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Study On Risk Management Of China-Maldives Friendship Bridge In The Belt and Road Initiative Project

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ABSTRACT:*This paper is devoted to the study of the commercial risks of China-Maldives Friendship Bridge in the belt and road initiative project and its risk management methods. From the perspective of CCCC II (refers to the Company of China Communication Construction Second Aviation Administration) this paper will explain the five conventional risks (credit risk, completion risk, production risk, financial risk and market risk) of project financing, and put forward some risk management methods. At the end of the paper, summarized and the sources of quoted contents are listed.*

KEY WORDS: *China-Maldives Friendship Bridge, Risks, CCCC II, Profit, EPC*

1.The introduction of China-Maldives friendship bridge:

According to China daily business report, all loans for this project come from the Export-Import Bank of China. CCCC II uses money to buy the materials and equipment for construction and is responsible for the whole construction process. [1]

Located in North Malé Atoll, Maldives, China-Maldives Friendship Bridge is the first modern bridge in Maldives, and the world's first cross-sea bridge built in open ocean and deep sea environment and on coral reef geology, spanning Gaadhoo Koa Strait.[2] The China-Maldives friendship bridge entered the formal implementation stage on December 30, 2015; On July 9, 2018, it was completed across the board; It was officially opened on August 30, 2018. China-Maldives friendship bridge connects Malé Island, Airport Island and Hulumare Island in Maldives, with a total

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length of 2 km and a bridge length of 1.39 km. The bridge is EPC contracted by CCCC II, with a construction period of 33 months.

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Figure 1 The China-Malaysia friendship bridge

2.Project financing:

2.1. Basic concepts of project financing:

Project financing refers to the use of financial structure, which provides funds for long-term infrastructure, industrial projects and public services. The debts and interests used to finance the project are repaid from the cash flow generated by the project.

2.2. Five major risks in conventional project financing:

There are certain commercial risks in the conventional project financing process, which are mainly reflected from five aspects: credit risk, completion risk, production risk, financial risk and market risk.[3]

2.2.1. Credit risk:

The credit risk faced by project financing refers to the risk that the relevant project participants fail to fulfill the agreed responsibilities and obligations. Like the

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banks that provide loan funds, the project sponsors are also very concerned about the reliability, professional ability and credit of each participant.

2.2.2. Completion risk:

The completion risk refers to the risk caused by the project's failure to complete, delay in completion or failure to meet the expected operating standards after completion. Project completion risk exists in the project construction stage and trial production stage, which is one of the main core risks of project financing. For the project company, the completion risk means the increase of interest expense, the extension of loan repayment period and the missed market opportunity.

2.2.3. Production risk:

Production risk refers to the general name of risk factors such as technology, resource reserves, energy and raw material supply, production and operation, and labor force status existing in the trial production stage and production and operation stage of the project. It is another main core risk of project financing. Production risks are mainly manifested in: technical risks, resource risks, energy and raw material supply risks, and management risks.

2.2.4. Market risk:

Market risk refers to whether the quality and output of products can be maintained as planned under a certain cost level, and the risks brought by the fluctuation of market demand and market price of products. Market risks mainly include price risk, competition risk and demand risk, which are interrelated and influence each other.

2.2.5. Financial risk:

The financial risk of the project is mainly manifested in two aspects: interest rate risk and exchange rate risk in project financing. Project sponsors and lenders must carefully analyze and predict the possible changes in the financial market that they can't control, such as exchange rate fluctuations, rising interest rates, inflation, international trade policy trends, etc., which will cause financial risks of the project.

3.The existing risk of the project:

Because this project’s biggest risk is the financial risk, this paper will evaluate the risk of the project from this aspect specifically and find out what the company has done to avoid this risk during the construction and what can be improved.

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3.1. Financial risks:

The two main factors that affect financial risks are the changes of interest rates and exchange rates, which will be analyzed from these two aspects.

