RESEARCH

ECONOMIC IMPACT OF THE CHINGGIS BOND

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On December 5, 2012, the Government of Mongolia issued a Chinggis bond worth USD 1.5 billion on the international market: USD 500 million with the duration of five years and loan interest of 4.13 percent and USD 1 billion with the duration of 10 years and loan interest of 5.13 percent a month. The proceeds of the Chinggis bond are being used for funding projects to develop infrastructure and manufacturing sectors in Mongolia. Based on the computable general equilibrium (CGE), researchers and economists at the Economic Research Institute carried out an assessment on what would be a long-term economic impact of the currently planned spending of the proceeds and what would be long-term benefits of the bond if the proceeds were spent for a single sector rather than spending it for many different sectors.

Before introducing the results of our study, it would be best to give an idea about what CGE means. CGE models are a class of economic models that use actual economic data to estimate how an economy might react to changes in policy, technology or other external factors. A CGE model consists of equations describing model variables and a database (usually very detailed) consistent with the model equations.

Countries around the world use CGE models to estimate whether the economic policy impact could reach their expected result. It is also commonly used in evaluating the economic impact of a large project and what would be its impact on the economy if the project is delayed. A model that we are using today is the MINCGEM model, which reflects the characteristics of the mining sector. Like other models, this model consists of thousands of equations based on a classic economic theory and it computes the general equilibrium with the assistance of a special software programme.

In making the policy assessment, firstly, the balanced economic benefit needs to be estimated using a time when the economic policy is not implemented. This is a base scenario. Then, the policy shock is input in the estimate. By doing so, the balanced economic benefit is extracted by using a time when the policy is implemented. This is called a policy scenario. Finally, the base and the policy scenarios are to be compared and the policy impact is to be determined in detail in terms of economic sectors, factors, and the short and long terms.

Scenario 1. Economic Impact of the Current Spending of the Proceeds of Chinggis Bond

When making an assessment by using any models, a prerequisite is required. We suggested the following prerequisites in assessing the base scenario:

- Successful implementation of mega projects including Oyu Tolgoi and Tavan Tolgoi, according to their initial plans which were announced publicly

- Other economic sectors are to keep the current inertia in terms of development

- There will not be any major changes in the economies of Mongolia and other countries

In assessing the policy scenario, we suggested some prerequisites below:

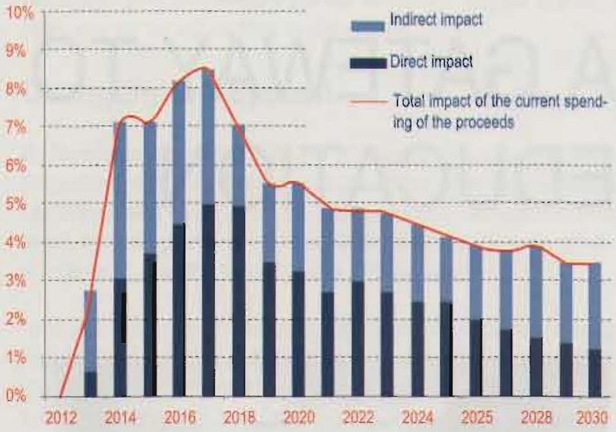
- Investment of USD 648 million is to be made in roads in the 2013-2014 period and a 2,365 kilometre road network will be established connecting urban and rural areas. By constructing the road, the cost of tradeable sectors is expected to be reduced.

- Investment of USD 280 million will be made in the light industry sector in 2013-2014, which would increase production and export slightly.

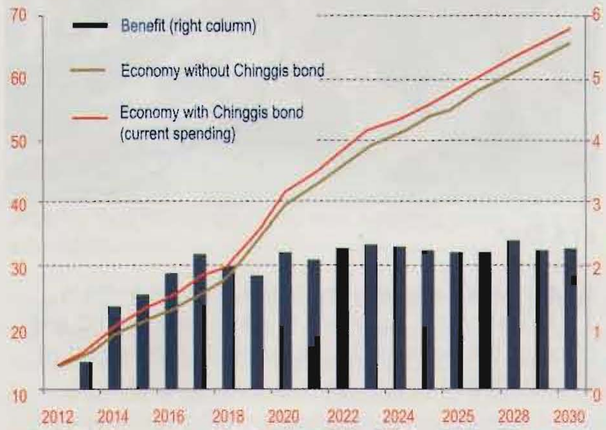
- A new thermo-power plant with the capacity of producing 450 megawatt will be constructed between 2013 and 2016. The required investment for the project totals USD 893 million; including USD 50 million from the proceeds of the Chinggis bond, USD 254 million from the government of Mongolia and USD 589 million, or 66 percent, from foreign investment. By putting the new plant into operation by 2017, it would replace imported energy from China and meet the energy demand from Oyu Tolgoi completely.

- Railway of 267 kilometres from Tavan Tolgoi to Gashuun Sukhait will be constructed between 2013 and 2015. The required investment is USD 650 million; including USD 200 mil-

Deviation from base scenario (%)



Real GDP in 2012 (trillion/s of MNT)



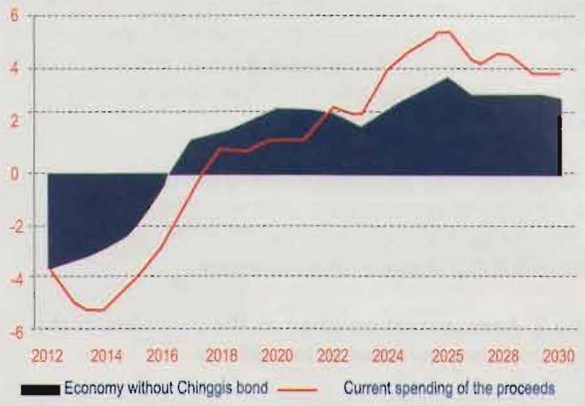
lion from the proceeds of the Chinggis bond, USD 132 million from the government of Mongolia, and USD 319 million, or 49 percent, from foreign investment. By constructing the new railway, the freight costs for coal to the Mongolian-Chinese border would reduce.

