of Political Repression and the first floor would be dedicated to the museum. There was no other option as the museum carries 80 years of history. It was a wooden building that simply could not exist anymore and it is going to be rebuilt inside the new building as this was the only feasible solution. As the site is less than half a kilometer from Sukhbaatar square so it is prime real estate. Therefore, this new building will allow individuals significant opportunities to further their business and preserve the memory of the repressions that took place in the 30s.

Several other historic buildings are awaiting the same fate but we must find viable avenues to preserve the history of those buildings prior to any decisions being made. If the old sites can be restored, they have to be restored and in cases where they are beyond disrepair, the outside can be left and the inside can be altered. This is the only effective form of preserving history. There are two camps forming regarding the demolition of historic sides but they have to find a middle ground of how to preserve history in the most feasible manner.

This review has been edited here for space and clarity. You can watch the full 30-minute review on the Defacto website [HERE].