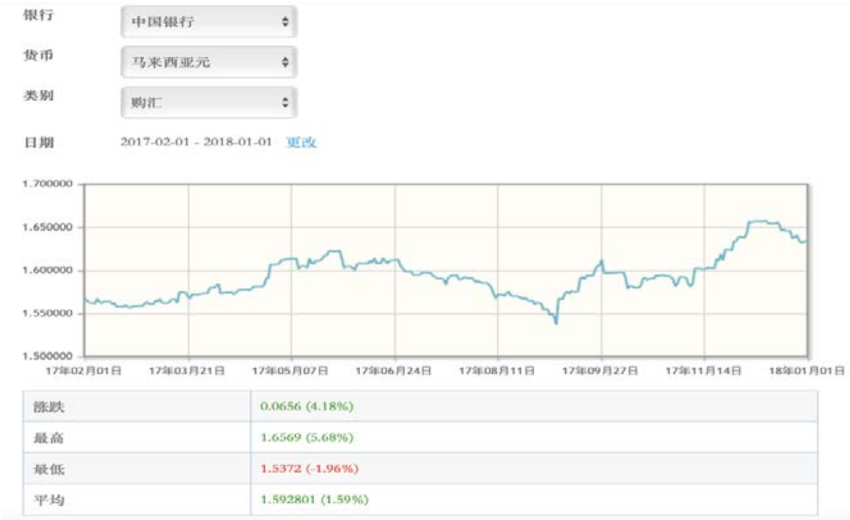

Figure 2 Graph of China-Malaysia Currency Exchange Rate Change in 2017-2018

The above figure is a graph of the exchange rate between RMB and Malaysian currency during construction of China-Maldives Friendship Bridge (2017-2018). There are three small peaks in the graph. The overall trend shows that the value of Malaysian currency is constantly rising, and the exchange rate is generally rising. It means during the construction period, the food and living expenses for workers who work in Malaysia would be much higher than before. Besides, every construction material in Malaysia will be more costly. As a result, the total cost for CCCC II would be higher. The financial risk for CCCC II is also higher since it does not have enough cash flow that can generate.

The benchmark lending rate of the central bank in 2017	The benchmark lending rate of the central bank in 2018
4.75%	4.75%

Figure 3. Comparison chart of central bank benchmark lending rate in 2017-2018

From the above figure, during the construction process, the benchmark lending rate will remain unchanged, which means that the total repayment amount of the borrowed funds from the Export-Import Bank of China will nearly remain unchanged.

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From the above two angles, the exchange rate is rising when the benchmark lending rate of the central bank remains unchanged. As a result, the financial risk for CCCC II is increasing.

3.2. Methods of risk management of the project:

The evaluation of financial risk is extremely important. This thesis introduces a new index to judge financial risk: if the percentage change of bank lending rate + the percentage change of purchase exchange rate > 0. The company will face greater financial risks in the future. (This method is suitable for this case.)

In this program, the company has taken action to sign a contract with the Export-Import Bank of China to borrow the certain amount of the money. There are some methods that the company can do in order to try to diminish the financial risk.

Interest rate risk management: optimize the interest rate structure of loans and control the financing cost. When the fund supply in the international financial market is insufficient, the interest rate will rise gradually. It is appropriate to choose the fixed interest rate, which should account for about 70% of the total loan; when the international financial market is oversupply, the interest rate will tend to decline, so it is better to choose the floating interest rate. The balance of fixed interest rate debt and floating rate debt in loan can reduce risk and benefit loss.

In the financial market, the exchange rate often goes up or down. In the face of unstable factors, you can choose to store currency in trading, observe the trend of exchange rate curve, and choose the appropriate time to purchase foreign exchange to prevent serious losses.

4. Conclusion:

There are certain risks in the construction of China-Maldives Friendship Bridge. The risks studied in this paper are controllable. By finding the correct risk management method, the construction cost and construction period of the project will be reduced and the profit will be maximized.

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