• Chinggis bond's interest and principal payments will follow the schedule.

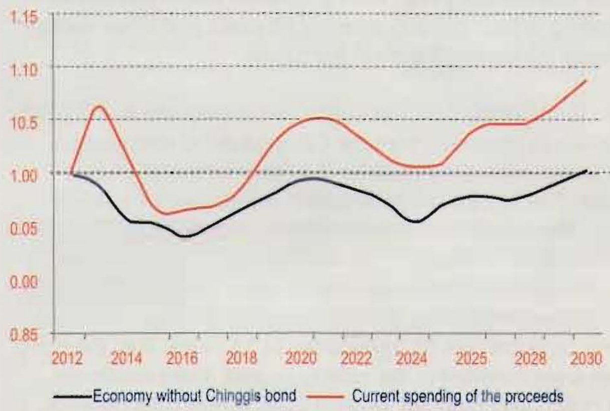
The expected result of the current spending of the proceeds of the Chinggis bond shows the economic benefit could be MNT 36 trillion. Its benefit on construction until 2017 would be the equivalent of 7 to 8 percent of GDP (approximately 50 percent of this would be indirect impact).

A short-term impact will be seen on the construction sector while there are some mid- and long-term impacts on the growth of transportation, energy and mining sectors. Unfortunately, there will not be significant impact on the growth of agriculture and manufacturing sectors. As a result of the current spending of the proceeds, imports will increase sharply. So, profits from foreign trade would be delayed by one year, from 2016, in terms of the base scenario. However, the long-term scenario has higher profits from foreign trade than the estimate from the base scenario. This would have Mongolian tugrug's exchange rate against foreign currencies likely to strengthen by 5 to 8 percent, compared to the period when Chinggis bond was issued.

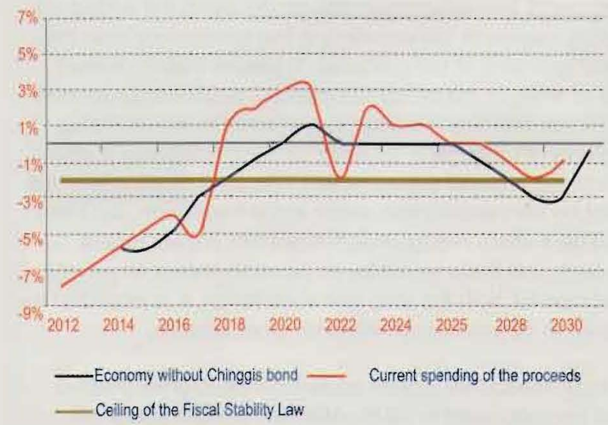
Foreign trade balance in 2012 (trillion/s of MNT)



Real currency rate 2012=1



Budget balance (% in GDP)



In the next 18 years, the government of Mongolia expects to generate tax revenue of around MNT 20 trillion from businesses that expanded from investments sourced from the Chinggis bond's proceeds. Repayment of the bond will be made from the state budget. However, its investment is being spent outside the budget. This would temporarily cause a substantial difficulty in the budget.

We did comparative research on which of the four sectors funded by the proceeds are the most beneficial in terms of returns on investments. The outcomes indicated that the investment for the new railway is to create as much as 17.5 times more added value between 2013 and 2030; the new power plant adds up to 8.9 times added value; the new road adds up to 7.3 times added value; and the manufacturing plant adds up to 3.2 times added value.

It means that the most beneficial sector is the railway. Thus, we also did separate research on what would be the economic impact if all the proceeds of the Chinggis bond were invested for the construction of the new railway.

Scenario 2. Assessment on when all the proceeds of the Chinggis bond are invested in the railway

Assessment of this estimate has been made with exactly the same base scenario as the previous one. It means that we considered that mega mining projects will be developed according to their publicly announced plans and other sectors will keep the current inertia in the future.

But in terms of the policy scenario, we considered that if USD 1.5 billion in proceeds from the Chinggis bond was spent on a single sector, it should be the construction of a new railway. The Mongolian government would own 51 percent of the railway, and the remainder could be owned by foreign and Mongolian investors. The new railway is 1,200 kilometres in length and it requires investment of USD 2.9 billion in total. We estimated that 2.6 billion tonnes of cargo, including mining products, will be transported in 18 years. If all the proceeds were invested in the railway project, there would not be a new power plant for Tavan Tolgoi, a new road network, or any investment for manufacturing.

According to the outcomes of the model used, the added value to be created in the economy is two times more than the current spending of the proceeds. It means that the added value of MNT 71 trillion can be created, according to estimated 2012 prices. The main cause is related to the reduction of the prices of products in tradable sectors. Additionally, direct and indirect impacts will be closer. This could have a positive impact on the construction sector in the short-term, but there would be a sharp reduction in the positive impact for the long-term. Yet there would be an adverse impact on energy generation for both the long and short terms. It is expected to bring 23 to 70 percent growth to all other sectors.

The time needed for foreign trade balance to grow positive would be postponed to 2019. After 2019, the trade profit would be much more than the estimates of other scenarios. Related to this, the tugrug's exchange rate would likely strengthen by 4 percent compared with the current spending of the proceeds. During this period, the government would generate MNT 6.7 trillion more. By 2023, the state budget would likely be 3 percent profitable.

Please note that our estimates are quite optimistic in terms of the base scenario. Of course, the base and policy analysis and assessments can be made in many different scenarios. ■